FAMILY VIOLENCE: YOUNG PEOPLE, ADULT WORRIES

Preparation, Development, and Evaluation of the eHealth Intervention 'Feel the ViBe' for Adolescents and Young Adults Exposed to Family Violence



VAN ROSMALEN-NOOIJENS



- 1. Of je nu slachtoffer bent van familiaal geweld of 'slechts' getuige: de gevolgen zijn hetzelfde (dit proefschrift).
- 2. Controle hebben over zowel de thuissituatie als hulpverlening is essentieel voor jongeren die getuige zijn van familiaal geweld (dit proefschrift).
- 3. Door te luisteren en steun te bieden help je jongeren om zich open te stellen voor professionele hulpverlening (dit proefschrift).
- 4. ledere hulpverlener zou moeten investeren in een persoonlijke relatie om de juiste hulp op het juiste moment te kunnen bieden (dit proefschrift).
- 5. Jongeren die getuige zijn van geweld zoeken een vriend, en hebben een professional nodig (dit proefschrift).
- De anonimiteit van het internet biedt een unieke kans om jongeren die getuige zijn van familiaal geweld op te vangen en voor te bereiden op professionele hulpverlening (dit proefschrift).
- 7. Het stages-of-change model van Prochaska and DiClemente is na 35 jaar nog steeds goed toepasbaar in de dagelijkse praktijk (dit proefschrift).
- 8. Randomised Controlled Trials zijn overgewaardeerd als onderzoeksmethode voor nieuwe innovatieve eHealth interventies (dit proefschrift).
- 9. Kleine pötjes hebbe groeëte oere (Kinderen horen alles). Venloos gezegde
- 10. Ik halt de woarheid teage zolang als 't meej lukt, tot 't moment dat alles oape brukt (Ik houd de waarheid tegen, tot er geen houden meer aan is). Vlinder Rowwen Hèze
- 11. Als ik even niets doe, houd me dan vooral niet tegen. Loesje

Family Violence:

Young People, Adult Worries

COLOPHON

This thesis has been prepared by the Department of Primary and Community Care of the Radboudumc, Nijmegen, the Netherlands. The work presented in this thesis was carried out within the Radboud Institute for Health Sciences.

COVER: Moniek Lamers

DESIGN/LAYOUT: Moniek Lamers / Re:Publik

PRINT: Ipskamp Printing, Enschede

ISBN: 978-94-028-0712-7

FINANCIAL SUPPORT

This thesis was made possible by grants of:

- Fonds Slachtofferhulp Nederland, grant no. 11.03.21 UMC St Radboud 2012
- Radboudumc, Board of Directors, grant no. AGIKO stipendia 2011-2, RvB11.12.52508
- Department of Primary and Community Care, Radboudumc, Nijmegen, the Netherlands

Nijmegen, 2017

COPYRIGHT

© K.A.W.L. van Rosmalen-Nooijens, Nijmegen, the Netherlands, 2017. All rights reserved. No part of this book may be reproduced or transmitted in any form, by print, photo print, microfilm or otherwise, without prior written permission of the holder of the copyright.

Niets uit deze uitgave mag worden vermenigvuldigd en/of openbaar gemaakt door middel van druk, fotokopie, microfilm, of welke andere wijze dan ook, zonder schriftelijke toestemming van de auteur.

FAMILY VIOLENCE: YOUNG PEOPLE, ADULT WORRIES

Preparation, Development, and Evaluation of the eHealth Intervention 'Feel the ViBe' for Adolescents and Young Adults
Exposed to Family Violence

PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Radboud Universiteit Nijmegen
op gezag van de rector magnificus prof. dr. J.H.J.M. van Krieken,
volgens besluit van het college van decanen
in het openbaar te verdedigen op

woensdag 1 november 2017 om 16:30 uur precies

door

KARIN ADRIANA WILHELMINA LOUISE VAN ROSMALEN-NOOIJENS

geboren op 20 april 1984 te Venlo

PROMOTOREN

Mw. prof. dr. A.L.M. Lagro-Janssen

Mw. prof. dr. J.B. Prins

COPROMOTOR

Mw. dr. S.H. Lo Fo Wong

MANUSCRIPTCOMMISSIE

Mw. prof. dr. A.E.M. Speckens

Dhr. prof. dr. J.A.M. Kremer

Mw. prof. dr. G.M.F. Römkens (Universiteit van Amsterdam)

PARANIMFEN

Mw. drs. M.M.W.V. Rijnvos-Thurlings

Mw. drs. S.C. Käyser-Abdo

FAMILY VIOLENCE: YOUNG PEOPLE, ADULT WORRIES

Preparation, Development, and Evaluation of the eHealth Intervention 'Feel the ViBe' for Adolescents and Young Adults
Exposed to Family Violence

DOCTORAL THESIS

to obtain the degree of doctor

from Radboud University Nijmegen

on the authority of the Rector Magnificus prof. dr. J.H.J.M. van Krieken,

according to the decision of the Council of Deans

to be defended in public on

Wednesday, November 1, 2017 at 16.30 hours

by

KARIN ADRIANA WILHELMINA LOUISE VAN ROSMALEN-NOOIJENS

Born on April 20, 1984 in Venlo (the Netherlands)

SUPERVISORS

Prof. dr. A.L.M. Lagro-Janssen

Prof. dr. J.B. Prins

CO-SUPERVISOR

Dr. S.H. Lo Fo Wong

DOCTORAL THESIS COMMITTEE

Prof. dr. A.E.M. Speckens

Prof. dr. J.A.M. Kremer

Prof. dr. G.M.F. Römkens (University of Amsterdam)

PARANYMPHS

Drs. M.M.W.V. Rijnvos-Thurlings

Drs. S.C. Käyser-Abdo

TABLE OF CONTENTS

Chapter 1 General Introduction

Karin AWL van Rosmalen-Nooijens

PREPARING A NEW INTERVENTION FOR AYAS EXPOSED TO FV

Chapter 2 **Does Witnessing Family Violence Influence Sexual and Reproductive**

Health of Adolescents and Young Adults? A Systematic Review

Karin AWL van Rosmalen-Nooijens, Fleur AH Lahaije, Sylvie H Lo Fo

Wong, Judith B Prins and Antoine LM Lagro-Janssen

Psychology of Violence, 7(3), 343-374. doi:10.1037/vio0000113

Chapter 3 The Need for Control, Safety and Trust in Healthcare: A Qualitative

Study among Adolescents and Young Adults Exposed to Family

Violence

Karin AWL van Rosmalen-Nooijens, Sylvie H Lo Fo Wong, Judith B Prins

and Antoine LM Lagro-Janssen

Patient Education and Counseling, 2017 100(6), 1222-1229. DOI:

10.1016/j.pec.2017.02.008

DEVELOPING THE INTERNET-BASED SELF-SUPPORT INTERVENTION 'FEEL THE VIBE'

Chapter 4 'Young people, adult worries': RCT of an internet-based self-support method 'Feel the ViBe' for children, adolescents and young adults exposed to family violence, a study protocol

Karin AWL van Rosmalen-Nooijens, Judith B Prins, Marianne Vergeer, Sylvie H Lo Fo Wong and Antoine LM Lagro-Janssen

BMC Public Health 2013 13:226. DOI: 10.1186/1471-2458-13-226

EVALUATING THE INTERNET-BASED SELF-SUPPORT INTERVENTION 'FEEL THE VIBE'

Chapter 5 Young people, Adult worries: RCT and feasibility study of the internet-

based self-support method 'Feel the ViBe' for adolescents and young

adults exposed to family violence.

Karin AWL van Rosmalen-Nooijens, Sylvie H Lo Fo Wong, Judith B Prins

and Antoine LM Lagro-Janssen

J Med Internet Res 2017;19(6):e204. DOI: 10.2196/jmir.6004

Chapter 6 A multi-method qualitative study investigating themes discussed

among adolescents and young adults exposed to family violence

participating in an internet-based intervention.

Karin AWL van Rosmalen-Nooijens, Sylvie H Lo Fo Wong, Renske Meijer,

Judith B Prins, and Antoine LM Lagro-Janssen

Manuscript under review Journal of Interpersonal Violence

Chapter 7 General Discussion

Karin AWL van Rosmalen-Nooijens

Chapter 8 Summary / Samenvatting

Chapter 9 Dankwoord (Acknowledgements)

Chapter 10 Curriculum vitae

Chapter 11 List of Publications

Chapter 12 RIHS Portfolio

ABBREVIATIONS

AYAs: Adolescents and Young Adults

CHERRIES: The CHEcklist for Reporting Results of Internet E-Surveys.

CM: Community Manager

FtV: Feel the ViBe

FV: Family Violence

GQ: General Questionnaire

HCP: HealthCare Professional

IES: Impact of Event Scale

mEUC: minimally Enhanced Usual Care

PTSD: Post Traumatic Stress Disorder

ROM: Routine Outcome Monitoring

SCL-90 DEP: Symptom CheckList-90R, depression subscale

SCL-90 ANX: Symptom CheckList-90R, anxiety subscale

STD: Sexually Transmitted Disease

UC: Usual care

WEQ: Web Evaluation Questionnaire

Chapter 1

General Introduction

Rose 'Are you there? I don't know what to do, please can you help me?'

CM 'I am here, what's going on...'

Rose 'I don't know if I can tell you, I don't even know you...my parents

got into a fight again, they screamed and he's throwing stuff at her. I tried to stop him, but he was so angry. I am in my room now.

What I should do?'

This was the start of a chat conversation. It was almost 9 pm shortly after finishing a group chat session. Rose was one of the newest and youngest participants of our internet-based self-support method Feel the ViBe. She had been online for the whole hour before, not saying a word. Rose was 15 years old and just put her story on the forum online, which told me that it concerned a family in which the father was physically violent to his wife, which was often witnessed by the participant and her younger sister, age unknown.

DEFINITION AND MANIFESTATION

Family Violence (FV) mostly affects women and children. The United Nations defines violence against women as 'any act of gender-based violence that results in, or is likely to result in: physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life.' Violence against women (VAW), particularly Intimate Partner Violence (IPV) and Sexual Violence, is very prevalent and a major problem worldwide.

It is estimated that, globally, about one in three women have experienced either physical and/or intimate partner violence or non-partner sexual violence in their lifetime [1]. Most of this violence is IPV: about 30% of all women in a relationship reported they had experienced some form of violence in their relationship [1, 2]. In the Netherlands, at least 20% of women have ever been physically abused by a former or current partner; 11% are victims of sexual violence by a former or current partner; and one in eight of all Dutch women have ever been raped during their lifetime [3, 4]. The health consequences of exposure to VAW have been well investigated and include both physical and mental health problems in the short and long term [5-8].

Children live in such violent households in approximately 60% of cases [9, 10]. It is only since the late 1980s that children have been acknowledged as victims of FV, often being referred to as silent, forgotten or hidden victims. In 1990, Jaffe, Wolfe and Wilson were some of the first to systematically document research on and experiences of child witnesses of FV [11]. Nowadays, it is widely acknowledged that children in violent homes are almost always exposed to this violence.

The most common form of exposure to FV is exposure to IPV, but assaults by parents on siblings or among siblings are also included. There are many possible forms of exposure, varying from direct exposure – seeing or hearing violence –, to indirect exposure – having to deal with the consequences of violence in daily life [12]. 'Witnessing FV' is another way to describe this type of violence. In the literature, these terms are used interchangeably, and to complicate things, 'exposure to FV' is also used to indicate direct child abuse in some studies. The terminology may differ between countries, but 'exposure to domestic violence' or 'exposure to family violence' are widely accepted internationally as the terms preferred to 'witnessing domestic or family violence'.

Although 'witnessing' makes it clear to readers that the author does not mean direct victims of child abuse, the term could leave readers under the impression that it only refers to seeing or hearing violence take place, which does not do justice to the indirect effects of FV on daily life: children may observe the aftermath of abuse such as bruises or tears, or they may be aware of tensions or sense fear in the home.

Recent studies show that 8-12% of all children were exposed to some form of FV in the preceding year, 6.6% of whom were exposed to IPV between a parent and his/her intimate partner [13-15]. Adolescents and Young Adults (AYAs) are a group of special interest within the total group of children exposed to FV. Hamby (2011) showed that past-year prevalence for any exposure to FV was the highest in 14-17-year-olds (13.8%) [13]. Therefore, this thesis is targeted solely at the development of an intervention for AYAs exposed to FV.

To follow the international literature, and because we feel that it does more justice to the complexity and scale of this problem, we chose 'AYAs exposed to FV' to refer to our target group of adolescents and young adults in the 12-25 age bracket who live, see, hear, observe and sense the violence committed by one family member to another in their homes.

CONSEQUENCES OF EXPOSURE TO FAMILY VIOLENCE

Before being able to develop a successful intervention targeted at AYAs exposed to FV, we needed to study the consequences of exposure in this group. Over the last two decades, numerous studies have been published on the effects of exposure to FV.

Literature shows that FV exposure is associated with physical health adversities, such as obesity, ischemic heart disease, chronic lung diseases and asthma; mental health disorders such as post-traumatic stress disorder (PTSD), depression and anxiety disorder; and emotional, behavioural and adjustment problems, such as educational drop-out, and internalizing and externalizing behaviour, including health-risk behaviours, such as smoking and substance abuse [16-36].

Exposure to FV is associated with adolescent dating violence and intergenerational transmission: becoming victims or perpetrators of FV in adult life [17, 19, 22, 26, 29-31, 37-39]. Limited information is available on the consequences of exposure to FV on reproductive and sexual health: exposure to FV appears to be associated with early initiation of intercourse, multiple partners, sexually transmitted diseases and unplanned pregnancy, but no systematic review is available and evidence is scarce [22, 40-44].

Several theories explain the relation between exposure to FV and its diverse consequences from different perspectives. One assumption is that exposure to FV is believed to cause an unsafe environment for those involved, just as direct child abuse does. The trauma betrayal theory [45-47] and the attachment theory [48] argue that an unsafe environment can affect normal bonding between children and their parents and normal adolescent personality development. This could lead to emotional distress and psychopathology, such as anxiety, guilt, anger, depression and PTSD [49, 50]. AYAs who have grown up in an unsafe environment may struggle with feelings of rejection and unattained intimacy needs due to their turbulent home situation, causing them to satisfy these needs in other places. They try to find intimacy from peers earlier than young people who are not affected by interparental violence, which leads to earlier romantic involvement and, therefore, a greater risk of dating violence and risk-taking behaviour [51, 52].

The family system theory suggests that a lack of boundaries in the family and low parental monitoring and support are both associated with sexual risk-taking behaviour [53-57]. One could also hypothesize that witnessing FV may lead to wrong assumptions about what behaviour is normal in a loving relationship, as captured by Bandura's social learning theory [58]. This theory states that individuals learn from and are shaped by the behaviours of their role models in the close social circle. Growing up in an environment with interparental violence exposes these individuals to aggressive role models, and, through observational learning, they will learn to think that such behaviour is normal and functional. This will make them more accepting towards aggressive behaviour and coercive processes present in their environment [59-62].

For Rose, participating in Feel the ViBe was her first step to healthcare. She told me she tried to find help before, but didn't know where to go. She found Feel the ViBe on Google and started her participation a few weeks earlier.

I ensured her that I would help her and we talked about the violence. She was scared that I would violate her trust and was extremely hesitant to tell me anything. I asked if she could call anyone who knew about the violence. Rose denied: no one knew of the situation and she didn't trust anyone. After talking a while, I asked her what she wanted. She told me she was afraid and that she didn't want to stay in this situation. As she didn't want me to take any action at this point, we made an appointment for the next day to have a private chat.

IDENTIFICATION AND REFERRAL TO HEALTHCARE

For healthcare professionals (HCP), it is difficult to first identify and then help AYAs exposed to violence [63-65]. From the literature, we know that only 18-34% of AYAs seek professional help for mental health problems and that they prefer informal help to professional help [31, 66-70]. Several reviews have addressed adolescent help-seeking behaviour for mental health problems, including being a victim of violence. Barriers include attitudes towards healthcare, confidentiality and trust issues, fear or stress about help-seeking and lack of recognition by others [71-73]. Facilitators include the AYAs' competence to address emotions, positive past experiences and trusted relationships with HCPs [63-65, 67, 71-78].

None of these studies specifically involved AYAs exposed to FV, and most participants in these studies already received healthcare. In addition, AYAs generally do not have adequate health literacy, which is required to understand their need for help and to gain access to the system of services that is available. They are often unaware of what health services or other services are being provided and how to obtain them. This could harm the help-seeking process [36, 79-82].

Besides these general barriers, AYAs exposed to FV might have additional barriers which prevent early identification and treatment. Adolescence is an important and life-altering period in human life with tremendous physical and psychological changes [83, 84]. In this period, peers are very important and, more than family, are considered significant others when facing problems.

The transtheoretical stages-of-change model by Prochaska and DiClemente [85] describes the process of intentional behaviour change and can help professionals

understand the phases one has to go through to change behaviour. This can help HCPs to choose the right approach or treatment for an individual.

We propose to use the stages-of-change model to describe the situation of AYAs exposed to FV. We hypothesise that AYAs exposed to FV are in the Precontemplation or Contemplation phase: not yet ready to take action. There might be several explanations following from the theories discussed above. According to the social learning theory, AYAs exposed to FV in the Precontemplation phase are unaware of the abnormality of their home situation. As they grow up and share experiences with peers, they move on to the Contemplation phase and become aware that their home situation is not normal. However, they often feel responsible for the victimized family member and try - mostly unsuccessfully - to protect the family, out of loyalty or fear for the consequences of looking for help. Their feelings and comprehension of 'safety' as well as their immediate safety are highly under pressure. Additionally, as peers are very important, they might be hesitant to share experiences out of shame or fear that their home situation may harm their status.

This increases the need for a low-threshold manner to reach out to AYAs exposed to FV, but it is challenging to provide healthcare that is appropriate to both the age group and their specific problems [63, 65, 73]. Traditional programmes are often not ready for participants in the Contemplation phase: focusing on immediate change, they are not suitable for participants that are still weighing the pros and cons of changing their situation. Especially for AYAs, there is a lack of adequate support. Most of the preventive interventions in the Netherlands are locally organized, do not offer specialized care or have a high threshold. Parents are often involved or needed for consent and insurance. Healthcare providers, moreover, must comply with safety and child protection legislation. This often leads to insufficient respect in clinical practice for AYAs' rights to information, privacy and confidentiality [82].

It is necessary, therefore, to study the specific needs of AYAs exposed to FV at an early stage of change and explore the possibilities to provide low-threshold care to this group.

The next day, she didn't show up online, but as she was active at the forum, I knew she was there. She was asking questions to other participants about family violence and their experiences with help, and I sent her a message that she could ask me if she needed any help.

A few days later, she interfered unexpectedly during a group chat and asked my opinion about her situation. I explained to her that I was worried about her and that I felt it would be best to inform someone about the violence. After a while, she told me that she had the mobile number of her school mentor and she agreed to call her, after I made a short call first to announce that Rose was going to call soon to discuss something important. The school mentor, who already suspected domestic violence, offered Rose to talk with her privately.

In the following days, Rose frequently visited the Feel the ViBe forum. She told us that her school mentor listened to her and eventually helped her to inform her mother that she knew about the violence. They were now temporarily staying at their grandparents' house. Her father and mother searched for help together, and she would start therapy too. She was already seeing a youth care counselor. Rose told me she was relieved that I hadn't forced her to do anything that first evening. Soon after, she stopped visiting Feel the ViBe.

EHEALTH

Involvement of AYAs is essential for the development of effective healthcare in general, but particularly in this target group of AYAs exposed to FV. They are usually able to say what they need and think of the best approach or solution to their personal situation. This will help to prevent loss to follow-up [82]. Therefore, we felt that exploring the healthcare needs and wishes of AYAs exposed to FV was essential for developing an intervention for this group. From the literature, we also know that providing information, sharing experiences and peer modelling increase self-management [86-88] and that peer and social support are effective methods to change behaviour, both offline and online [88-94]. Social support, furthermore, has proven to be effective in adults exposed to violence and is associated with improved mental and physical health outcomes [95-97].

In looking for alternative ways to provide low-threshold care to AYAs exposed to FV, the Internet could be an effective way to deliver care. In 2013, 100% of the AYAs between 12-25 years old in the Netherlands had access to the Internet [98]. The Internet is used by AYAs in general to retrieve health information and to self-disclose problems to online peers, rather than to ask for help elsewhere [69, 99, 100]. eHealth could be a way to reach out to those who would not otherwise search for professional help: to provide information and support.

It is expected that AYAs exposed to FV will search for information on the Internet too. Therefore, an Internet-based self-help intervention targeted at this group could be a way to reduce barriers to help-seeking and help AYAs exposed to FV to get ready for change.

eHealth is a rapidly developing and upcoming mode of therapy. Although eHealth is still in its infancy, more attention has been paid to the theory and different categories of eHealth interventions in recent years. Websites are especially suitable for transferring information and for providing a platform or community for patients to stimulate peer and professional support. Most eHealth interventions are selfmanagement or self-support interventions, based on the principle that self-management stimulates self-regulation. Self-management is effective if people are able to monitor not only their own situation, but also their social, emotional and physical needs and following actions, leading to behavioural changes.

Ritterband (2009) describes a theoretical model for behavioural change trough eHealth interventions. In this model, the website characteristics, the support given, the website user and the social context together influence if and how a website will be used for help and if this leads to behavioural change [101]. An important choice to make is the level of guidance in an intervention. Health interventions can be unguided self-help interventions, defined as a standardized psychological treatment that patients work through independently at home. The costs of these kinds of interventions are low, and they could be a suitable first step to healthcare although they require high levels of self-management capabilities.

E-therapy, involving a therapist and assuming a therapeutic relationship between patients and HCPs, takes place only by Internet communication. This variant is considered challenging by some because of the anonymity of the Internet [102]. An in-between option is guided self-help, in which an online coach or professional gives feedback on participants' assignments or actions in an intervention. Such blended-care could increase self-management and provide individually targeted information or care, but it needs to be studied more thoroughly in future research, which is a general problem in eHealth interventions: most eHealth interventions are launched without their feasibility and effectiveness for the target group having been examined.

There has been a change in the last few years, however, and eHealth solutions have been investigated and proven effective for different health problems, including mental health in an adolescent population [102-108], although the quality of these studies is often assessed as poor. Overall, evidence suggests that eHealth cognitive therapy interventions for depression and anxiety are effective, especially if HCPs are involved [109]. In 2016, the Netherlands Youth Institute included fourteen eHealth

interventions for AYAs, none of which have been proven effective. Thirteen interventions are theoretically well-founded, and one intervention shows promising results. Only one intervention is targeted at AYAs exposed to FV [110], but this intervention has not been evaluated for efficacy. This reinforces the need for developing an intervention for AYAs exposed to FV.

THIS THESIS

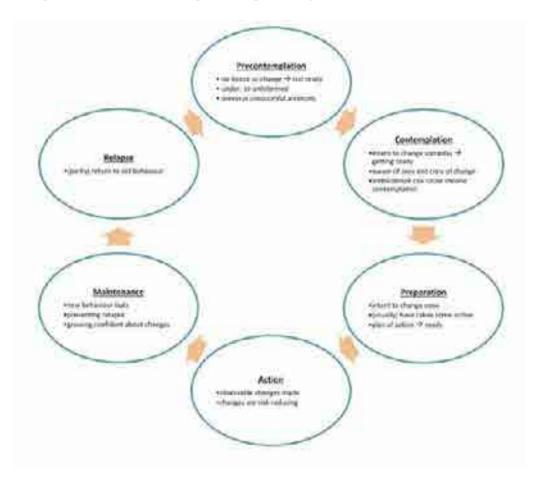
Considering all of the above, the department of Gender & Women's Health, Primary and Community Care, of the Radboud university medical center, Nijmegen, the Netherlands, launched the 'Young People, Adult Worries' program in 2011. Its aims are the following: first, we aim to explore the association between exposure to FV and sexual and reproductive health, as the literature remains inconclusive on this subject. Secondly, we aim to identify healthcare needs of AYAs exposed to FV. Thirdly, we aim to develop an Internet-based self-help intervention for AYAs exposed to FV based on these needs. We set three goals for this intervention: to provide information about FV and healthcare, to offer (peer) support and to lower the threshold to existing professional healthcare. Lastly, we aim to evaluate this intervention for feasibility and effectiveness and to make recommendations for future research.

This thesis describes the development, Randomised Controlled Trial (RCT) and evaluation of this intervention, which was named 'Feel the ViBe (Violence Beaten)'. We chose a mixed-methods approach to be able to study feasibility and effectiveness from different angles. First, we performed a systematic review of the association between exposure to FV and the sexual and reproductive health of AYAs aged 12-25 (Chapter 2). Secondly, we performed a qualitative study, using semi-structured face-face interviews among twelve AYAs exposed to FV to explore the healthcare needs of AYAs exposed to FV (Chapter 3).

The results of these two studies, together with expert opinions and available literature, were then used to construct 'Feel the ViBe', a freely available, Internet-based self-help intervention. The development, content and protocol for the RCT are all described in detail in the study protocol (**Chapter 4**). To explore if 'Feel the ViBe' was a feasible and effective way of reaching and delivering healthcare to AYAs exposed to FV, we performed an RCT and feasibility study, including AYAs exposed to FV (**Chapter 5**). Lastly, we performed a multi-method qualitative study among AYAs exposed to FV who were active users of 'Feel the ViBe'. In doing so, we used a variety of data from 'Feel the ViBe', complemented with online user interviews, to explore which themes are most important for AYAs exposed to FV. Lastly, we addressed the question which themes are discussed most online by AYAs exposed to FV for professional healthcare (**Chapter 6**).

TABLES AND FIGURES

Figure 1 The transtheoretical stages-of-change model by Prochaska and DiClemente



REFERENCES

- Devries, K.M., et al., Global health. The global prevalence of intimate partner violence against women. Science, 2013. 340(6140): p. 1527-8.
- WHO and LSHTM, Preventing intimate partner and sexual violence against women: taking action and generating evidence. 2010, Geneva: World Health Organization.
- FRA, E., Violence against women: An EU-wide survey. Report for European Union Agency for Fundamental Rights, 2014.
- Movisie, Factsheet Huiselijk geweld: feiten en cijfers [Factsheet domestic violence: facts and figures].
 2009: Movisie.
- Devries, K.M., et al., Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. Addiction, 2014. 109(3): p. 379-391.
- Devries, K.M., et al., Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. PLoS Med, 2013. 10(5): p. e1001439.
- Campbell, J.C., Health consequences of intimate partner violence. Lancet, 2002. 359(9314): p. 1331-1336.
- 8. Paras, M.L., et al., Sexual abuse and lifetime diagnosis of somatic disorders: a systematic review and meta-analysis. Jama, 2009. 302(5): p. 550-561.
- 9. Fantuzzo, J., et al., Domestic violence and children: prevalence and risk in five major U.S. cities. J Am Acad Child Adolesc Psychiatry, 1997. 36(1): p. 116-22.
- Ferwerda, H., Met de deur in huis: Omvang, aard, achtergrondkenmerken en aanpak van huiselijk geweld in 2006 op basis van landelijke politiecijfers. [Magnitude, nature, characteristics, and approach to domestic violence in 2006, based on nationwide police data.]. 2007: Arnhem/Dordrecht.
- 11. Jaffe, P.G., D.A. Wolfe, and S.K. Wilson, Children of battered women. 1990: Sage Publications, Inc.
- Holden, G.W., Children exposed to domestic violence and child abuse: terminology and taxonomy.
 Clin Child Fam Psychol Rev, 2003. 6(3): p. 151-60.
- 13. Hamby, S.L., et al. Children's exposure to intimate partner violence and other family violence. 2011; Available from: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf. (Archived by WebCite® at http://www.webcitation.org/6gt02RIVb).
- 14. Finkelhor, D., et al., Violence, crime, and abuse exposure in a national sample of children and youth: an update. JAMA Pediatr, 2013. 167(7): p. 614-21.
- McDonald, R., et al., Estimating the number of American children living in partner-violent families. J Fam Psychol, 2006. 20(1): p. 137-42.
- Kitzmann, K.M., et al., Child witnesses to domestic violence: a meta-analytic review. J Consult Clin Psychol, 2003. 71(2): p. 339-52.
- 17. Evans, S.E., C. Davies, and D. DiLillo, Exposure to domestic violence: a meta-analysis of child and adolescent outcomes. Aggression and violent behaviour, 2008. 13: p. 131-140.
- 18. Wolfe, D.A., et al., The effects of children's exposure to domestic violence: a meta-analysis and critique. Clin Child Fam Psychol Rev, 2003. 6(3): p. 171-87.
- Van Niel, C., et al., Adverse events in children: predictors of adult physical and mental conditions. J Dev Behav Pediatr, 2014. 35(8): p. 549-51.
- Sternberg, K.J., et al., Type of violence, age, and gender differences in the effects of family violence on children's behaviour problems: a mega-analysis. Developmental Review, 2006. 26: p. 89-112.
- Chan, Y.-C. and J.W.-K. Yeung, Children living with violence within the family and its sequel: a metaanalysis from 1995 - 2006. Aggression and violent behaviour, 2009. 14: p. 313-322.
- 22. Bair-Merritt, M.H., M. Blackstone, and C. Feudtner, Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. Pediatrics, 2006. 117(2): p. e278-90.
- Dube, S.R., et al., The impact of adverse childhood experiences on health problems: evidence from four birth cohorts dating back to 1900. Prev Med, 2003. 37(3): p. 268-77.

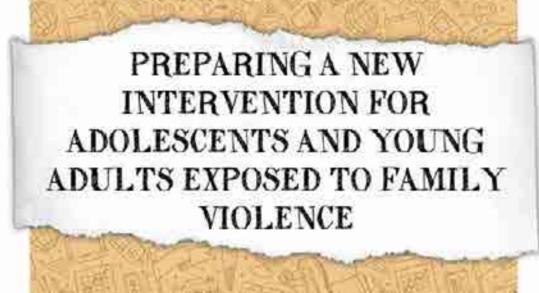
- 24. Holt, S., H. Buckley, and S. Whelan, The impact of exposure to domestic violence on children and young people: a review of the literature. Child Abuse Negl, 2008. 32(8): p. 797-810.
- Ehrensaft, M.K., et al., Intergenerational transmission of partner violence: a 20-year prospective study. J Consult Clin Psychol, 2003. 71(4): p. 741-53.
- Widom, C.S., S.J. Czaja, and M.A. Dutton, Childhood victimization and lifetime revictimization. Child Abuse Negl, 2008. 32(8): p. 785-96.
- 27. Eriksson, L. and P. Mazerolle, A cycle of violence? Examining family-of-origin violence, attitudes, and intimate partner violence perpetration. J Interpers Violence, 2015. 30(6): p. 945-64.
- Black, D.S., S. Sussman, and J.B. Unger, A further look at the intergenerational transmission of violence: witnessing interparental violence in emerging adulthood. J Interpers Violence, 2010. 25(6): p. 1022-42.
- Anda, R.F., et al., The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. Eur Arch Psychiatry Clin Neurosci, 2006. 256(3): p. 174-86.
- Boynton-Jarrett, R., E. Hair, and B. Zuckerman, Turbulent times: effects of turbulence and violence exposure in adolescence on high school completion, health risk behaviour, and mental health in young adulthood. Soc Sci Med, 2013. 95: p. 77-86.
- 31. Brady, S.S. and G.R. Donenberg, Mechanisms linking violence exposure to health risk behaviour in adolescence: motivation to cope and sensation seeking. J Am Acad Child Adolesc Psychiatry, 2006. 45(6): p. 673-80.
- 32. Springer, K.W., et al., Long-term physical and mental health consequences of childhood physical abuse: Results from a large population-based sample of men and women. Child abuse & neglect, 2007. 31(5): p. 517-530.
- Felitti, V.J., et al., Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. American Journal of Preventive Medicine, 1998. 14(4): p. 245-258.
- Carpenter, G.L. and A.M. Stacks, Developmental effects of exposure to Intimate Partner Violence in early childhood: A review of the literature. Children and Youth Services Review, 2009. 31(8): p. 831-839.
- Edleson, J.L., Children's witnessing of adult domestic violence. Journal of Interpersonal Violence, 1999. 14(8): p. 839-870.
- Sox, R., Integrative Review of Recent Child Witness to Violence Research. Clinical Excellence for Nurse Practitioners, 2004. 8(2): p. 68-78.
- 37. Suglia, S.F., et al., Violence exposure, a chronic psychosocial stressor, and childhood lung function. Psychosomatic medicine, 2008. 70(2): p. 160.
- 38. Ackerson, L.K., et al., Exposure to domestic violence associated with adult smoking in India: a population based study. Tob Control, 2007. 16(6): p. 378-83.
- 39. Subramanian, S., et al., Domestic violence is associated with adult and childhood asthma prevalence in India. International journal of epidemiology, 2007. 36(3): p. 569-579.
- Berenson, A.B., C.M. Wiemann, and S. McCombs, Exposure to violence and associated health-risk behaviours among adolescent girls. Arch Pediatr Adolesc Med, 2001. 155(11): p. 1238-42.
- 41. Edleson, J.L., et al., Assessing child exposure to adult domestic violence. Children and Youth Services Review, 2007. 29(7): p. 961-971.
- 42. Hillis, S.D., et al., The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. Pediatrics, 2004. 113(2): p. 320-7.
- 43. Hillis, S.D., et al., Adverse childhood experiences and sexual risk behaviours in women: a retrospective cohort study. Family Planning Perspectives, 2001. 33(5): p. 206-11.

- 44. Hillis, S.D., et al., Adverse childhood experiences and sexually transmitted diseases in men and women: a retrospective study. Pediatrics, 2000. 106(1): p. E11.
- Freyd, J.J., Betrayal trauma: Traumatic amnesia as an adaptive response to childhood abuse. Ethics & Behavior, 1994. 4(4): p. 307-329.
- Kaehler, L.A. and J.J. Freyd, Borderline personality characteristics: A betrayal trauma approach.
 Psychological Trauma: Theory, Research, Practice, and Policy, 2009. 1(4): p. 261.
- 47. Freyd, J., Betrayal trauma, in Encyclopedia of Psychological Trauma, G. Reyes, J. Elhai, and J. Ford, Editors. 2008, John Wiley & Sons: New York. p. 76.
- 48. Sonkin, D., Domestic violence and attachment theory: Clinical applications to treatment with perpetrators. The encyclopedia of domestic violence, 2007: p. 41-51.
- Nebbitt, V., et al., Correlates of Age at Onset of Sexual Intercourse in African American Adolescents Living in Urban Public Housing. Journal of Health Care for the Poor and Underserved, 2010. 21(4): p. 1263-1277.
- Tschann, J.M., et al., Interparental conflict and risk behaviours among Mexican American adolescents: A cognitive-emotional model. Journal of Abnormal Child Psychology, 2002. 30(4): p. 373-385.
- 51. Silverman, J.G., et al., Dating violence against adolescent girls and associated substance use, unhealthy weight control, sexual risk behaviour, pregnancy, and suicidality. Jama, 2001. 286(5): p. 572-579.
- 52. Makepeace, J.M., Social factor and victim-offender differences in courtship violence. Family relations, 1987: p. 87-91.
- 53. Elliott, G.C., et al., The encounter with family violence and risky sexual activity among young adolescent females. Violence and Victims, 2002. 17(5): p. 569-592.
- Rodgers, K.B., Parenting processes related to sexual risk-taking behaviours of adolescent males and females. Journal of Marriage and the Family, 1999: p. 99-109.
- 55. Voisin, D.R., The relationship between violence exposure and HIV sexual risk behaviours: Does gender matter? American Journal of Orthopsychiatry, 2005. 75(4): p. 497-506.
- 56. Bowen, M., The use of family theory in clinical practice. Comprehensive psychiatry, 1966. 7(5): p. 345-374.
- 57. Graham-Bermann, S.A., The impact of woman abuse on children's social development: Research and theoretical perspectives. 1998.
- 58. Bandura, A., Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall.
- 59. Duggan, S., M. O'Brien, and J.K. Kennedy, Young adults' immediate and delayed reactions to simulated marital conflicts: implications for intergenerational patterns of violence in intimate relationships. Journal of consulting and clinical psychology, 2001. 69(1): p. 13.
- 60. Wekerle, C. and D.A. Wolfe, Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. Clinical psychology review, 1999. 19(4): p. 435-456.
- 61. O'Leary, K.D., Physical aggression between spouses, in Handbook of family violence. 1988, Springer. p. 31-55.
- 62. Margolin, G., P.H. Oliver, and A.M. Medina, Conceptual issues in understanding the relation between interparental conflict and child adjustment: Integrating developmental psychopathology and risk/resilience perspectives. 2001.
- 63. Buckley, H., N. Carr, and S. Whelan, 'Like walking on eggshells': service user views and expectations of the child protection system. Child & Family Social Work, 2011. 16(1): p. 101-110.
- Featherstone, B. and H. Evans, Children experiencing maltreatment: who do they turn to? 2004,
 NSPCC London.
- 65. Whitehall-Smith, M., Counselling & support services for young people aged 12–16 who have experienced sexual abuse: a study of the provision in Italy, The Netherlands & the United Kingdom.

- Edited by Mary Baginsky, NSPCC, London, 2001. 140pp. ISBN 1-84228-020-1 (Pbk). Child Abuse Review, 2002. 11(5): p. 333-334.
- Sawyer, M.G., et al., The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. Aust N Z J Psychiatry, 2001. 35.
- 67. Rickwood, D., F. Deane, and C. Wilson, When and how do young people seek professional help for mental health problems? Med J Aust, 2007. 187.
- 68. Essau, C.A., Frequency and patterns of mental health services utilization among adolescents with anxiety and depressive disorders. Depress Anxiety, 2005. 22.
- Rowe, S.L., et al., Help-seeking behaviour and adolescent self-harm: a systematic review. Aust N Z J Psychiatry, 2014. 48(12): p. 1083-95.
- Ashley, O.S. and V.A. Foshee, Adolescent help-seeking for dating violence: Prevalence, sociodemographic correlates, and sources of help. Journal of Adolescent Health, 2005. 36(1): p. 25-31.
- 71. Gulliver, A., K.M. Griffiths, and H. Christensen, Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. BMC Psychiatry, 2010. 10(1): p. 113.
- 72. Barker, G., A. Olukoya, and P. Aggleton, Young people, social support and help-seeking. Int J Adolesc Med Health, 2005. 17(4): p. 315-35.
- 73. Cossar, J., M. Brandon, and P. Jordan. 'Don't make assumptions': Children's and young people's views of the child protection system and messages for change 2011; Available from: http://dera.ioe.ac.uk/2690/1/force_download.php%3Ffp%3D%252Fclient_assets%252Fcp%252Fpubl ication%252F486%252FChildrens_and_young_peoples_views_of_the_child_protection_system_.pdf (Archived by WebCite® at http://www.webcitation.org/6gsyiZim3).
- 74. Rickwood, D., et al., Young people's help-seeking for mental health problems. Australian e-Journal for the Advancement of Mental Health, 2005. 4(3): p. 218-251.
- 75. Freake, H., V. Barley, and G. Kent, Adolescents' views of helping professionals: a review of the literature. J Adolesc, 2007. 30(4): p. 639-53.
- Jobe, A. and S. Gorin, 'If kids don't feel safe they don't do anything': Young people's views on seeking and receiving help from Children's Social Care Services in England. Child and Family Social Work, 2012.
- 77. Paine, M.L. and D.J. Hansen, Factors influencing children to self-disclose sexual abuse. Clinical Psychology Review, 2002. 22(2): p. 271-295.
- Dube, S., et al., Exposure to Abuse, Neglect, and Household Dysfunction Among Adults Who Witnessed Intimate Partner Violence as Children: Implications for Health and Social Services. Violence and Victims, 2002. 17: p. 3-17.
- 79. Cunningham, A. and L.L. Baker, The adolescent's experience of intimate partner violence and implications for intervention. How intimate partner violence affects children: Developmental research, case studies, and evidence-based intervention, 2011: p. 247-272.
- 80. Kelley, M.L., et al., Parentification and family responsibility in the family of origin of adult children of alcoholics. Addict Behav, 2007. 32(4): p. 675-85.
- 81. Fitzgerald, M.M., et al., Child sexual abuse, early family risk, and childhood parentification: pathways to current psychosocial adjustment. J Fam Psychol, 2008. 22(2): p. 320-4.
- 82. WHO, Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of health-care providers. 2015: World Health Organization.
- 83. DiClemente, R.J., W.B. Hansen, and L.E. Ponton, Handbook of adolescent health risk behaviour. 2013: Springer Science & Business Media.

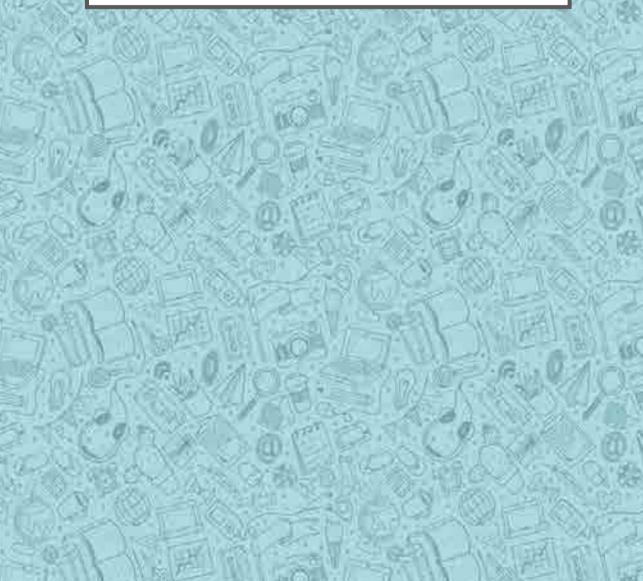
- Lerner, R.M. and L. Steinberg, Handbook of Adolescent Psychology, Volume 1: Individual Bases of Adolescent Development. Vol. 1. 2009: John Wiley & Sons.
- 85. Prochaska, J.O. and C.C. DiClemente, Transtheoretical therapy: Toward a more integrative model of change. Psychotherapy: theory, research & practice, 1982. 19(3): p. 276.
- 86. Eysenbach, G., et al., Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions. BMJ, 2004. 328(7449): p. 1166.
- 87. Backett-Milburn, K. and S. Wilson, Understanding peer education: insights from a process evaluation. Health Educ Res, 2000. 15(1): p. 85-96.
- 88. Melling, B. and T. Houguet-Pincham, Online peer support for individuals with depression: a summary of current research and future considerations. Psychiatr Rehabil J, 2011. 34(3): p. 252-4.
- 89. Parry, M. and J. Watt-Watson, Peer support intervention trials for individuals with heart disease: a systematic review. Eur J Cardiovasc Nurs, 2010. 9(1): p. 57-67.
- 90. Ancker, J.S., et al., Peer-to-peer communication, cancer prevention, and the internet. J Health Commun, 2009. 14 Suppl 1: p. 38-46.
- 91. Hoybye, M.T., et al., Effect of Internet peer-support groups on psychosocial adjustment to cancer: a randomised study. Br J Cancer, 2010. 102(9): p. 1348-54.
- 92. Kaplan, K., et al., Internet peer support for individuals with psychiatric disabilities: A randomized controlled trial. Soc Sci Med, 2011. 72(1): p. 54-62.
- 93. Salzer, M.S., et al., A randomized, controlled study of Internet peer-to-peer interactions among women newly diagnosed with breast cancer. Psychooncology, 2010. 19(4): p. 441-6.
- 94. Takahashi, Y., et al., Potential benefits and harms of a peer support social network service on the internet for people with depressive tendencies: qualitative content analysis and social network analysis. J Med Internet Res, 2009. 11(3): p. e29.
- 95. Coker, A.L., et al., Social support protects against the negative effects of partner violence on mental health. J Womens Health Gend Based Med, 2002. 11(5): p. 465-76.
- Levendosky, A.A., A. Huth-Bocks, and M.A. Semel, Adolescent peer relationships and mental health functioning in families with domestic violence. J Clin Child Adolesc Psychol, 2002. 31(2): p. 206-18.
- 97. Tajima, E.A., et al., Moderating the Effects of Childhood Exposure to Intimate Partner Violence: The Roles of Parenting Characteristics and Adolescent Peer Support. J Res Adolesc, 2011. 21(2): p. 376-394.
- 98. Statline, ICT gebruik van personen naar persoonskenmerken (Internet usage of persons divided to personal characteristics). 2013, Centraal Bureau voor de Statistiek: Den Haag/Heerlen.
- Best, P., R. Manktelow, and B.J. Taylor, Social Work and Social Media: Online Help-Seeking and the Mental Well-Being of Adolescent Males. British Journal of Social Work, 2016. 46(1): p. 257-276.
- Gray, N.J., et al., Health information-seeking behaviour in adolescence: the place of the internet. Soc
 Sci Med, 2005. 60(7): p. 1467-78.
- Ritterband, L.M., et al., A behaviour change model for internet interventions. Annals of Behavioral Medicine, 2009. 38(1): p. 18.
- 102. van Straten, A., P. Cuijpers, and N. Smits, Effectiveness of a web-based self-help intervention for symptoms of depression, anxiety, and stress: randomized controlled trial. J Med Internet Res, 2008. 10(1): p. e7.
- 103. Riper, H., et al., Predicting successful treatment outcome of web-based self-help for problem drinkers: secondary analysis from a randomized controlled trial. J Med Internet Res, 2008. 10(4): p. e46.
- 104. Postel, M.G., et al., Effectiveness of a web-based intervention for problem drinkers and reasons for dropout: randomized controlled trial. J Med Internet Res, 2010. 12(4): p. e68.
- 105. Ritterband, L.M., et al., Directions for the International Society for Research on Internet Interventions (ISRII). J Med Internet Res, 2006. 8(3): p. e23.

- 106. Wagner, B., C. Knaevelsrud, and A. Maercker, Internet-based cognitive-behavioral therapy for complicated grief: a randomized controlled trial. Death Stud, 2006. 30(5): p. 429-53.
- Lange, A. and J. Ruwaard, Ethical dilemmas in online research and treatment of sexually abused adolescents. J Med Internet Res, 2010. 12(5): p. e58.
- Merry, S.N., et al., The effectiveness of SPARX, a computerised self help intervention for adolescents seeking help for depression: randomised controlled non-inferiority trial. BMJ, 2012. 344: p. e2598.
- 109. Postel, M.G., H.A. de Haan, and C.A. De Jong, E-therapy for mental health problems: a systematic review. Telemedicine and e-Health, 2008. 14(7): p. 707-714.
- 110. NJI. Databank effectieve jeugdinterventies (Knowledgebank Effective Youth 'Interventions). 2016 [cited 2016 23-12-2016]; Available from: http://www.nji.nl/nl/Databank/Databank-Effectieve-Jeugdinterventies.





Does Witnessing Family Violence Influence Sexual and Reproductive Health of Adolescents and Young Adults? A Systematic Review



KARIN AWL VAN ROSMALEN-NOOIJENS
FLEUR AH LAHAIJE
SYLVIE H LO FO WONG
JUDITH B PRINS
ANTOINE LM LAGRO-JANSSEN

PSYCHOLOGY OF VIOLENCE, 7(3), 343-374. DOI:10.1037/VIO0000113

ABSTRACT

OBJECTIVE

Family Violence (FV) is a prevalent and important health problem worldwide. Witnessing FV has been linked to negative mental, behavioural, and physical outcomes, similar to being a direct victim of FV. This study aims to investigate the influence of witnessing FV on sexual and reproductive health of adolescents and young adults (AYAs).

METHOD

A systematic review was performed, including original studies between 2000 and 2015, both quantitative and qualitative, found in MEDLINE, EMBASE, PsycINFO, and Web of Science. Outcomes were chosen according to the WHO indicators for sexual and reproductive health. Forty-five studies were selected. Sample sizes ranged from 20 to 12,308 participants. Critical appraisal using CASP was performed on all articles.

RESULTS

Because of a broad range of outcomes and subjects, no meta-analysis could be performed. Results were grouped into 5 outcome categories. Witnessing FV seems to have an influence on sexual risk-taking and sexual violence perpetration, comparable to the influence of direct abuse. Results on sexual victimization and adolescent pregnancy remain inconclusive. Pubertal timing appears not to be influenced by witnessing FV.

CONCLUSIONS

Nine of 11 studies appraised as strong and moderate found a positive correlation between witnessing FV and the sexual or reproductive health of AYAs. Because of low study quality, more meticulous and longitudinal research is needed to adequately determine temporal sequence and causality of witnessing FV and sexual and reproductive health.

KEYWORDS

adolescent, domestic violence, family conflict, reproductive health, sexual health

Family Violence (FV) is a prevalent global problem, involving approximately a third of all women worldwide [1, 2]. FV is similar to Domestic Violence (DV) and can be defined as any behaviour, including physical aggression, sexual coercion, psychological abuse and controlling behaviours by a family member, including an intimate partner or ex-partner, which causes physical, sexual or psychological harm.

It is widely acknowledged now that children in violent homes almost always witness such violence. The most common form of witnessing FV is exposure to Intimate Partner Violence (IPV), but assaults by parents on siblings or among siblings are also included [3]. Recent studies show that 8–12% of all children were exposed to some form of FV in the preceding year, 6.6% of whom were exposed to Intimate Partner Violence (IPV) between a parent and his or her intimate partner [4-6].

This study aims to give a complete view of the influence of witnessing family violence on the sexual and reproductive health of adolescents and young adults (AYAs) aged 12–25 years old. It is part of the process of developing an internet based self-support method for AYAs (12–25 years of age) witnessing FV. For the development of this intervention, we needed to explore the effects of witnessing FV on sexual and reproductive health [7]. AYAs are a group of special interest within the total group of children exposed to FV as adolescence is an important and life-changing time in human life with tremendous physical and psychological changes [8, 9]. Hamby et al. (2011) showed that past-year prevalence for any exposure to FV was highest in 14 –17-year-olds (13.8%) [4].

It is widely acknowledged that witnessing FV has negative effects on health and is associated with emotional, behavioural and adjustment problems such as internalizing and externalizing behaviour, educational drop-out, and mental health disorders such as posttraumatic stress disorder (PTSD), depression, and anxiety disorder. It is also related to health-risk behaviours such as smoking, substance abuse, and inactivity, as well as physical health adversities such as obesity, ischemic heart disease, chronic lung diseases, and asthma [10-19]. However, evidence on the influence of witnessing FV on sexual and reproductive health is scarcer.

The consequences of witnessing FV closely resemble those of direct victims of physical abuse [20-24]. It is assumed that childhood physical abuse is related to sexual and reproductive health problems, such as risky sexual behaviour (promiscuity, more sexual partners and lower contraception use), sexually transmitted infections (STIs), abortions and negative sexual experiences [25, 26]. There is growing evidence that witnessing FV has comparable effects [18, 20, 27-32].

Several theoretical models could explain why witnessing FV could lead to sexual and reproductive health problems. Bandura's social learning theory holds that children

learn new behaviour by observing and imitating significant others, and children witnessing FV learn that this is an acceptable or effective means of resolving conflicts with a partner [33]. The family system theory suggests that a lack of boundaries in the family and low parental monitoring and support are associated with sexual risk-taking behaviour [34, 35]. Other theories, such as the betrayal trauma theory [36-38] and the attachment theory [39], revealed that parenting stress can impact internalizing and externalizing behaviour, which on itself could lead to sexual and reproductive health problems. [30, 40-44].

As only few studies have been conducted to confirm the assumption that witnessing FV is associated with sexual and reproductive health, we performed a systematic review to answer the following research question: "Does witnessing FV influence the sexual and reproductive health of adolescents and young adults aged 12–25 years old?"

METHOD

SELECTION CRITERIA

From our research question, we first formulated inclusion criteria on population, exposure and outcome. Outcomes were chosen based on the WHO indicators of sexual and reproductive health (see Table 1) [45, 46]. Then we performed a preliminary search and asked all members of the research team (van Rosmalen-Nooijens, Lahaije, Lo Fo Wong, Prins, Lagro-Janssen) to select key articles that met the criteria. Based on these articles, we decided to include all types of original research, both qualitative and quantitative, published between 2000 and August 2015, except case studies (n = 1). Dissertations and books or chapters were excluded. We included only Dutch and English articles as we are not native or fluent speakers in other languages. No restriction was placed on study setting.

SEARCH STRATEGY AND ARTICLE SELECTION

With the help of a medical information specialist skilled in systematic reviews, two researchers (van Rosmalen-Nooijens and Lahaije) independently defined three search groups (population, exposure and outcome), using a combination of Medical Subject Headings (MeSH terms) and free text synonyms. The subgroups were then combined in one search using the AND Boolean operator. Because we failed to formulate a search combining all three groups without losing key articles, we decided to combine only the population and exposure search groups. Searches were executed in four databases, without using limits: MEDLINE (8,057 results), EMBASE (9,724 results), PsycINFO (12,302)

results), and Web of Science (16,028 results), all taking place on August 5, 2015. All key articles were found using this strategy (see Table 2).

All 46,111 articles we found were loaded in an EndNote X7 (Thomson Reuters, New York, NY) library. First, duplicates were removed and limits applied. The 18,659 remaining articles were screened by title by two researchers (van Rosmalen-Nooijens and Lahaije) independently using two categories: possibly included and definitely excluded. All articles placed in the "possibly included" category by either of the researchers were screened on title and abstract by both researchers independently using the same categories. Articles that were found to be possibly eligible for inclusion by at least one researcher were selected. These articles were read full text independently to decide whether the article met all inclusion criteria, using standardized forms to describe the population, exposure, outcome and type of research. Based on these forms, the two researchers discussed each article and decided whether it was to be definitely included, definitely excluded or to be discussed by the full research team until consensus was reached. This procedure led to 41 articles being included.

Four additional articles were found through reference finding in the reference lists of included articles and searching Google and Google scholar, leading to a total of 45 articles included. The process of filtering eligible articles is shown in Figure 1.

DATA EXTRACTION

Data extraction took place using a standardized form. Information was extracted, from the published papers, on study type, population and sample size, setting and response rate, exposure, comparison, and outcomes. Data extraction was carried out by two researchers (van Rosmalen-Nooijens and Lahaije) independently and compared to make sure all data had been extracted correctly. Any differences were discussed. Whenever possible, outcomes were listed as odds ratio (OR), which were found to be significant when p < .05. If relative risks (RR) were given, these were converted to OR if possible.

QUALITY APPRAISAL

Some of the papers selected are influential, highly regarded papers in the field, using standardized measures in longitudinal studies. However, appraisal of the methodology of these studies could still indicate weaknesses in the research design. Therefore, we decided to perform quality appraisal for all included articles. We chose to extract data and assess quality based on the reported methodology and data in the published papers. We did not collect extra data from the authors unless these data were provided standard as an online supplement or multimedia file. Quality appraisal of quantitative studies was performed by two researchers (van Rosmalen-Nooijens and Lahaije) separately using the

Critical Appraisal Skills Programme (CASP) tools. Any differences were discussed until agreement was reached. The CASP tools are broadly used to assess whether a study is unbiased by evaluating its methodological quality. The CASP tools were originally designed for clinicians to assess quality. However, they are also used by researchers in the field of violence to assess study quality [47, 48]. Besides, the method of assessing quality is relatively easy to understand, both for researchers as for readers. This make the CASP tools, to our opinion, suitable to assess study quality. As different criteria are used for different research questions, there are separate CASP tools for different study types.

We chose to use one uniform appraisal list, being the Quantitative CASP, as modified by Oram [47], to appraise all quantitative studies. The Quantitative CASP is suitable for several quantitative study designs, including observational research, and assesses the research question, study design, sampling method, study sample, level of nonparticipation, assessment of violence, outcomes, confounders, data analysis, reporting of confidence intervals, preciseness of results, ethical issues, relation between findings and conclusions, generalizability, and fit within existing evidence. Each subject received a score of 0 (study does not meet criteria/answer question), 1 (study partially meets criteria / gives a partially satisfactory answer to the question), or 2 points (Study fully meets criteria/gives a fully satisfactory answer to the question), leading to a maximum score of 30 points.

To appraise qualitative studies, we chose the Qualitative CASP [49]. The Qualitative CASP assesses studies on aims, qualitative methodology, appropriate research design, sampling, data collection, reflexivity, ethical issues, data analysis, findings, and value of the research. With to the Quantitative CASP, each subject receives 0, 1, or 2 points, making a maximum possible score of 20.

Following Hall et al. (2014), we regarded Qualitative CASP scores of \geq 17, \geq 14, \geq 12 and <12 and Quantitative CASP scores of \geq 25, \geq 20, \geq 15 and <15 as strong, moderate, weak and very weak, respectively [48]. PRISMA guidelines were followed for reporting results [50].

RESULTS

Forty-five articles answered our research question and were included. These studies comprise different indicators of sexual and reproductive health and, therefore, different outcomes, which could be grouped into five categories: sexual risk-taking behaviour (n = 14); sexual violence perpetration (n = 11); sexual victimization (n = 8); adolescent pregnancy (n = 7) and pubertal timing (n = 6). All outcomes comprised sexual health indicators, except for adolescent pregnancy and pubertal timing. No outcomes on fertility and perinatal outcomes were found.

Within these groups, we sorted the articles by quality with the strongest listed first and the weakest last. One study investigated outcomes on two different indicators and was analysed in two categories. Further characteristics of the studies are listed in Table 3

Even within the categories, outcomes were not necessarily comparable. Because of this wide diversity in outcomes and the low quality of most reported studies, we were unable to perform a meta-analysis of the results. In total, 30 out of 45 studies found a significant relation between witnessing FV and one or more of the sexual and reproductive health indicators.

SEXUAL RISK-TAKING BEHAVIOR

A total of 14 studies investigated at least one outcome related to sexual risk-taking behaviour (see Table 4). None was appraised as being of strong quality; 4 were of moderate quality [26, 51-53]; the remaining 10 were of weak or very weak quality [31, 32, 34, 42, 54-59].

The highest appraised article (n = 1,104) reported a positive association between both contraception non-use and number of sexual partners and witnessing FV, with an OR of 1.40 (95% CI, 1.04 - 1.88) and 1.62 (95% CI, 1.23 - 2.14), respectively [51]. The other three articles appraised as moderate (total n = 23,301) all found significant outcomes regarding early sexual debut [26, 52, 53], meaning that adolescents witnessing FV had earlier sexual debuts than adolescents who never witnessed FV (OR range 1.38 -4.00).

In summary, the four studies appraised as moderate all found a significant association between witnessing FV and increased sexual risk-taking behaviour. Five studies, all of weak quality, did not find any significant association between witnessing FV and sexual risk-taking behaviour [32, 54, 56, 58, 59].

SEXUAL VIOLENCE PERPETRATION

We included 11 studies that addressed the relationship between witnessing FV and perpetration of some type of sexual violence (see Table 5). One study was appraised as moderate [60]; the others were weak [61-70]. Most studies investigated either perpetration of sexual violence regardless of relational status, or sexual dating violence perpetration. The study appraised as moderate [60] found that witnessing FV was positively associated with acts of sexual violence in 1,378 male students (OR 1.33 95% CI 1.11–1.59), corresponding with five other studies [61-64, 67] appraised as weak (OR 1.33–3.1, RR 2.5). Four studies, all weak or very weak, did not find an association

between witnessing FV and sexual violence perpetration. One study appraised as very weak investigated rape-supporting attitudes and did not find an association.

SEXUAL VICTIMIZATION

Eight studies [71-78] discussed outcomes related to sexual victimization (see Table 6). All were of low quality. Most researched witnessing parental violence and sexual victimization regardless of relational status. Overall, results related to sexual victimization remain inconclusive due to the low quality of the studies and large variety of outcomes.

ADOLESCENT PREGNANCY

There are seven studies (see Table 7) investigating the influence of witnessing FV on adolescent pregnancy [79-85], one of which was assessed as strong. This study [79] found that, among 533 females aged 20 years old, participants who had been pregnant by age 20 came significantly more often from families with the highest quintile of parental conflict (OR 3.1; 95% CI 1.9 –4.9). However, regression analysis did not show parental conflict to be a significant predictor of adolescent pregnancy.

The other five studies, including one appraised as moderate [80], did find an association between witnessing FV and teenage pregnancy (OR ranging from 2.6-19.9). The remaining weak study investigated male involvement and found that witnessing FV was positively associated with fathering teenage pregnancy and unplanned pregnancy [83].

These results are not conclusive as the five studies that found an association were assessed to be of moderate to low quality, while the sixth study, which was appraised as strong, did not find any significant association.

PUBERTAL TIMING

Six articles reported on the influence of witnessing FV on pubertal timing and/or menarche (see Table 8). One was appraised as strong [86] and 3 as being of moderate quality [87-89]. Two articles were of weak quality [85, 90]. In the strongest article [86], pubertal development including age of menarche was assessed in 9,377 participants. In children who witnessed FV, only significantly earlier genitalia development was found (OR 1.78). No link was found between witnessing FV and age of menarche. Two other studies appraised as moderate [88, 89] investigating menarche confirmed this finding.

Although the studies investigating pubertal development did find children witnessing FV as having earlier pubertal development, they reported slightly different outcomes, making comparison difficult.

DISCUSSION

This systematic review investigates whether witnessing FV influences the sexual and reproductive health of AYAs. The studies we found were mainly concerned with sexual health indicators and were of general low quality with large variation in outcome measures. Only 11 of 45 studies were appraised as being of moderate or strong quality. In general, nine of these 11 studies found a positive correlation between witnessing FV and the sexual or reproductive health of AYAs. Witnessing FV seems to have an influence on sexual risk-taking and sexual violence perpetration, but results on sexual victimization and adolescent pregnancy remain inconclusive. Pubertal timing appears not to be influenced by witnessing FV.

Because the adverse mental and behavioural effects of witnessing FV are often considered to be similar to the effects of direct physical abuse of victims, we compare our results to literature investigating these victims' sexual and reproductive health.

Results show that witnessing FV is associated with sexual risk-taking behaviour in the majority of the studies. Studies investigating sexual risk-taking in direct victims of IPV revealed they had an earlier sexual debut and more sexual partners than nonvictims [25, 91-94]. This was also found for child victims of physical abuse [26, 95], as well as a higher risk of STI and HIV [26, 96, 97]. These findings correspond with our findings in adolescents witnessing FV.

In this review, we found an association between witnessing FV and sexual risky behaviour. We suggest that several theories could explain this association. Adolescents who have grown up in an unsafe environment may struggle with feelings of rejection and unattained intimacy needs due to their turbulent home situation, which is most coherent with the attachment [39] and betrayal trauma [36-38] theory: Growing up in an unsafe environment can affect normal bonding between children and their parents and normal adolescent personality development. This could lead to emotional distress and psychopathology, such as anxiety, guilt, anger, depression and PTSD, and, therefore, selfdestructive (risk-taking) behaviour [42, 56]. However, this does not explain the association between witnessing FV and sexual risky behaviour entirely. The family system theory explains this association further as it suggests that a lack of boundaries in the family and low parental monitoring and support are both associated with sexual risktaking behaviour [26, 31, 34, 35, 94, 98-101]. We hypothesize that these theories strengthen each other: Unattained intimacy needs may drive AYAs witnessing FV to find this intimacy from peers earlier than young people who are not affected by interparental violence, whereas low parental monitoring and support and a lack of boundaries in the family will not prevent this. This could lead to earlier romantic involvement and sexual risky behaviour. Hillis et al. (2001) [26] reported an association between witnessing FV

and an early sexual debut, which supports this theory. Therefore, we feel that we may not be able to see these theories as individual explanations, but more as parts in a larger framework explaining the influence of witnessing FV on sexual risky behaviour.

Another conclusion we can draw from the results is that perpetration of sexual coercion or sexual aggression appears to be associated with witnessing FV in childhood too. Again, this corresponds with literature investigating direct victims of FV, which shows that a history of physical abuse is common in sex offenders [102-105]. Besides the abovementioned theories, one could hypothesize that witnessing FV may lead to wrong assumptions about what behaviour is normal in a loving relationship, as captured by the social learning theory of Bandura [33]. Growing up in an environment with interparental violence exposes these individuals to aggressive role models, and, through observational learning, they will learn to think that such behaviour is normal and functional. This will make them more accepting towards aggressive behaviour and coercive processes present in their environment [106-109]. Philpart et al. (2009) [60] underlines this theory, making the social learning theory, to our opinion, the most plausible explanation for the association between witnessing FV and sexual violence perpetration [60]. However, other theories exist which should be examined further. The victim to victimizer theory, comparable with the social learning theory, states that victims of early trauma are at greater risk of becoming victimizers themselves. Used to victim-victimizer dimensions and perceiving these as normal, they re-enact their own trauma. This is why they tend to select romantic partners that show behaviour that is normal to them and that fits either the victim's or victimizer's role, thus reinforcing the cycle of violence [60, 105, 107].

Finally, as mentioned, witnessing FV can lead to emotional distress and psychopathology, which are both connected with sexual violence perpetration [110-113].

Although we are able to draw some conclusions on risk-taking behaviour and sexual violence perpetrations, we cannot draw any conclusions on the relationship between witnessing FV and sexual victimization, as the quality of the studies investigated was too weak. Studies investigating sexual victimization in relation to IPV and physical abuse, however, did find a relation [114, 115]. This could mean that witnessing FV has an impact on sexual health that is comparable to being a direct victim of FV, although the evidence is not conclusive.

The literature does not allow us to draw conclusions on reproductive health. Our results on the relation between witnessing FV and adolescent pregnancy are inconclusive, which is similar to the diverse outcomes of studies investigating the relationship between adolescent pregnancy and IPV [25, 91, 94] or childhood abuse [80, 116]. Therefore, we cannot conclude that witnessing FV leads to teenage pregnancies. Regarding pubertal timing, witnessing parental violence does not appear to be leading to earlier menarche.

This corresponds with results of studies investigating childhood physical abuse and timing of menarche [117, 118]. No studies were found on all other sexual and reproductive health indicators.

LIMITATIONS

The main strength of this systematic review is that we investigated the whole domain of sexual and reproductive health rather than just a single indicator, thus providing a complete review regarding the effects of witnessing FV on sexual and reproductive health. However, we were unable to perform a meta-analysis, and as we did not find any studies on fertility or perinatal outcomes, we were unable to give a complete overview of the reproductive health consequences of witnessing FV. As studies concerning fertility and perinatal outcomes are unlikely to focus on AYAs, this may explain why we did not find any studies.

Another strength is our choice to include a broad definition of witnessing FV, including witnessing every possible type (physical, verbal, emotional and sexual) of FV. Besides, multiple databases were searched, and hand searching was performed, reducing the chance of missing articles, thus improving generalizability.

We performed a quality appraisal of all quantitative and qualitative studies, paying attention to the quality and reliability of the included articles. We chose to use CASP tools to assess study quality, as these are easy to understand and used by other systematic reviews on violence as well. However, the CASP tools were initially designed as an aid for clinicians, not researchers, which might limit its usefulness. Some papers, which are considered highly regarded and influential in the field, using standardized measures in longitudinal studies, were appraised as 'weak' in this review, as appraisal of the methodology of these studies indicated weaknesses in the research design as reported. Most of the included studies had a cross-sectional design, thus making it possible to investigate correlations, but not causality [119]. Most studies, furthermore, measured witnessing family violence using self-report questionnaires in a retrospective setting. Retrospective self-report questionnaires have proven to be sensitive to recall bias [120]. Self-report measures used for socially sensitive topics can also cause inaccurate reporting of the actual events that happened [121], leading to over- or underreporting.

Lastly, most studies neither mentioned the frequency, severity, and duration of witnessing violence nor distinguished between current and past exposure. This might have caused great differences in exposure within the 'exposed' population and may have distorted the outcomes, also making it impossible to determine a dose-response reaction. Most studies, finally, only covered one aspect of FV (either physical or verbal), ignoring

the fact that different types of FV often co-occur [122] and that interaction can influence the results.

We considered quality when analysing the results, but we chose not to remove studies appraised as weak or very weak from the tables, to show readers a complete overview of the available literature. Despite these limitations, we used extensive search strategies and multiple databases, and, hence, we have conducted our review based on all available and, therefore, the best possible evidence.

RESEARCH IMPLICATIONS

Research tends to focus on physically abused victims rather than on those witnessing FV in their youth, even though we consider them victims too. Considering the relatively small number of publications on the influence of witnessing FV on the sexual and reproductive health of AYAs, therefore, this is not yet common knowledge.

Although we found evidence for an adverse influence on sexual health, further research is needed. Currently, studies are scarce, generally of low quality and most use a cross-sectional design instead of longitudinal, prospective cohort designs. The latter are essential when assessing the influence of witnessing FV on sexual and reproductive health, as it is only in this way that temporal sequences and causalities can be determined.

Additionally, we did not find studies on fertility or perinatal health. We propose a longitudinal cohort study focusing on FV in students aged 16 years and above to avoid parental consent during high school and college, which would make it possible to gather data on causality. If possible, dose-response associations with FV frequency, severity and duration should be assessed in the future.

CLINICAL AND POLICY IMPLICATIONS

FV is a prevalent problem all around the world. In the last years there has been growing attention to the consequences of witnessing FV, which are comparable with the consequences of physical child abuse. Still, considering the relatively small number of publications concerning the subject, this is not yet general knowledge. We feel that general clinicians' education should include witnessing FV and consider it child abuse. Being aware of the consequences of FV, not only for the direct victims, but also for the family members witnessing this violence, could help raise awareness and acknowledgment and therefore early identification and treatment. Clinicians treating victims of IPV should include any AYAs in the home in their treatment, and consider education about sexual and reproductive health.

This review enhances the evidence for an association between witnessing FV and the sexual health of AYAs witnessing this violence. The sexual health of AYAs in general is subject of importance, and education on this subject is relatively wide spread in primary and secondary education worldwide. Policy and educational program makers should consider including FV in general, and witnessing FV specifically. Early sexual health education might help to diminish sexual risk-taking behaviour, whereas education on healthy relationships might help to diminish sexual violence perpetration and victimization.

TABLES AND FIGURES

Figure 1 Prisma Flowchart

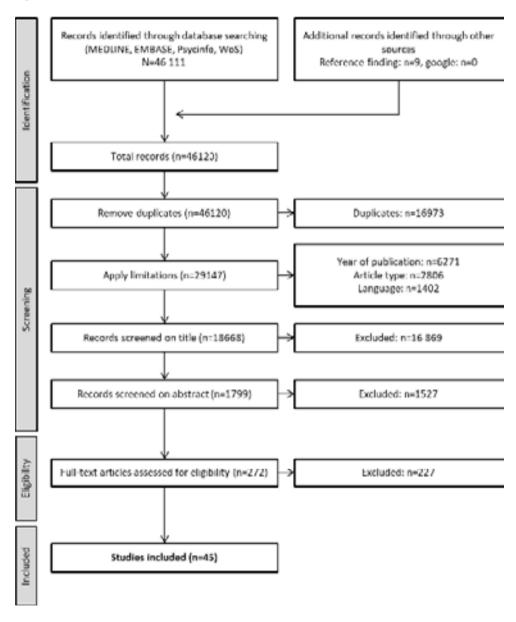


Table 1 Inclusion- and exclusion criteria

PEO	Included	Excluded					
Population	Children, adolescents and young adults (12-25 years)	<12 years OR >25 years					
	Male and female	Disabled OR handicapped people					
	If population considered 'students', included when mean age ≤25 years						
Exposure	Witnessing domestic/family violence, in the present as well as in $% \left\{ 1,2,\ldots ,n\right\}$	Child sexual abuse (CSA)					
	the past	Only direct victim					
		Exposure only < age 2 year					
		Explicitly stated incidental/sole exposure to family violence					
Outcome	Influence on sexual and reproductive health: based on the indicators for sexual and reproductive health, composed by the WHO	Intergenerational transmission OR dating violence (without explicitly stated					
	Sexual violence	sexual/reproductive					
	Intergenerational transmission / dating violence only if related to sexual and reproductive health (e.g. sexual coercion in early relationships).	component)					
Type study	Worldwide	Non-original studies; commentaries, review documents					
	Quantitative studies (original studies, including pilot data / preliminary results) / Qualitative studies	Case studies (n=1)					
	English / Dutch language	Dissertations					

Table 2 Search strategy^a

Database Da	Date	Population (1)	Exposure (2)	Search	Results
20	Aug. 5th 2015	s/ or :n* * or	((violence/ or domestic violence/ or child abuse/ or elder abuse/ or spouse abuse/) and (expos* or witnes*).mp.) or Family Conflict/px or (Family/px and 'Conflict (Psychology)')) or ((expos* adj8 violen*) or (witnes* adj8 violen*) or (expos* adj8 abus*) or (witnes* adj8 abus*) or (advers* adj3 child* adj3 experienc*) or (famil* adj3 conflict*)) or (interparent* adj3 conflict*) or (stress* adj3 child* adj3 experienc*)).tw,kf.	1 AND 2	8057
AL 20	Aug. 5th 2015		((violence/ or domestic violence/ or child abuse/ or elder abuse/ or family violence/ or exp partner violence/) and (expos* or witnes*).mp.) or Family Conflict/ or (Family/ and Conflict/) or ((expos* adj8 violen*) or (witnes* adj8 violen*) or (expos* adj8 abus*) or ((witnes* adj8 abus*) or (advers* adj3 child* adj3 experienc*) or (famil* adj3 conflict*)) or (interparent* adj3 conflict*) or (stress* adj3 child* adj3 child* adj3 experienc*)).tw.	1 AND 2	9724
AL 20	Aug. 5th 2015	adult offspring/ or students/ or (child* or adolescen* or (young adj1 adult*) or minor* or student*).ti,ab.	((violence/ or domestic violence/ or child abuse/ or elder abuse/ or partner abuse/ or intimate partner violence/ or marital conflict/) and (expos* or witnes*).mp.) or Family Conflict/ or (Family/ and Conflict/) or ((expos* adj8 violen*) or (witnes* adj8 violen*) or (expos* adj8 abus*) or (witnes* adj8 abus*) or (advers* adj3 child* adj3 experienc*) or (famil* adj3 conflict*)) or ((interparent* adj3 conflict*) or (stress* adj3 child* adj3 experienc*).ti,ab.	1 AND 2	12302
AL 20	Aug. 5th 2015	'adult child*' or adolescen* or 'young adult*' or child* or minor* or student*	((('domest* violen*'or 'famil*violen*'or 'child*abus*'or 'elder abus*'or '*parent* violen*'or 'marit* conflict*'or '*partner* violen*') and ('expos*'or 'witness*))) or ('famil* conflict*'or '*parent* instability*') or ('expos*' near 'violen*'or 'witness*'near 'violen*'or 'expos*' near 'abus*'or 'witness*'near 'abus*'or 'advers*'near 'child*'near 'experience*'or 'famil*'near 'conflict*'or '*parent*'near 'conflict*'or 'stress' near 'child*' near 'experience*')	1 AND 2	16028
					46111

 $^{\rm a}\,\mbox{An}$ * indicates a 'joker' sign, e.g. violen* will both include violence and violent

Table 3 Characteristics of included studies

	14		11				0.0							46ª
group			1		lion		∞	tion		nt 7		9		4
Outcome group	Sexual risk-	taking	Sexual	violence	perpetration		Sexual	victimization		Adolescent pregnancy		Pubertal	timing	
	11	æ	1	9	3	П	9	1	1	9	1	3	3	46ª
Outcome	Sexual risk-taking behaviour 11	Sexual activity	Rape supportive attitudes	Sexual violence	Sexual dating violence	Sexually abusive behaviour	Sexual victimization	Father-daughter incest	Sex trade	Female involvement in adolescent pregnancy	Male involvement in adolescent pregnancy	Pubertal development	Menarche	
	2	6	56	8										45
CASP category	Strong	Female 19 Moderate	Weak	Very weak										
	10	19	16											45
Sex	Male 10 Strong	Female	Both											
	34	10	П											45
Study design	Cross sectional	Longitudinal cohort	Qualitative											
ar	14	12	19											45
Publication Year	2000 - 2004	2005 - 2009	2010 - 2015											
	1	⊣	9	30	2	2								45
Continent	Africa	Asia	Europe	North-America 30	South-America	Oceania								

^a One study (Chisholm, Quinlivan, Petersen, & Coall, 2005) reported outcomes on two groups, and is therefore discussed / listed in both tables.

Table 4 Witnessing FV and sexual risk taking (n=14)

cudy Critical Appraisal (CASP)	as + 22/30 Moderate ly	+ 20/30 Moderate
Findings in this study (significant +/-)	Family fighting was associated with using no contraception at last intercourse (OR 1.40; 95%CI 1.04-1.88) and more sexual partners (OR 1.62; 95%CI 1.23-2.14). Criticizing was only significantly associated with contraception nonuse (OR 1.22; 95%CI 1.12-1.90)	Experiencing repeated parental intimate partner violence was significantly associated with sexual risk taking (early sexual debut) for boys
Outcome of Interest	Risky sexual behaviours (not using contraception at last intercourse, having ≥ 2 partners in past year)	Health indicators; among which sexual risk-taking behaviours, defined as early sexual debut (<14
Comparison	No fighting or criticizing	No abuse
Exposure	Fighting between family members, criticizing between family members	Exposure to parental intimate partner violence, child physical abuse, bullying, forced sex, multiple child abuse.
e rate	%83% 83%	81.8%
Population Sample + size I Setting I Response rate	A nationally representative subsample from the National Longitudinal Survey of Youth-children and young adults (US)	All the different schools in Södermanland county in Sweden.
Population Sample + size I	adolescents aged 15-21, whoever engaged in sexual intercourse. 24.4% reported family fighting and 42.8 % family criticizing	5933 pupils aged 15 or 17 years (of which 4,3% had been exposed to repeated IPV)
Study type	Cross- sectional study	Cross- sectional study
Author and Year	Lyerly and Brunner Huber 2013	Annerback et al. 2012

	20/30 Moderate	20/30 Moderate
	+	+
1.51-5.92; p<.01) and girls (AOR 4.0 95%CI 2.23-7.19; p<.001)) separately	Experiencing domestic violence towards mother was significantly associated with sexual intercourse <16 years (RR 1.32; 95%CI 1.14-1.52; OR 1.38; pc.001) but not with having had five or more sexual partners. However, an elevated risk of having both at least 5 sexual partners (AOR 5.99; 95%CI 5.19-6.92) and sexual intercourse (AOR 5.99; 95%CI 5.19-6.92) was found for boys compared with girls.	Having a battered mother was significantly
	Health- harming behaviours (smoking, physical inactivity, five or more sexual partners, sexual intercourse when aged <16 years, drug abuse, problematic use of alcohol, attempted suicide)	At-risk sexual behaviours; of which only
	No ACE	No ACE
	10 different types of adverse childhood experiences (ACE) (physical, sexual abuse, problematic alcohol, drug use by household member, domestic violence towards mother, parents separated or divorced, emotional neglect, householdmember incarcerated) and accumulation of ACE (1,2, 3, or >3)	7 different types of ACE's, experienced < 18 years; verbal,
	>75%	70.5%
	Colleges of further education, universities and schools in 8 different countries in Eastern Europe	Subset from first data collection
	12 308 young adults aged 18-25 years (M:20.1 years), Of which 1,1% had experienced DV toward mother (ranging per country from 0.4 - 2,8%)	5060 adult women ≥ 25 years.
	Cross- sectional study	Retro- spective
	al. 2014	Hillis et al. 2001ª

	Weak Weak
	+
associated with risk of having intercourse < 15 years (RR 2.1, 95%CI 1.7-2.6; OR 1.6-2.6) and self-perceived AIDS risk (RR 2.6, 95%CI 1.9-3.6; OR 1.5-2.6). Increased exposure was associated with increase in prevalence of early sexual debut (7% to 20%)	Witnessing interparental violence were 4 times more likely to engage in risky sexual behaviour (OR 4.09; AOR 3.7; p.c.01). Witnessing interparental violence had no additional effect on risky sexual behaviour in people
first sexual intercourse < 15 years is interesting to us.	Risky sexual activity (number of male partners in the last 12 months, partners who had sex with men, other women or had injected drugs without prescription, and had shared
	Neither currently experiencing nor witnessing interparental physical violence, or experiencing both
physical and sexual abuse, battered mother, household substance use, mental illness in household, incarcerated household member.	Currently experiencing domestic violence, or currently exposed to physical violence between parents/caregivers.
	79%
wave of ACE study; recruited from Kaiser Permanente medical care program, San Diego	Taken from a (larger) 1995 nationwide national survey of family growth, USA
	500 females, 14-17 years of age, of which 7.4% was witnessing interparental violence and 4.6% was ONLY witnessing interparental
study	Cross-sectional study
	Elliott et al. 2002

18/30 Weak	18/30 Weak
₹ ≯	. >
ت ت	ν.
experiencing both forms of violence Adolescents who reported witnessing a high degree of verbal interparental aggression more frequently reported sexual activity (AOR 1.94; 95%CI 1.09-3.26; pc.05), but this was an indirect effect, mediated by aggression for both girls and posttraumatic stress disorder symptoms for girls only.	In bivariate analysis, witnessing family violence was associated with risky sexual behaviour for girls (B.102; SE.074; p.032) but not for
needles with other users) Sexual activity (ever having had voluntary penetrative vaginal sex with a person of the opposite sex)	Risky sexual behaviour (sexual intercourse in the past 3 months, 2 or more sexual partners, condom non-
No witnessing VIPA	No risk factors or protective factors
Witnessing verbal in terparental aggression	Risk factors; substance use, depression, peer delinquency, family violence (both witnessing and direct), community violence and protective factors;
88 88	93%
From a representative high school in a large Midwestern city.	Sample of 10% of all male and female students from each classroom for 11 schools in Battambang, Cambodia
563 African American students, aged 13-19 (M 16.1). 344 females. 46.5% reported witnessing any verbal parental	and female and female adolescents grade 10-12, (M; 17.6 years) 43.5% female.
Cross - sectional study	Cross - sectional study
Voisin et al. 2014	Yi et al. 2010

	Weak
	+
boys. After controlling for other risk factors, this effect lost significance.	Adolescents who witnessed interparental violence were more likely to have early sexual activity (24% and 4% of adolescents having had sexual activity reported witnessing interparental violence sometimes and often respectively, against 11% and had early sexual activity
use the last time having sex)	Different factors of family background, self-perceived health, satisfaction with live, bullying, parental relationship, sexual activity
	No such exposure
family support, family meal frequency and school attachment	Witnessing domestic violence (interparental, father-to-sibling, mother-to-sibling, and sibling), parental violence
	%99
	19 schools in one Finnish municipality
	1393 Finnish pupils, aged 14-17 years, (median: 15) of which 12% had witnessed IPV
	Cross-sectional study
	Lepistö et 2011

17/30 Weak	17/30 Weak
	+.
Boys reported significantly lower age at sexual debut and higher number of sexual partners than girls, but the study found no evidence that domestic violence influenced the age of onset of sexual intercourse (B044; p>.05)	Child related content, mother demand/dominate and child involvement in parental conflict were correlated to sexual activities (p<.001, p<.05 and p<.05 respectively), but only child related content was related directly (r.29; p<.001), meaning adolescents with parents often fighting over them,
Age at onset of sex	Adolescent risk behaviours, including sexual activity
No such exposures	
Peer influence, delinquent peers, domestic violence	Interparental conflict; frequency, child related content, mother/father demand or dominate, child involvement, resolution, adolescent appraisal. Adolescent emotional distress (depression, anxiety, anger)
Not mentioned	73%
From larger parent study; three public housing developments in a large Northeast and a large Mid-Atlantic city in the US	Randomly selected from a large health maintenance organization
299 sexually active African American adolescents 11-19 years (M: 16.63 years), 33% females.	American adolescents, aged 12-15 years at baseline (M 13.6), 46% girls
Cross- sectional study	Cross - sectional study
Nebbitt et al. 2010	Tschann et al. 2002

	Weak Weak
	+
had more sexual experiences.	Adolescents who witnessed family violence were almost 4 times as likely to engage in all HIV sexual risk behaviours (OR 3.55, 95%CI 1.92-3.72, p<0.01 for sex without condoms, OR 3.82; 95%CI 1.40-4.63; p<0.01 for sex after drug use and OR 3.95; 95%CI 1.52-4.73; p<0.01 for sex with multiple partners) When corrected for gender, boys were more likely to have sex after using drugs (OR 2.59; 95%CI 1.99-3.56; p<0.01) and to have sex with multiple partners (OR 2.59; 95%CI 1.99-3.56; p<0.01) and to have sex with multiple partners (OR 2.73; 95%CI 1.09-4.93; p<0.01) than girls.
	HIV sexual risk behaviours (number of times sex without condom, number of times sex with multiple partners, number of times alcohol or drugs prior to having sex)
	No violence exposure
	Violence exposure; child sexual abuse, child sexual abuse, being a victim or witness to community violence and witnessing family violence
	93% 1
	From 22 randomly selected homeroom classes of a Manhattan high school located in an ethnically diverse community
	409 students aged 14-19, 247 were girls.
	Study study
	2005 2005

14/30 Very	weak																													
+																														
Adolescents with married parents	with a high conflict	relationship were	more likely to have	had sexual	relationships at all,	and in the past 6	months than	adolescents	perceiving low	conflict (p<.05 and	p<.01	respectively). They	were more likely to	engage in mutual	masturbation (OR	.29; 95%CI .1752;	p<.01), vaginal and	anal intercourse	(OR 2.24, 95%CI	1.29-3.89; p<.01	and OR 6.041	95%CI 2.48-14.69;	p<.001) and oral	sex (OR 4.67 95%CI	2.64-8.28; p<.001).	Also, they were	more likely to have	more sexual	partners (t .92;	p<.01). They were
Sexual relations	(whether they	have had	sexual	relations,	type of sex,	frequency,	age at first	intercourse,	number of	sexual	partners in	the last 6	months)	Risky sexual	behaviours	(use of a	condom, use	of condom vs.	other	methods,	consistency of	condom use,	sex under	influence)						
Low	interparental	relationship	quality,	married	parents.																									
High perceived interparental	relationship	quality, divorced	parents.																											
95%																														
From 15 public high-	schools in 5	different	Spanish	counties	across the	country																								
801 adolescents,	aged 14-17	years (M:	15.72),	59.4% girls.	76 perceived	high parental	conflict.																							
Cross- sectional	study																													
Orgiles et al.	2015																													

	Very weak
less likely to use condoms (OR .58; p<.01) and those with low conflict were less likely to have sex under influence of drugs than those with high-conflict parents (OR .39; 95%CI .2171; P<.01)	Perceived parental conflict was significantly correlated with risk-taking experiences (pc. 05), but this effect proved to be indirect.
	Romantic experiences, among which risk-taking experiences, including having been coerced into sexual relations and engaging in sexual relations more than kissing, but not intercourse.
	Interparental conflict, both children's perception and parental perception
	19%
	From greater Buffalo, New York, partly recruited through mailing letters, partly through advertising in local papers.
	96 early adolescent girls (M 13.24 years) from intact 2-parent families
	Sectional study
	Steinberg et al. 2006

0									
. 11/3	Very	weak							
The group that	perceived high	parental conflict	did not differ	significantly from	the low conflict	group in number of	sexual partners	(p>.05)	
Number of	sexual	partners							
No/low	perceived	parental	conflict						
(High) perceived	parental conflict								
Ou	voluntary	basis							
Enrolled at a On	mid-sized	university in	south-eastern	USA					
317 students	≥17 years	(majority	between 17	– 22 years);	234 females.	65 of them	perceived	high parental	conflict
Cross-	sectional	study							
Toomey	and	Nelson	2001						

^a Used the same sample (Hillis et al., 2004; Hillis, Anda, Felitti, & Marchbanks, 2001)

Table 5 Witnessing FV and sexual violence perpetration (n = 11)

Study type Sample + size Setting Response rate Cross- 1278 male From 8 public or	ing I		100%	Exposure Witness of	Comparison Not baving	Outcome or Interest	Findings in this study (significant +/-) Having withosted	Appraisal (CASP)	aisal ()
sectional study	students	e	8 0 0	viciless of parental violence as a child	witnessed parental violence		interparental violence was associated with acts of sexual violence (OR 1.33; 95%CI 1.11-1.59; AOR 2.30; 95%CI 1.56-	ZJ/30 Moderate	rate
Cross- sectional study	224 male adults, 18 – 34 years (median 22.3) who had been sexually abused as children (M 11.0 years)	Recruited from sexual abuse clinic from Jan 1, 1980 – Dec 1, 1992 in the UK	Not mentioned	Several environmental risk factors (including witnessing familial abuse) and protective factors	No such factors	Sexually abusive behaviour	victim-abusers had +- witnessed intrafamilial physical violence significantly more often than non-abusers (81% versus 58%; OR 3.1; 95%C1 1.00-10.0). Also, they did witness more severe violence (p<.004)	19/30 Weak	
Prospective longitudinal study	1 freshmen, aged 18-20 at the start of the study. 2.2% reported witnessing domestic violence an 5.5% witnessing and abuse.	From a representative state-supported university in south-eastern US.	%59	Childhood victimization <14 years (childhood sexual victimization, witnessing domestic violence and experiencing	No childhood victimization	Adolescent and undergraduate perpetration of sexual behaviours (no, only consensual, unwanted contact, verbal	There were significant + relations between witnessing domestic violence and adolescent sexual assault (RR 2.5; CI 1.9-3.4; p<.001). The attributable risk was 8.7%	19/30 Weak	2

	Weak	16/30 Weak
	+	+
	Men who witnessed domestic violence in childhood were 4 more likely to be in the decreasing trajectory (OR 4.19; p<.001) but no significant effect was found for other trajectories	Violent parents were significantly associated with being a male perpetrator of sexual assault (AOR 2.68; 95%CI 1.58-4.53)
coercion, attempted rape, rape)	Perpetration of sexual coercion, classified into d trajectories; low/none, moderate, decreasing (high level in adolescence, but decreasing after) and increasing (low in adolescence, but the adolescence) but decreasing after) and increasing but increasing but increasing but increasing low in adolescence, but increasing adolescence, but increasing	Being a perpetrator of sexual assault
	No negative childhood experiences	No such experiences
parental physical punishment and both witnessed and experienced)	Negative childhood experiences; childhood sexual abuse, parental physical abuse and witnessing domestic violence	Family discord and/or stress, childhood maltreatment, sexual abuse, gang involvement, drug/alcohol use
	65%, and 22% completed all five waves.	'almost all'
	From a representative state-supported university in south-eastern US.	Inmates in 75 institutions from 17 states
	Prospective 543 male college longitudinal freshmen, aged study 18-20 at the start of the study 7.7% reported witnessing domestic violence	805 incarcerated adolescents 15-18 years, 707 boys, 91 girls, 7 not designated.
	Prospective longitudinal study	Cross- sectional study
	2015 ^t	Morris et al. 2002

Exposure to - 15/30 interparental violence Weak was not directly correlated with perpetration of sexual intimate partner violence (p>.05)	interparental conflict - 15/30 was not directly related Weak with sexual aggression (b.02, t (76) =1.12; p.27)	Witnessing domestic + 15/30 violence was significantly correlated with acceptance of male violence (.21; pc.001) and domination as a motive for sex (.16; pc.001) Also, men who used force as a tactic to pressure someone into unwanted sexual
Physical, Exposure to sexual and interparental vio psychological was not directly intimate correlated with partner perpetration of singlence intimate partner perpetration violence (p>.05) (IPV) in adolescence and young adulthood	5	Adolescent Witnessing domesti sexual violence was perpetration significantly correlation with acceptance of violence (.21; pc.00 and domination as 5 motive for sex (.16; pc.001) Also, men vused force as a tact pressure someone i unwanted sexual
exposures	No exposure to to interparental conflict	No childhood experiences, only parental physical punishment, only witnessing domestic violence
Sexual abuse, abuse, abuse, psychological abuse/neglect and/or exposure to interparental violence <14 years	Interparental conflict (conflict properties, threat appraisal, self- blame appraisal)	nd Childhood victimization sted (CSA, parental punishment, witnessing domestic violence)
Recruited Not through mentioned introductory psychology course at medium-sized public midwestern university	Enrolled in public 100% high school in large city in the southeast of the US	Drawn from 65%, and larger 22% longitudinal completed study: three all five classed at waves. medium sized university in south-eastern region of US
228 college men, 18-33 years. Average age 19.29, predominantly heterosexual and Caucasian, of which 61.8% experienced interparental violence	91 students, both male and female, 14-19 years, with dating history and exposure to interparental conflict	835 freshmen, 18- 20 years
cross- sectional study	Cross- sectional study	Cross - sectional study
Edwards et al. Cross-2014 section study	2009 2009	Lyndon et al. 2007 ^b

	Very weak	Very weak	13/30 Very weak
	H >	H >	H >
to have witnessed domestic violence (p<.001)	Scores of sexually aggressive men did not differ significantly on family conflict from those of nonaggressive men. Pearson correlates showed no significant correlation between conflict and any single rape-supportive attitude.	Parental conflict in childhood was not significantly associated with sexual coercion as a form of dating aggression. Male parental conflict was however positively and significantly associated with female sexism (r .323; p<.05)	No significant correlation between having witnessed interparental violence and perpetration of sexual dating violence
	Rape- supportive attitudes (Adversarial sexual beliefs, acceptance of interpersonal violence, rape myth acceptance)	Relationship aggression, including sexual coercion	Physical and sexual relationship violence
(DV) and both	No exposure to these factors	No such exposures	Neither experienced, nor witnessed family
	Not Family mentioned functioning factors in family-of- origin (family conflict, authoritarian style, enmeshment)	Parent-to- child violence and parent-to- parent violence in childhood.	Experiencing psychological or physical coercion directly and/or
	Not mentioned	applicable applicable	%99
	Colleges and universities of varying sizes in north Texas	From large Midwestern university; recruited based on expressed interest.	A large Midwestern university
	76 college men, both sexually aggressive and nonaggressive, 18- 42 years old (M 24.52)	87 heterosexual student dyads (average age 22.3 SD 4.8)	99 heterosexual undergraduate men, average 20 years of age, of ± 25% witnessed intimate partner
	Cross- sectional study	Cross- sectional study	Cross- sectional study
	Aberle and Littleffeld 2001	Karakurt et al. 2013	Carr and VanDeusen 2002

or hostile gender beliefs	was found				
observing	these acts	between	parents,	gender	attitudes
violence between	parents				

^b used the same sample (Lyndon, White, & Kadlec, 2007; Kevin M Swartout, Swartout, Brennan, & White, 2015; Kevin M. Swartout, Swartout, & White, 2011; White & Smith, 2004)

Table 6 Witnessing FV and sexual victimization (n = 8)

Critical Appraisal (CASP)	17/30 Weak	16/30 Weak
Findings in this study (significant +/-)	Having witnessed family violence was postitively and significantly associated with being a victim of abusive sexual contact <16 years (b .40, SE .15, pc.01) and sexual assault/rape <16 years (b .28 SE .15 pc.05) but not with sex offending	halysis of interrelations show a significant correlation (Pearson's r = .34, p<.001) between exposure to parental violence and verbal sexual harassment in school. No
Outcome of Interest	Victim of abusive sexual contact prior < 16 years, sexual assault /rape victim < 16 years and sex offending.	Dating violence victimization (psychological, indirect and direct physical violence and sexual violence)
Comparison	No exposure	exposures exposures
Exposure	Emotional abuse/neglect, physical neglect and witnessed family violence <16 years	Parental violence (physical and psychological), exposure to marital violence, sexual abuse, sexual harassment, previous dating victimization (physical and sexual, exposure to
rate	43%	%86
Population Sample + size I Setting I Response rate	e e se	Recruited in 5 francophone high schools in Montreal and Quebec, Canada
Population Sample + size S	speaking male from one state of fenders ≥ 50 correctional years (M: 56.85) of database which 48.0% comprising 1. witnessed facilities in family violence northeast US	622 girls, 14- 20 years (mean: 16.3, SD 8) with at least one relationship in the last 12 months. 43% had been exposed to
Study type	Cross- sectional study	Cross- sectional study
Author and Study type Year	Jennings et Cross- al. section 2014 study	Gagné et al. 2005

	Weak	16/30 Weak
significant relation was found between exposure to parental violence and sexual dating victimization (OR 1.02; 95%CI .99-	Parents fighting in + the family had the most predictive power for father-daughter incest (OR 4.94; 95%CI 2.53-11.2; p<.001)	Witnessing domestic + 16/30 violence was associated with elevated frequencies of adolescent victimization. As the frequency of witnessing increased, the odds of belonging in the decreasing trajectory also
	incest incest	Adolescent and college sexual victimization, divided into 4 trajectories; low/none, moderate-increasing, decreasing (higher than average in adolescence, but decreasing
	No deviant family behaviours	No childhood victimization
community violence, violent and/or victimized peers.	Nuclear family behaviours (parents fighting, father- daughter family nudity practices, maternal affection, male other than the biological father in the home)	Childhood victimization <14 years (childhood sexual victimization, witnessing domestic violence and experiencing parental physical punishment and both witnessed and experienced)
	basis	85%, and 47,2% completed all five waves
	From six midsized mid- Atlantic college campuses, and events for sexual minority people, USA.	From a representative state-supported university in south-eastern U.S.
marital violence by parents.	2034 female participants >18 years (M 24.9, median 22) mainly college students (but also university staff and general population)	Longitudinal 1580 female study first year students, average age 18.3 years at the start of study. 9.2% reported withessing domestic violence
	Cross- sectional study	study study
	Stroebel et al. 2013	Swartout et al. 2011 ^b

	+ 15/30 Weak	15/30 Weak
increased (OR 12.4; SE 2.56; p<.05)	Among women who had witnessed interparental violence, 73,3% reported sexual coercion by a dating partner; among women who had not witnessed interparental violence this was 30.4% (p <.01). Witnessing interparental violence was the most significantly associated with sexual coercion of all independent variables (p <.01).	witnessing interparental violence was not significantly associated with sexual intimate partner violence victimization (b.01; p>.893)
thereafter) and high-increasing	Dating violence victimization, comprising of experiencing physical assault, sexual coercion and/or injury	Physical and sexual Witnessing intimate partner interparent violence was victimization significantly associated v sexual intim partner viol victimizatio pp.893)
	exposures	No childhood family violence exposure or childhood physical abuse
	Cohabitation status, witnessing interparental violence, corporal punishment, child sexual abuse, ineffective parenting, antisocial personality and social desirability	Childhood family No chil violence exposure and family childhood physical violence abuse. childhood physical abuse abuse
	Not stated in original article	34%
	1 class of 3 different universities in Manitoba, Canada.	From a larger survey; recruited from a large Midwestern university
	133 unmarried women ≥ 18 years, who had ever been in a dating relationship ≥1 month	adults (442 female, 228 male), mean age 21.22. 18.9% was exposed to IV
	Sectional study	Cross- sectional study
	Brownridge 2006	Iverson et al. 2014

15/30 Weak	14/30 Very weak
Unwanted sexual In bivariate analyses, - 15/30 experiences, both in the past 12 since age 14 was months, and since associated with age 14 with easing domestic violence (OR 1.58; 95%CI 1.06-2.35; p<.05). In multivariate analyses, it only approached significance (OR 1.44; 95%CI .95-2.17)	intimate partner Witnessing intimate + 14/30 partner violence was victimization, positively correlated weak Sex trade exposure with self sex trade (p<.001 for both witnessing intimate partner violence and witnessing severe results of intimate partner violence).
Unwanted sexual experiences, both in the past 12 months, and since age 14	Intimate partner violence victimization, Sex trade exposure (self)
No child sexual abuse and not having witnessed domestic violence <14 years	exposures
Having experienced No child child beau sexual abuse <14 years, and not having witnessed domestic violence <14 witnessed years violence < years	Lifetime experience with sexual victimization, withnessing intimate partner violence, familial physical abuse by parent/caregiver, sex trade exposure (others)
%17% 8	%28
455 female Enrolled at a students (18- major public an wedian: 19) of Santiago, Chile which 35.2% and witnessed by	180 African- From a public American charter high females, 14-19 school in a poor (M: 15.6 years) community of of which 85% Chicago. witnessed intimate partner violence, and 49.4% also witnessed severe results.
455 female students (18-30 years, median: 19) of which 35.2% had witnessed DV	180 African- rom a public American charter high females, 14-19 school in a poc (M: 15.6 years) community of of witnessed intimate partner violence, and 49.4% also witnessed severe results.
Cross- sectional study	cross-sectional study
Lehrer et al. 2007	Kennedy et Cross- al. 2012 study

^b used the same sample (Lyndon et al., 2007; Kevin M Swartout et al., 2015; Kevin M. Swartout et al., 2011; White & Smith, 2004)

Table 7 Witnessing FV and adolescent pregnancy (n = 7)

Critical Appraisal (CASP)	Strong	20/30 Moderate
Outcome of Findings in this study Interest (significant +/-)	Participants who had + been pregnant by age 20 came significantly more often from a family with the highest quintile of parental conflict (OR 3.1; 95%CI 1.9-4.9; p<.001). However, proportional hazard regression didn't show high parental conflict as a significant childhood predictor of teenage pregnancy.	Exposure to intimate + partner violence was associated with heightened risk of adolescent pregnancy (RR 1.6, 95%CI 1.4-1.7,
Outcome of Interest	Teenage pregnancy <20 years)	Adolescent pregnancy; Pregnancy reported from ages 11-19 years
Comparison	No such childhood factors	No ACE
Exposure	97%, 84.6% Childhood factors (<14 remained years); social at time background and family studied. Interparental conflict; and adjustment, peer relations, and sexual behaviour during adolescence (14-20 years)	5 different types of ACE's, experienced ≤18 years; verbal and physical abuse, intimate partner violence contact, sexual abuse during childhood
ate		%89
Population Sample + size I Setting I Response rate	years of age. the CHDS study; years of age. the CHDS study; all live-born, born in 4 months in 1977 in all maternity hospitals in the Christchurch region.	From ACE study; recruited from Kaiser Permanente medical care program, San Diego
Population Sample + size I S	years of age.	533 adult women ≥ 25 years (m: 55.8 years)
Study type	Prospective longitudinal study	cohort study
Author and Study type Year	Woodward et al. 2001	Hillis et al. 2004°

	+ 19/30 Weak	+ 19/30 Weak
converted to OR 2.6);	Exposure to family violence was significantly more common in the teenage pregnancy group (22% versus 2%: OR 19.9; 95%CI 2.32 -40; p.0004) than in the control group	Childhood exposure to violent interparental relationship was associated with, and significantly more common in men fathering a teenage pregnancy (OR 8.8; p<.0001). Also, age of men fathering a teenage pregnancy was significantly lower (20.7 versus 29.6; p<.0001)) and pregnancies were more often unplanned (82%
	Teenage pregnancy (pregnancy < 20 years)	Maternal age at delivery (fathering a teenage pregnancy)
	No problems in early interpersonal family relationships with and between their parents	No such exposures
and household substance abuse	Early interpersonal family relationships with and between their parents	Childhood family relationships (relationship with father, relationship with mother, relationship between parents, exposure to violent parental relationship, and parental separation/divorce)
	89% for study group, 83% for control group	89%, control group 83%
	Recruited at a large metropolitan tertiary referral hospital, Victoria, Australia	Recruited at a large metropolitan tertiary referral hospital, Victoria, Australia
	100 women, of whom 50 were <20 years (M 17.5), and 50 were ≥20 years (M 27.1)	50 males who impregnated a woman ≤20 years (mean age 20.7), and 50 males who impregnated a woman >20 years (mean age 29.6)
	Cross-sectional study	Sectional study
	Quinlivan et al. 2004 ^c	Tan and Quinlivan 2006:

	. 17/30 Weak	+ 15/30 Weak	. 12/30 Very weak
versus 30%; p<.0001)	Having witnessed abuse increased the risk of adolescent pregnancy (AOR 1.14) but this effect was not significant.	Experiencing violence between parents was correlated with early menarche (11.8 versus 12.9; p.026) and first birth at earlier age (18.1 versus 23.6; p.001)	Being exposed to interparental domestic violence may increase the risk of unintended pregnancy
	Adolescent pregnancy (pregnancy ≤ 19 years)	Age at menarche (early menarche defined as <12,5 years), age at first birth	Unintended (teen) pregnancy
	No child abuse Adolescent pregnancy (pregnancy 19 years)	No early stress Age at menarc (early menarc definec v12,5 y age at the birth	
	Several forms of child abuse (sexual, physical, emotional or witnessing of abuse)	Exposure to early stress < 10 years (violence between parents, parental separation or having no father (figure), relationships to father and mother)	Events related to their childhood (CSA, domestic violence), dating and sexual relationships and experiences of violence or sexual assault (in such relationships)
	91%	%98	Not
	Subsample from national representative survey in El Salvador	Recruited from a 86% large metropolitan, tertiary referral hospital in an Australian capital city	Accessed through a large gang intervention program in Los Angeles.
	3753 Salvadoran women, 15-24 years old, of which 15.8% witnessed abuse	100 pregnant women aged 14-36, 50% ≤20 years. 31,9% had experienced interparental violence	20 young adult Latina females with known histories of gang involvement, aged 18-35 (M:
	Cross- sectional study	Cross - sectional study	Qualitative study
	Palitto and Murillo 2008	Chisholm et al. 2005 ^c	Miller et al. 2013

^a Used the same sample (Hillis et al., 2004; Hillis et al., 2001)

^c Used the same sample (Chisholm, Quinlivan, Petersen, & Coall, 2005; Quinlivan, Tan, Steele, & Black, 2004; Tan & Quinlivan, 2006)

Table 8 Witnessing FV and pubertal timing (n = 6)

dy Critical Appraisal (<i>CASP)</i>	ras + 26/30 -iy - Strong ient ;; the early ent.	her- + 21/30 Moderate tes of 7 (OR were ated of
Findings in this study (significant +/-)	Witnessed abuse was associated with early genitalia development (Adjusted RRR 1.57; 95%CI 1.02-2.41; OR 1.78), but not with the other measures of early pubertal development.	Higher levels of father- reported marital conflict/depression predicted higher rates of adrenarche at age 7 (OR 1.68, pc.037). Levels of marital conflict/depression were not significantly related with development of secondary sexual
Outcome of Interest	Pubertal development (males: genitalia development, pubic and facial hair, voice change. Females: age of menarche, breast development, pubic hair) assessed at age 11 and 16 years	No ecological Physical and stress, pubertal friendly development; family adrenarche + environment. secondary sexual characteristics.
Comparison		No ecological stress, friendly family environment.
Exposure	ACE; maltreatment (neglect, abuse or witnessing abuse) and household dysfunction, assessed at age 7 years and at 45 years	Ecological stress (SES), Family environment (a variety of factors combined in maternal and paternal parental supportiveness and maternal and paternal marital conflict/depression levels)
	78%	75%
Population Sample + size I Setting I Response rate	From 1958 British birth cohort, including all children born in England, Scotland and Wales in one week, March 1958	Taken from ongoing longitudinal study, from ob./gyn clinics and low-income clinic in Milwaukee and Madison, USA
Population Sample + size I S	participants, both male and female of 45 years, of which 4.4% of males and 7.6% of females witnessed abuse	Prospective 120 children, cohort both boys (47) and girls (73), and 180 girls
Study type Population Sample + s	Prospective cohort study	Prospective cohort study
Author and Year	2014	Essex 2007

- 20/30 Moderate	- 20/30 Moderate
Interparental violence was positively and significantly associated with early menarche (OR 1.40, 95%CI 1.03-1.89, p<.001) if not adjusted for co-occurring adversities. If adjusted for interactions between adversities, OR still exceeded 1, but did not reach statistical significance (95%CI .87-1.50). Interparental violence seemed to increase early menarche by 26%	Women who reported early menarche, also more frequently reported parental rows (OR 2.82; 95%CI 1.35-4.72) Logistic regression showed parental rows having an independent and significant association with early menarche (OR 4.15; 95%CI 1.93-11.14; p<.001), but this effect disappeared when controlled for duration of CSA.
Menarche at age s 11 years	Age of menarche (early menarche defined as menarche <12 years)
adversity adversity	No such adverse experiences
11 types of childhood adversity; physical abuse, sexual abuse, neglect, biological father absence from home, other parent loss, parent abstance abuse, parent criminality, interparental violence, serious physical illness in childhood, family economic adversity	Family structure (including parental rows), quality of subjects' relationship with her parents, childhood abuse experience
74.6%	73%
Drawn from NCS-R, which included 8098 adults, English speaking population of the continental US.	From one data wave of Otago Women's Health Child Sexual Abuse Survey. Recruited around Dunedin, New Zealand,
3288 women, >18 years (mean: 45.7, SE .6)	354 women <65 years (M 39.1), one group with a history of CSA (173) and one without CSA (181), of which 53 experienced frequent parental rows
Cross-sectional study	sectional sectional
Henrichs et al. 2014	Romans 2003

+ 19/30 Weak	+ 15/30 Weak
Both dyadic stress and dysfunctional family were correlated with pubertal timing (pc.01 for both). Further analysis showed there was only a relation between dyadic stress and pubertal timing in stepfather/boyfriend families (r (33) = .67, Pc.001 amount of variance counted for: 45%) but not in biologically intact families.	Age at menarche Experiencing violence dearly menarche between parents was defined as <12,5 correlated with early wears), age at menarche (11.8 versus first birth at earlier age (18.1 versus 23.6; p.001)
(self-reported) pubertal timing	Age at menarche (early menarche defined as <12,5 years), age at first birth
	No early stress
Mood disorder of the mentioned mother, father absence, level of stress in mothers' romantic relations, dysfunctional family relations	Exposure to early stress ≤ 10 years (violence between parents, parental separation or having no father (figure), relationships to father and mother)
Not mentioned	%98
Taken from larger study, using 2 out of 3 cohorts, recruited at a metropolitan public-school district in the USA	Recruited from 86% a large metropolitan, tertiary referral hospital in an Australian capital city
Garber cohort 11-13 (M 2000 study 12.26)	100 pregnant women aged 14-36, 50% 520 years. 31,9% had experienced interparental violence
Prospective cohort study	Cross- sectional study
Ellis and Garber 2000	Chisholm Crosset al. section 2005° study

^c Used the same sample (Chisholm et al., 2005; Quinlivan et al., 2004; Tan & Quinlivan, 2006)

REFERENCES

- WHO, Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence. 2013, Geneva, Switzerland: World Health Organization.
- Devries, K.M., et al., The global prevalence of intimate partner violence against women. Science, 2013. 340(6140): p. 1527-1528.
- Holden, G.W., Children exposed to domestic violence and child abuse: Terminology and taxonomy.
 Clinical child and family psychology review, 2003. 6(3): p. 151-160.
- 4. Hamby, S.L., et al. Children's exposure to intimate partner violence and other family violence. 2011; Available from: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf. (Archived by WebCite® at http://www.webcitation.org/6gt02RIVb).
- 5. Finkelhor, D., et al., Violence, crime, and abuse exposure in a national sample of children and youth: an update. JAMA pediatrics, 2013. 167(7): p. 614-621.
- McDonald, R., et al., Estimating the number of American children living in partner-violent families.
 Journal of Family Psychology, 2006. 20(1): p. 137.
- van Rosmalen-Nooijens, K.A., et al., "Young people, adult worries": RCT of an internet-based selfsupport method "Feel the ViBe" for children, adolescents and young adults exposed to family violence, a study protocol. BMC Public Health, 2013. 13: p. 226.
- 8. DiClemente, R.J., W.B. Hansen, and L.E. Ponton, Handbook of adolescent health risk behaviour. 2013: Springer Science & Business Media.
- Lerner, R.M. and L. Steinberg, Handbook of Adolescent Psychology, Volume 1: Individual Bases of Adolescent Development. Vol. 1. 2009: John Wiley & Sons.
- Brady, S.S. and G.R. Donenberg, Mechanisms linking violence exposure to health risk behaviour in adolescence: motivation to cope and sensation seeking. J Am á Child Adolesc Psychiatry, 2006. 45(6): p. 673-80.
- Anda, R.F., et al., The enduring effects of abuse and related adverse experiences in childhood. A
 convergence of evidence from neurobiology and epidemiology. Eur Arch Psychiatry Clin Neurosci,
 2006. 256(3): p. 174-86.
- Van Niel, C., et al., Adverse events in children: predictors of adult physical and mental conditions. J Dev Behav Pediatr, 2014. 35(8): p. 549-51.
- Suglia, S.F., et al., Violence exposure, a chronic psychosocial stressor, and childhood lung function.
 Psychosomatic medicine, 2008. 70(2): p. 160.
- 14. Ackerson, L.K., et al., Exposure to domestic violence associated with adult smoking in India: a population based study. Tob Control, 2007. 16(6): p. 378-83.
- Subramanian, S., et al., Domestic violence is associated with adult and childhood asthma prevalence in India. International journal of epidemiology, 2007. 36(3): p. 569-579.
- Boynton-Jarrett, R., E. Hair, and B. Zuckerman, Turbulent times: effects of turbulence and violence exposure in adolescence on high school completion, health risk behaviour, and mental health in young adulthood. Soc Sci Med, 2013. 95: p. 77-86.
- 17. Evans, S.E., C. Davies, and D. DiLillo, Exposure to domestic violence: a meta-analysis of child and adolescent outcomes. Aggression and violent behaviour, 2008. 13: p. 131-140.
- 18. Bair-Merritt, M.H., M. Blackstone, and C. Feudtner, Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. Pediatrics, 2006. 117(2): p. e278-90.
- 19. Widom, C.S., S.J. Czaja, and M.A. Dutton, Childhood victimization and lifetime revictimization. Child abuse & neglect, 2008. 32(8): p. 785-796.
- Sternberg, K.J., et al., Type of violence, age, and gender differences in the effects of family violence on children's behaviour problems: a mega-analysis. Developmental Review, 2006. 26: p. 89-112.

- Chan, Y.-C. and J.W.-K. Yeung, Children living with violence within the family and its sequel: a metaanalysis from 1995 - 2006. Aggression and violent behaviour, 2009. 14: p. 313-322.
- Springer, K.W., et al., Long-term physical and mental health consequences of childhood physical abuse: Results from a large population-based sample of men and women. Child abuse & neglect, 2007. 31(5): p. 517-530.
- NJI. Kindermishandeling (Child abuse). Kinderen die getuige zijn van huiselijk geweld (Children exposed to Family Violence) 2016 [cited 2016 25-11-2016]; Available from: http://www.nji.nl/Vormen-Kinderen-die-getuige-zijn-van-huiselijk-geweld.
- 24. Callaghan, J.E., et al., Beyond "Witnessing" children's experiences of coercive control in domestic violence and abuse. Journal of interpersonal violence, 2015: p. 0886260515618946.
- Coker, A.L., Does physical intimate partner violence affect sexual health? A systematic review.
 Trauma Violence Abuse, 2007. 8(2): p. 149-77.
- Hillis, S.D., et al., Adverse childhood experiences and sexual risk behaviours in women: a retrospective cohort study. Family Planning Perspectives, 2001. 33(5): p. 206-11.
- 27. Berenson, A.B., C.M. Wiemann, and S. McCombs, Exposure to violence and associated health-risk behaviours among adolescent girls. Arch Pediatr Adolesc Med, 2001. 155(11): p. 1238-42.
- Holt, S., H. Buckley, and S. Whelan, The impact of exposure to domestic violence on children and young people: a review of the literature. Child Abuse Negl, 2008. 32(8): p. 797-810.
- Black, D.S., S. Sussman, and J.B. Unger, A further look at the intergenerational transmission of violence: witnessing interparental violence in emerging adulthood. J Interpers Violence, 2010. 25(6): p. 1022-42.
- Ehrensaft, M.K., et al., Intergenerational transmission of partner violence: a 20-year prospective study. J Consult Clin Psychol. 2003. 71(4): p. 741-53.
- 31. Voisin, D.R., The relationship between violence exposure and HIV sexual risk behaviours: Does gender matter? American Journal of Orthopsychiatry, 2005. 75(4): p. 497-506.
- Voisin, D.R., A. Hotton, and J. Schneider, Exposure to Verbal Parental Aggression and Sexual Activity Among Low Income African American Youth. Journal of Child and Family Studies, 2014. 23(2): p. 285-292
- 33. Bandura, A., Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall.
- 34. Elliott, G.C., et al., The encounter with family violence and risky sexual activity among young adolescent females. Violence and Victims, 2002. 17(5): p. 569-592.
- 35. Rodgers, K.B., Parenting processes related to sexual risk-taking behaviours of adolescent males and females. Journal of Marriage and the Family, 1999: p. 99-109.
- 36. Freyd, J.J., Betrayal trauma: Traumatic amnesia as an adaptive response to childhood abuse. Ethics & Behavior, 1994. 4(4): p. 307-329.
- 37. Kaehler, L.A. and J.J. Freyd, Borderline personality characteristics: A betrayal trauma approach. Psychological Trauma: Theory, Research, Practice, and Policy, 2009. 1(4): p. 261.
- 38. Freyd, J., Betrayal trauma, in Encyclopedia of Psychological Trauma, G. Reyes, J. Elhai, and J. Ford, Editors. 2008, John Wiley & Sons: New York. p. 76.
- Sonkin, D., Domestic violence and attachment theory: Clinical applications to treatment with perpetrators. The encyclopedia of domestic violence, 2007: p. 41-51.
- Carpenter, G.L. and A.M. Stacks, Developmental effects of exposure to Intimate Partner Violence in early childhood: A review of the literature. Children and Youth Services Review, 2009. 31(8): p. 831-839.
- 41. Bowlby, J., Maternal care and mental health. Bull World Health Organ, 1951. 3(3): p. 355-533.
- Tschann, J.M., et al., Interparental conflict and risk behaviours among Mexican American adolescents: A cognitive-emotional model. Journal of Abnormal Child Psychology, 2002. 30(4): p. 373-385.

- Dallos, R. and A. Vetere, Systems theory, family attachments and processes of triangulation: Does the concept of triangulation offer a useful bridge? Journal of Family Therapy, 2012. 34(2): p. 117-137.
- 44. Vetere, A., Children who witness violence at home, in De-Medicalizing Misery. 2011, Springer. p. 110-122.
- WHO, Measuring sexual health: Conceptual and practical considerations and related indicators. 2010,
 World Health Organization: Geneva, Switzerland.
- 46. WHO, Reproductive Health Indicators: Guidelines for their generation, interpretation and analysis for global monitoring. 2006, Geneva, Switzerland: World Health Organization, department of Reproductive Health and Research.
- 47. Oram, S., et al., Prevalence and risk of violence and the physical, mental, and sexual health problems associated with human trafficking: systematic review. PLoS medicine, 2012. 9(5): p. 615.
- Hall, M., et al., Associations between Intimate Partner Violence and Termination of Pregnancy: A
 Systematic Review and Meta-Analysis. PLoS Medicine, 2014. 11(1): p. e1001581.
- CASP. Critical Appraisal Skills Programme. 2013 [cited 2016 January 8th]; Available from: www.caspuk.net.
- Liberati, A., et al., The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. Annals of internal medicine, 2009. 151(4): p. W-65-W-94.
- 51. Lyerly, J.E. and L.R. Brunner Huber, the role of family conflict on risky sexual behaviour in adolescents aged 15 to 21. Annals of Epidemiology, 2013. 23(4): p. 233-5.
- 52. Annerback, E.M., et al., Child physical abuse and concurrence of other types of child abuse in Sweden-Associations with health and risk behaviours. Child Abuse Negl, 2012. 36(7-8): p. 585-95.
- Bellis, M.A., et al., Adverse childhood experiences and associations with health-harming behaviours in young adults: surveys in eight eastern European countries. Bulletin of the World Health Organization, 2014. 92(9): p. 641-55.
- 54. Yi, S., et al., Role of risk and protective factors in risky sexual behaviour among high school students in Cambodia. BMC Public Health, 2010. 10: p. 477.
- Lepisto, S., T. Luukkaala, and E. Paavilainen, Witnessing and experiencing domestic violence: A descriptive study of adolescents. Scandinavian Journal of Caring Sciences, 2011. 25(1): p. 70-80.
- Nebbitt, V., et al., Correlates of Age at Onset of Sexual Intercourse in African American Adolescents
 Living in Urban Public Housing. Journal of Health Care for the Poor and Underserved, 2010. 21(4): p.
 1263-1277.
- 57. Orgiles, M., E. Carratala, and J.P. Espada, Perceived quality of the parental relationship and divorce effects on sexual behaviour in Spanish adolescents. Psychology, Health & Medicine, 2015. 20(1): p. 8-17.
- 58. Steinberg, S.J., J. Davila, and F. Fincham, Adolescent Marital Expectations and Romantic Experiences: Associations With Perceptions About Parental Conflict and Adolescent Attachment Security. Journal of Youth and Adolescence, 2006. 35(3): p. 333-348.
- Toomey, E.T. and E.S. Nelson, Family conflict and young adults' attitudes toward intimacy. Journal of Divorce & Remarriage, 2001. 34(3-4): p. 49-69.
- Philpart, M., et al., Prevalence and risk factors of gender-based violence committed by male college students in Awassa, Ethiopia. Violence and Victims, 2009. 24(1): p. 122-136.
- 61. Salter, D., et al., Development of sexually abusive behaviour in sexually victimised males: A longitudinal study. The Lancet, 2003. 361(9356): p. 471-476.
- 62. White, J.W. and P.H. Smith, Sexual assault perpetration and reperpetration: From adolescence to young adulthood. Criminal Justice and Behavior, 2004. 31(2): p. 182-202.
- 63. Swartout, K.M., et al., Trajectories of male sexual aggression from adolescence through college: A latent class growth analysis. Aggressive behaviour, 2015.

- 64. Morris, R.E., M.M. Anderson, and G.W. Knox, Incarcerated adolescents' experiences as perpetrators of sexual assault. Archives of Pediatrics & Adolescent Medicine, 2002. 156(8): p. 831-5.
- 65. Edwards, K.M., et al., Family-of-origin violence and college men's reports of intimate partner violence perpetration in adolescence and young adulthood: The role of maladaptive interpersonal patterns. Psychology of Men & Masculinity, 2014. 15(2): p. 234-240.
- Kim, K.L., et al., Interparental conflict and adolescent dating relationships: The role of perceived threat and self-blame appraisals. Journal of Interpersonal Violence, 2009. 24(5): p. 844-865.
- 67. Lyndon, A.E., J.W. White, and K.M. Kadlec, Manipulation and force as sexual coercion tactics: Conceptual and empirical differences. Aggressive Behavior, 2007. 33(4): p. 291-303.
- 68. Aberle, C.C. and R.P. Littlefield, Family functioning and sexual aggression in a sample of college men. Journal of Interpersonal Violence, 2001. 16(6): p. 565-579.
- Karakurt, G., M. Keiley, and G. Posada, Intimate relationship aggression in college couples: Family-oforigin violence, egalitarian attitude, attachment security. Journal of Family Violence, 2013. 28(6): p. 561-575.
- Carr, J.L. and K.M. VanDeusen, The relationship between family of origin violence and dating violence in college men. Journal of Interpersonal Violence, 2002. 17(6): p. 630-646.
- Jennings, W.G., et al., An Empirical Assessment of the Overlap Between Sexual Victimization and Sex Offending. International Journal of Offender Therapy and Comparative Criminology, 2014. 58(12): p. 1466-1480.
- 72. Stroebel, S.S., et al., Risk Factors for Father-Daughter Incest: Data From an Anonymous Computerized Survey. Sexual Abuse-a Journal of Research and Treatment, 2013. 25(6): p. 583-605.
- 73. Gagne, M.-H., F. Lavoie, and M. Hebert, Victimization during childhood and revictimization in dating relationships in adolescent girls. Child Abuse & Neglect, 2005. 29(10): p. 1155-1172.
- 74. Swartout, K.M., A.G. Swartout, and J.W. White, A person-centered, longitudinal approach to sexual victimization. Psychology of Violence, 2011. 1(1): p. 29-40.
- Brownridge, D.A., Intergenerational transmission and dating violence victimization: Evidence from a sample of female university students in Manitoba. Canadian Journal of Community Mental Health, 2006. 25(1): p. 75-93.
- Iverson, K.M., et al., Anger-related dysregulation as a factor linking childhood physical abuse and interparental violence to intimate partner violence experiences. Violence and Victims, 2014. 29(4): p. 564-578.
- 77. Lehrer, J.A., et al., Prevalence of and risk factors for sexual victimization in college women in Chile. International Family Planning Perspectives, 2007. 33(4): p. 168-75.
- Kennedy, A.C., et al., Sexual victimization and family violence among urban African American adolescent women: Do violence cluster profiles predict partner violence victimization and sex trade exposure? Violence Against Women, 2012. 18(11): p. 1319-1338.
- 79. Woodward, L., D.M. Fergusson, and L.J. Horwood, Risk factors and life processes associated with teenage pregnancy: Results of a prospective study from birth to 20 years. Journal of Marriage and Family, 2001. 63(4): p. 1170-1184.
- Hillis, S.D., et al., The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. Pediatrics, 2004. 113(2): p. 320-7.
- 81. Pallitto, C.C. and V. Murillo, Childhood abuse as a risk factor for adolescent pregnancy in El Salvador. Journal of Adolescent Health, 2008. 42(6): p. 580-586.
- 82. Quinlivan, J.A., et al., Impact of demographic factors, early family relationships and depressive symptomatology in teenage pregnancy. Australian and New Zealand Journal of Psychiatry, 2004. 38(4): p. 197-203.
- 83. Tan, L.H. and J.A. Quinlivan, Domestic violence, single parenthood, and fathers in the setting of teenage pregnancy. Journal of Adolescent Health, 2006. 38(3): p. 201-207.

- 84. Miller, E., et al., Exposure to partner, family, and community violence: gang-affiliated Latina women and risk of unintended pregnancy. Journal of Urban Health, 2012. 89(1): p. 74-86.
- 85. Chisholm, J.S., et al., Early stress predicts age at menarche and first birth, adult attachment, and expected lifespan. Human Nature, 2005. 16(3): p. 233-265.
- 86. Li, L., R. Denholm, and C. Power, Child maltreatment and household dysfunction: associations with pubertal development in a British birth cohort. International Journal of Epidemiology, 2014. 43(4): p. 1163-73.
- 87. Ellis, B.J. and M.J. Essex, Family environments, adrenarche, and sexual maturation: A longitudinal test of a life history model. Child Development, 2007. 78(6): p. 1799-1817.
- 88. Henrichs, K.L., et al., Early menarche and childhood adversities in a nationally representative sample. International Journal of Pediatric Endocrinology, 2014. 2014(1).
- 89. Romans, S., et al., Age of menarche: The role of some psychosocial factors. Psychological Medicine, 2003. 33(5): p. 933-939.
- Ellis, B.J. and J. Garber, Psychosocial antecedents of variation in girls' pubertal timing: maternal depression, stepfather presence, and marital and family stress. Child development, 2000: p. 485-501.
- 91. Raj, A., et al., Intimate partner violence perpetration, risky sexual behaviour, and STI/HIV diagnosis among heterosexual African American men. Am J Mens Health, 2008. 2(3): p. 291-5.
- 92. Seth, P., et al., Intimate partner violence and other partner-related factors: correlates of sexually transmissible infections and risky sexual behaviours among young adult African American women. Sex Health, 2010. 7(1): p. 25-30.
- 93. Watson, L.F., A.J. Taft, and C. Lee, Associations of self-reported violence with age at menarche, first intercourse, and first birth among a national population sample of young Australian women.

 Womens Health Issues, 2007. 17(5): p. 281-9.
- 94. Silverman, J.G., et al., Dating violence against adolescent girls and associated substance use, unhealthy weight control, sexual risk behaviour, pregnancy, and suicidality. Jama, 2001. 286(5): p. 572-579.
- 95. Wilson, H.W. and C.S. Widom, An examination of risky sexual behaviour and HIV in victims of child abuse and neglect: a 30-year follow-up. Health Psychology, 2008. 27(2): p. 149.
- Allers, C.T. and K.J. Benjack, Connections between childhood abuse and HIV infection. Journal of Counseling and Development: JCD, 1991. 70(2): p. 309.
- 97. Bensley, L.S., J. Van Eenwyk, and K.W. Simmons, Self-reported childhood sexual and physical abuse and adult HIV-risk behaviours and heavy drinking. American journal of preventive medicine, 2000. 18(2): p. 151-158.
- 98. Bowen, M., The use of family theory in clinical practice. Comprehensive psychiatry, 1966. 7(5): p. 345-374.
- 99. Graham-Bermann, S.A., The impact of woman abuse on children's social development: Research and theoretical perspectives. 1998.
- 100. Mueller, E. and N. Silverman, Peer relations in maltreated children. 1989.
- Makepeace, J.M., Social factor and victim-offender differences in courtship violence. Family relations, 1987: p. 87-91.
- Bumby, K.M. and D.J. Hansen, Intimacy deficits, fear of intimacy, and loneliness among sexual offenders. Criminal Justice and Behavior, 1997. 24(3): p. 315-331.
- 103. Worling, J.R., Personality-based typology of adolescent male sexual offenders: Differences in recidivism rates, victim-selection characteristics, and personal victimization histories. Sexual abuse: a journal of research and treatment, 2001. 13(3): p. 149-166.
- 104. Hunter, J.A., et al., Juvenile sex offenders: Toward the development of a typology. Sexual abuse: a journal of research and treatment, 2003. 15(1): p. 27-48.

- Simons, D., S.K. Wurtele, and P. Heil, Childhood victimization and lack of empathy as predictors of sexual offending against women and children. Journal of Interpersonal Violence, 2002. 17(12): p. 1291-1307.
- 106. Duggan, S., M. O'Brien, and J.K. Kennedy, Young adults' immediate and delayed reactions to simulated marital conflicts: implications for intergenerational patterns of violence in intimate relationships. Journal of consulting and clinical psychology, 2001. 69(1): p. 13.
- 107. Wekerle, C. and D.A. Wolfe, Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. Clinical psychology review, 1999. 19(4): p. 435-456.
- O'Leary, K.D., Physical aggression between spouses, in Handbook of family violence. 1988, Springer.
 p. 31-55.
- 109. Margolin, G., P.H. Oliver, and A.M. Medina, Conceptual issues in understanding the relation between interparental conflict and child adjustment: Integrating developmental psychopathology and risk/resilience perspectives. 2001.
- 110. Malamuth, N.M., Predictors of naturalistic sexual aggression. Journal of personality and social psychology, 1986. 50(5): p. 953.
- Ouimette, P.C., Psychopathology and sexual aggression in nonincarcerated men. Violence and Victims, 1997. 12(4): p. 389-395.
- 112. Calhoun, K.S., et al., Sexual coercion and attraction to sexual aggression in a community sample of young men. Journal of Interpersonal Violence, 1997. 12(3): p. 392-406.
- 113. Kosson, D.S., J.C. Kelly, and J.W. White, Psychopathy-related traits predict self-reported sexual aggression among college men. Journal of Interpersonal Violence, 1997. 12(2): p. 241-254.
- 114. Coid, J., et al., Relation between childhood sexual and physical abuse and risk of revictimisation in women: a cross-sectional survey. The Lancet, 2001. 358(9280): p. 450-454.
- 115. Parish, W.L., et al., Intimate partner violence in China: national prevalence, risk factors and associated health problems. Int Fam Plan Perspect, 2004. 30(4): p. 174-81.
- Widom, C.S. and J.B. Kuhns, Childhood victimization and subsequent risk for promiscuity, prostitution, and teenage pregnancy: a prospective study. American Journal of Public Health, 1996. 86(11): p. 1607-1612.
- Boynton-Jarrett, R., et al., Childhood abuse and age at menarche. Journal of Adolescent Health, 2013. 52(2): p. 241-247.
- 118. Wise, L.A., et al., Childhood abuse and early menarche: findings from the Black Women's Health Study. American journal of public health, 2009. 99(Suppl 2): p. S460.
- 119. Levin, K.A., Study design III: Cross-sectional studies. Evidence-based dentistry, 2006. 7(1): p. 24-25.
- 120. Hassan, E., Recall bias can be a threat to retrospective and prospective research designs. The Internet Journal of Epidemiology, 2006. 3(2): p. 339-412.
- 121. Van de Mortel, T.F., Faking it: social desirability response bias in self-report research. 2008.
- 122. Felitti, V.J., et al., Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. American journal of preventive medicine, 1998. 14(4): p. 245-258.

SUPPLEMENTARY MATERIAL

Appendix A Article inclusion determination form

Subject	Outcome	Actio n	
Population:	Yes	V	
Adolescents or young adults 12-25 years old OR Students, mean age ≤ 25 years	No	Χ	
mean age 2 25 years	Not sure:	?	
Exposure:	Yes:	V	
Witnessing family violence	No:	Χ	
	Not sure:	?	
Outcome:	Yes:	V	
Relevant to sexual and reproductive health	No:	Χ	
	Not sure:	?	
Article type:	Yes:	V	
Original research	No:	Χ	
Included?	Both All V	\rightarrow	Definite include
	Both ≥1 X	\rightarrow	Definite Exclude
	Both ≥1 ? OR Differences	\rightarrow	Discuss

Appendix B data extraction form

Author	Study	Population			Exposure	Comparison	Outcome of	Findings in this study	this study	Critical
(Year)	type						Interest			Appraisal
		Sample + size	Setting	Response rate						CASP
Author	Study	Sample	Institution/hospital; Response rate	Response rate	Exposure as	Comparison as Outcome		Findings	Findings Significant CASP-score	CASP- score
(year)	design	characteristics;	country	given in the	mentioned in	mentioned in investigated in	investigated in		findings: yes and quality	and quality
		Sample size		article	article	the article	this study		(-) ou/(+)	category

Appendix C Quantitative CASP form as modified by Oram (2012)

Question	Considerations/Scoring Methods	Comments	Score
1 – Does the study address a clearly focused question?	-focused in terms of population of interest -focused in terms of outcomes studied		
2 – Is the study design appropriate to address the research question?			
3 – Does the study use an appropriate sampling method?	-sampling method -time frame -sample size		
4 – Is the study sample appropriate to address the research question?	-sample characteristics clearly described -clear inclusion and exclusion criteria - appropriate controls -representativeness of sample		
5 – Is the level of non-participation tolerable?	-level of non-participation - comparison of non-participants and participants - impact of non-participation		
6— Is the exposure (witnessing family violence) appropriately assessed?	-definition of TOP and violence is provided -suitability of the indicators used -potential for bias		
7 – Are the outcomes (outcomes related to sexual and reproductive health) appropriately assessed?	-validated clinical and/or survey instruments used to assess outcomes		
8 – Are known confounders accounted for?	Key confounders not identified → 0 Key confounders identified → 1 Key confounders identified and included in multivariate analysis →2		
9 – Are appropriate statistical analyses conducted?			
10– Are prevalence/risk/odds ratio measures reported with confidence intervals?	Not reported \rightarrow 0 Reported without CIs \rightarrow 1 Reported with CIs \rightarrow 2		
11– How precise are the results?	<100 participants → 0 100-999 participants → 1 ≥1000 participants → 2		
12 – Were ethical issues appropriately considered?	-informed consent -safeguarding anonymity, confidentiality and safety -availability of support and referral options -fieldworker training		

13 – Do the findings support the conclusions?		
14 – Are the findings generalisable?	Not generalisable \rightarrow 0 Generalisable locally \rightarrow 1 Generalisable nationally \rightarrow 2	
15 – Study results fit with existing evidence		

Score: .../30

Author + year:

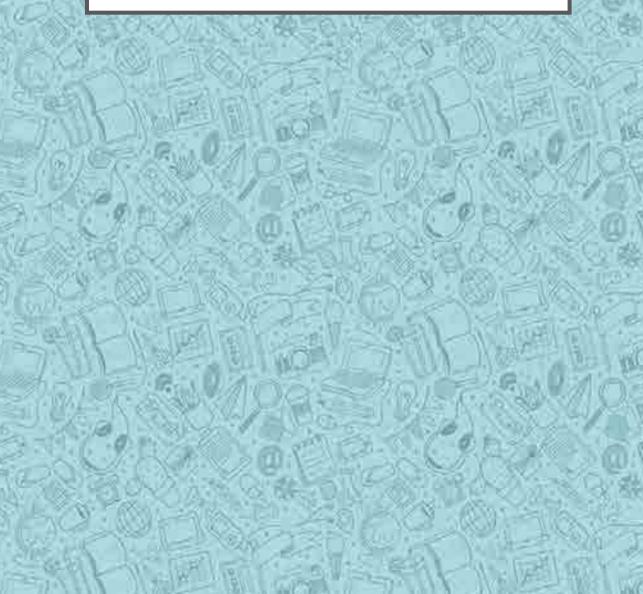
Scoring

0 – Study does not meet criteria/answer question

- 1 Study partially meets criteria/gives a partially satisfactory answer to the question
- 2 Study fully meets criteria/gives a fully satisfactory answer to the question

Chapter 3

The Need for Control, Safety and Trust in Healthcare: A Qualitative Study among Adolescents and Young Adults Exposed to Family Violence



KARIN AWL VAN ROSMALEN-NOOIJENS
SYLVIE H LO FO WONG
JUDITH B PRINS
ANTOINE LM LAGRO-JANSSEN

PATIENT EDUCATION AND COUNSELING; DOI: 10.1016/J.PEC.2017.02.008

ABSTRACT

OBJECTIVE

Adolescents and young adults (AYAs) exposed to family violence are in need of professional healthcare. However, only one-third of them seek professional help.

METHODS

This study investigates healthcare needs of twelve AYAs exposed to family violence. Semistructured face-to-face interviews using purposive sampling to reach diversity. Open thematic coding was used to identify the most important themes.

RESULTS

Participants experienced emotional problems, distrusted others and felt unsafe as an important consequence of their exposure to family violence. All participants expressed a need for help, but as help involved informing others, they considered it unsafe. Trust, safety and control regarding healthcare interventions emerged as vital needs. The anonymity of the Internet was considered as offering safeguards in seeking and receiving help.

CONCLUSION

Trust, safety and control regarding healthcare interventions emerged as vital needs for AYAs exposed to family violence. The great importance of being in control of healthcare interventions has not been reported earlier. A personal bond can lower the need for control.

PRACTICE IMPLICATIONS

To comply with the three basic needs, healthcare providers should grant AYAs as much control as possible while still monitoring patient safety. The Internet can be an important resource for offering low-threshold professional and peer support.

KEYWORDS

Family violence, Domestic violence, Adolescence, Young adulthood, Healthcare needs, Healthcare communication, Professional healthcare, E-health, Exposure to violence, Patient safety, Trust, Control, Low-threshold care

INTRODUCTION

Family Violence (FV) mostly affects women and children and can be defined as any behaviour that causes physical, sexual or psychological harm, has been committed in current or past family or domestic or intimate relationships, and includes physical aggression, sexual coercion, psychological abuse and controlling behaviours. About 30% of all women in a relationship reported they had experienced some form of violence in their relationship [1], and in approximately 60% of these cases, children were living in these violent households [2]. These children are almost always exposed to this violence. The most common form of exposure to FV is exposure to Intimate Partner Violence (IPV), but it also covers assaults by parents on siblings or among siblings. There are many possible forms of exposure, varying from direct exposure, that is, seeing or hearing the violence, to indirect exposure, that is, having to deal with the consequences of violence in daily life [3]. Recent studies show that 8-12% of all children were exposed to some form of FV in the preceding year [2, 4, 5].

Exposure to FV affects emotional and behavioural development and is associated with adolescent dating violence, high-risk sexual behaviour, teenage pregnancy and intergenerational transmission: becoming a victim or a perpetrator in adult life [6-13].

Several theoretical models underlie these findings, including Bandura's social learning theory. This theory, called modelling, holds that children learn new behaviour by observing and imitating significant others, and children exposed to FV learn that it is an acceptable or effective means of resolving conflicts with a partner. Other theories, such as the betrayal trauma theory and the attachment theory, revealed that parenting stress can impact internalizing and externalizing behaviour and lead to increased stress and symptoms of posttraumatic stress disorder (PTSD) [6, 14-17].

These consequences closely resemble those of direct victims of physical abuse. In the Netherlands, therefore, exposure to FV is considered a form of child abuse [18].

For young children, identification and treatment depend on either the identification of the victimized parent, usually the mother, or alertness to (hidden) signs by healthcare professionals (HCP) or school teachers. For Adolescents and Young Adults (AYAs), however, this is different. Adolescence is an important and life changing period with tremendous physical and psychological changes even without violence [19-22]. In adolescence, children develop their own identity and learn to think from different perspectives, and as their focus shifts outside the home, peers become much more important when facing problems and are, more than family, considered significant others. Peer pressure, however, could also prevent AYAs from sharing experiences [23, 24].

The past-year prevalence for any exposure to FV was highest in 14–17-year-olds (13.8%) [4]. Therefore, we consider AYAs one of the most hidden and vulnerable groups within the total group of children exposed to FV, needing identification and treatment as early as possible.

From the literature, it is known that AYAs prefer informal help to professional help, and it is estimated that only 18–34% of adolescents and young people seek professional help [25-27]. When AYAs are detected by an HCP, it is challenging to provide healthcare that is appropriate to both the age group and their specific problems [22, 23, 28].

Several reviews have addressed adolescent help-seeking behaviour for mental health problems, including being a victim of violence. Common barriers found are a negative attitude towards healthcare, doubts about confidentiality and trust, concerns about the kind of healthcare or the HCP, self-reliance, help-seeking anxiety, and lack of knowledge, accessibility or recognition by others. Common facilitators include the adolescents' competence to address emotions, positive past experiences and trusted relationships with an HCP [25, 29, 30].

Seeking alternative ways to reach and support AYAs, the Internet is considered to be the most obvious method. In the Netherlands, 99.1% (95%CI 98.4%-99.9%) of 12–25-year-olds have access to the Internet, and 94.7% use the Internet on a daily basis for their social interactions and to find information [31]. Several studies have shown that AYAs use the Internet to retrieve health information and to self-disclose problems to online peers, rather than to ask for help [26, 32].

While the needs of adolescents in vulnerable positions have been investigated before [33-38], none of these studies have specifically examined AYAs exposed to FV, and most participants in these studies were already receiving healthcare. AYAs exposed to FV often feel responsible for the victimized family member and try to protect the family, usually without success, which could harm their help-seeking process. Although general barriers and facilitators may apply to AYAs exposed to FV, there may be specific additional barriers, which need to be identified to provide adequate care [21-24].

In 2011, we developed an Internet-based self-support method for AYAs exposed to FV [39]. Before building the intervention, we engaged AYAs exposed to FV, aged 12–25, and interviewed them to identify their healthcare needs. This qualitative study presents the results of these interviews, with the following research question: what are the healthcare needs of AYAs exposed to FV?

METHODS

DESIGN

This study has a qualitative design using semi-structured face-to-face interviews. This method allows one to gather rich data about a difficult subject in a vulnerable group.

PARTICIPANTS

General Practitioners participating in an unrelated study on FV, involving mothers who were victims of IPV, were asked to identify eligible participants [40]. Participants were also identified by posting messages on several websites. Participants were AYAs (12–25 years old) exposed to FV. We excluded participants who were: direct victims of FV rather than exposed to FV; in acute need of care; not speaking the Dutch language; unable to provide parental consent; or unable to participate in a face-to-face interview.

Sixteen AYAs were eligible for participation. Two participants were unable to provide parental consent; one participant could not engage in a face-to-face interview; and one other participant did not respond to our invitation for the interview. To ensure safety, the participants were contacted to make an appointment at a time and place of their choice. Before the interview started, we asked participants if they had any immediate need for healthcare. After eight interviews, we succeeded to include two extra male participants by purposive sampling. We ceased recruiting new participants after we had interviewed twelve participants because we had reached saturation.

DATA COLLECTION

Between July 2011 and July 2012, two female researchers (KRN, general practitioner and AT, medical student) held semi-structured interviews, using an interview guide that was based on literature and expert opinions (Table 1). Interviews were audiotaped with the interviewees' consent. Interviews took 45–60 min. The participants were asked about their healthcare needs, specifically including eHealth. The guide was slightly adjusted after two interviews.

DATA ANALYSIS

The recorded interviews were typed out ad verbatim and emailed to the participants for member check. Immediately after each interview, both interviewers analysed the interview independently, using open thematic coding [41], with the qualitative data analysis program Atlas.ti, version 6.2 [42], and underlined and coded key terms. Next, the

interviewers compared the codes and coded segments and reached consensus about the codes to be used for every text segment. Whenever there were differences, they discussed until they reached consensus. In the case of doubt, both codes were used. After four interviews, all codes and text segments were discussed again until complete consensus was reached. In the eighth interview, neither of the two researchers found new codes. In the next four interviews, including male participants, only one new code was found, which meant that saturation of data was reached. All interviews were reread with the code list to check if all text segments had been coded correctly.

The resulting code list was organized into categories by both researchers independently until consensus was reached again. These categories were set into themes by the supervising committee, after which all interviews were reread to make sure that all data had been included. At this point, no new information was found, no new codes were used and themes were not changed. Strongly deviant cases within themes were not found either.

ETHICAL AND SAFETY ISSUES

The Radboudumc Committee on Research Involving Human Subjects (Dutch initials: CMO) assessed this study and held that it did not come within the remit of the Medical Research Involving Human Subjects Act (WMO). Therefore, the study could be carried out in the Netherlands without the approval of an accredited research ethics committee (2011/053. NL nr 35813.091.11. March 16th, 2012).

Participants gave written informed consent before the interview started. According to the principles of Dutch law for 12–16-year-old participants, both parents (or guardians) must give their consent in addition to that of the minor him/herself. Because informing the abusive partner can be potentially dangerous in cases of FV, we asked informed consent from the abused parent only, being the mother in all but one case, in which case the father gave consent. We confirm that all patient identifiers have been removed or disguised so the individuals described are not identifiable and cannot be identified through the details of the story.

In the following results, we used quotes from participants which have been identified in the text by a Q-number between brackets corresponding with the same identifier in Table 2. All quotes have been translated from Dutch into English. We provided figures to whether themes have been brought up by a few (1–3), some (4–6), many (7–9), most (10–11) or all (12) participants.

RESULTS

PARTICIPANTS

We interviewed twelve AYAs, ten of whom were recruited online or by word of mouth, aged 14 to 25 years old. Their mean age was 18.8 (SD 3.9) years old, and the female-male ratio was 3:1. The sample was ethnically and religiously diverse (Table 3). All but one participant was exposed to IPV at home, and this one participant was exposed to parent-to-sibling violence (Q1, Q2).

Participants indicated that their exposure to FV had several consequences for themselves: difficulty trusting others (most), emotional problems (many) and feeling unsafe regardless of actual safety (many). Most of the older AYAs had negative experiences in their own relationships, and three participants, besides having been exposed to FV, had also been victims of dating violence in adolescence. Their experiences varied from fairly simple communication problems to major issues such as sexual coercion, jealousy and controlling behaviour, demeaning behaviour or stalking after a breakup, all with or without the use of physical violence (Q3, Q4). Control appeared to be a highly complicated subject (Q5) in these relationships. More than one participant started dating or having sex to escape their home situation (Q6). All participant characteristics can be found in Table 3.

All AYAs wanted and needed help to cope with the FV at home. They felt responsible, worried about their abused mother and siblings and reported they had lost control over the situation because they felt unable to change it (Q7). Many participants expressed loyalty to their family, and some participants from Muslim or Hindu cultures said the violence was considered a family secret (Q8). This responsibility and loyalty prevented participants from seeking professional help, fearing that the violence being out in the open would only serve to make things worse.

HELP-SEEKING NEEDS

AYAs exposed to FV identified three requirements when seeking help: trust, safety and control. These were indicated as absolute needs and were age-independent.

TRUST

Participants said they needed mutual trust to be able to receive any help at all.

Participants trusted same-age peers most. A personal bond was mentioned as the main motive to trust them. Peers were also seen as most supportive because they listened, were familiar with the situation, helped to think of solutions and could be trusted to keep

silent (Q9). Additionally, peers that were also fellow-sufferers made them aware that there were more victims of FV, made them feel truly understood, made them learn from other people's experiences and gave them hope that they all would be well in the end (Q10). It also helped them not to be ashamed about their own history of FV.

To be able to trust an HCP, all participants wished to build a personal bond with the HCP similar to that with a peer. This was considered challenging if not impossible by most, for the following reasons: failure to acknowledge family violence, lack of time, an exclusive focus on stopping the violence and personal differences, such as large age differences. HCPs who recognized the problem and the impact of FV improved the level of trust for many AYAs as they felt they were acknowledged and taken seriously (Q11, Q12, Q13).

SAFETY

All AYAs stressed the importance of safety when seeking help. Seeking help was considered unsafe by most participants because it involved informing others, who might take unpredictable or unwanted actions (Q14, Q15). Participants feared the consequences of such actions, such as aggravation of the violence, disruption of the family or exclusion from the peer group (Q16). Confidentiality, therefore, was very important for most participants, and the fear of an HCP breaching confidentiality was an important barrier to help seeking (Q17).

CONTROL

Being in control was considered the most important need: almost all participants said they wanted to make their own decisions regarding healthcare interventions at their own pace as they needed to be in control of the situation. For most participants, their lack of knowledge about procedures, laws and different kinds of healthcare was a barrier, as it made them feel dependent on providers and, hence, out of control. They knew neither how to reach specific HCPs nor, more importantly, what to expect from the care they might offer (Q18). This led them to entertain assumptions about healthcare that were not always correct (Q19).

When in contact with an HCP, most participants said that they wanted HCPs to take time, working step-by-step, giving information and building a personal bond first (Q20, Q21, Q22). Only then, if they trusted the HCP and felt safe, could they give control to the HCP.

Asked about the Internet, all AYAs thought that it would be very helpful. The reasons they gave, were anonymity, safety, independence, ease and accessibility (Q23,

Q24, Q25). As all participants had access to the Internet, moreover, they did not need to depend on someone else to receive help (Q26, Q27).

Anonymity guaranteed control: it is impossible to breach confidentiality and take unwanted action if you are anonymous, which made participants feel safe. Anonymity also made it easier to tell their story (Q28, Q29). Some participants felt that it would be difficult to achieve a personal bond with an HCP, but they still preferred anonymity to personal bonding.

DISCUSSION AND CONCLUSION

DISCUSSION

We conclude that there are three major needs that are important for AYAs exposed to FV when seeking help: trust, safety and control. More importantly, these needs are also strongly interconnected.

Our most important finding is that participants indicate they have a strong need to be in control, which has, to our knowledge, never emerged before as a vital need in studies investigating AYAs searching for healthcare. Participants are afraid that they will not be involved in decision-making and that the HCP will take action right away without their approval, leaving them out of control over the situation. As they feel responsible for their families, they feel that controlling the situation is the only way to manage their home situation. Besides, being on their way to becoming independent adults, they also want to be autonomous.

The help-seeking behaviour of AYAs with mental health problems has been investigated in multiple studies, but these never discussed the topic of control [25-27, 29, 30, 36]. A possible explanation is that these studies investigate adolescents' wishes in general rather than those of AYAs exposed to FV in particular, which suggests that the need for control derives from the violent situation. A strong need to control healthcare interventions, therefore, may be unique to AYAs exposed to FV.

AYAs also feel the need to be supported by people they trust. Participants consider trust as a precondition to accepting help, which is supported by the abovementioned studies; however, they also feel that they have difficulty trusting others. It is not clear if this difficulty to trust others derives specifically from the violent situation.

Furthermore, it is important for them to feel safe. Our participants indicate that they often feel unsafe, not only in their homes, where they are exposed to FV, but also in other places, fearing disclosure and its consequences for their family and themselves.

While control, trust and safety are very important needs for AYAs in seeking help, it is not easy for healthcare providers to meet these needs because they have to work within the healthcare system and must comply with legal regulations and mandatory reporting of child abuse.

The Internet is an important source of information for AYAs, and we feel, therefore, that the online availability of support and correct information will help create correct expectations. Information is important because wrong expectations, based on their own and other people's negative experiences, could not only lead to new negative experiences, but could also prevent AYAs from seeking healthcare, which is in line with the literature [33, 34, 37]. Providing correct information is not easy: although there are campaigns and educational programmes available, the adolescents in our study said that either they did not know where to turn to for help, or they did not trust healthcare. Peers are an important source of information and support because they are easy to bond with and thus easier to trust, which is in line with the literature [23, 37, 38, 43].

The Internet could be an excellent resource for meeting the needs of AYAs. A website targeting AYAs exposed to FV may help them to learn about healthcare options. From our results, we conclude that the relative anonymity of the Internet ensures control and safety. A freely available online social map, giving all parties involved a clearer idea of what is available, could be helpful in providing correct information [38]. The online availability of (peer) support helps to build trust while functioning as a safety net and first port of call for AYAs exposed to FV.

Once AYAs exposed to FV have made the decision to access healthcare services, professionals should be alerted to addressing the needs of control, safety and trust. Our results show that AYAs exposed to FV want to make their own decisions regarding healthcare in their own pace. To be able to do that they need information about treatment options and time to make a decision. Most participants also said that, to be able to surrender control to the HCP, HCPs need to take time to build a bond of trust and create a safe environment. To our opinion, time and confidentiality are therefore important factors, as we will explain in the next paragraphs.

We feel that, whenever possible, healthcare providers should maintain confidentiality, not only about the ground for meeting a healthcare provider but also about the very fact of the encounter taking place. Keeping confidentiality builds trust, even if this is hard for healthcare providers struggling to act within legal child protection boundaries and parental rights to be informed about healthcare provided to their children.

HCPs should always consider the risk of informing parents or legal guardians in an early phase, which might do more harm than not informing them, as breaching

confidentiality can raise the AYA's distrust of HCPs and could even lead to aggravation of the FV [34]. As Cunningham and Baker (2011) observed: 'confidentiality is desirable for younger children, though crucially important for teens' [23]. Though Featherstone and Evans (2004) agreed, they also found that adolescents were under-protected because HCPs prioritized maintaining the family as a private space over safety [34, 35, 37].

Time is another important factor, but, while AYAs need time to have their needs met and make an informed decision, professionals might feel that there is no time to wait because the situation involves danger, and irreversible harm may be done. Cossar (2011) found that professionals assessed the risk of FV differently from the adolescents involved: they felt the adolescents were in need of protection, whereas the adolescents themselves did not feel they were in danger.

The process of sharing information about treatment options, while building a trusting relationship and maintaining confidentiality, before making treatment decisions is difficult and time-consuming for HCP, especially because they also need to monitor safety for all persons involved. This approach closely resembles the principles of Shared Decision-making (SDM) [44-47]. SDM has been researched in AYAs and has been shown to be effective, improving patient satisfaction, treatment adherence and health status, and protecting their right to autonomy [48-50]. When successful, this approach could increase feelings of control and safety and reduce feelings of distrust, which could lead to better care offered to AYAs exposed to FV.

LIMITATIONS

In order to reach a diverse group of AYAs, we recruited participants from different sources. In general, characteristics were well distributed although it was particularly difficult to find male adolescents for the study. The interviews with male adolescents did not add new themes or new information, which could mean that there are no gender differences in the healthcare needs of AYAs exposed to FV. To verify our findings and consequences for healthcare, a larger group of AYAs exposed to FV should be studied. A study measuring the effects of online help for this vulnerable group should also be carried out. We did not gather detailed information on exposure to FV and current mental health status as we felt this would compromise feelings of safety. We did, however, verify that all participants had been exposed to FV without themselves being victims of FV.

CONCLUSION

In this study, we identified the healthcare needs of AYAs exposed to FV. We found three main needs: control, safety and trust. The need for control may be unique for AYAs exposed to FV and will need further consideration. We propose two strategies to meet

these needs: providing easily available online support and information for AYAs searching for help and a period in which HCP maintain confidentiality, share information and build on a trusting relationship before making treatment decisions on the course to be taken for AYAs starting professional healthcare.

Because of its anonymity, the Internet can be an important resource for educating adolescents about FV and healthcare and for offering low-threshold support.

Once AYAs seek help, taking time to share information while maintaining confidentiality could help build trust and safety, which is needed to allow AYAs to give control to HCPs.

PRACTICE IMPLICATIONS

In our view, there are two major implications for healthcare. Firstly, AYAs exposed to FV searching for help need correct information about healthcare options and low-threshold support. Online platforms can provide such information and facilitate peer support.

Secondly, when AYAs exposed to FV do access healthcare services, HCPs need to keep in mind that AYAs need safety and trust to be able to surrender control to HCPs, which requires time and confidentiality. Even though child protection laws and parental information rights often limit possibilities, HCPs should always try to search for the best possible solution in an acceptable time frame if there is no acute danger. They should explain options and consequences and avoid acting too quickly, respecting the AYA's wishes as breaching confidentiality could lead to their withdrawal from healthcare or even aggravation of the violence. In case decisions are required that are not in line with the AYA's wishes, the HCPs should always explain why such a decision has been made.

Because of the delicacy of risk assessment and safety requirements, we recommend that HCPs work with a safety protocol that leads to action only if absolutely inevitable. This gives professionals time to build trust by listening and acknowledging the adolescents' story. This would also allow professionals to discuss the subject of control and self-determination with the adolescents and try to understand their values and opinions, while explaining the rules of confidentiality and the legal restrictions and stressing the importance of disclosure and help.

ACKNOWLEDGMENTS

The authors would like to thank Adrienne Termeer, medical student, for her help in analysing the data. This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

TABLES AND FIGURES

Table 1 Interview guide

The interview guide consisted of general questions. For each general question, several cues were given to the interviewer as alternatives to obtain an answer to the question. These were used according to the interviewer's discretion. If the interviewer felt he should change the order of questions in that particular interview, he was allowed to do so. As an example, we have listed the alternatives for three of the general questions.

Can you tell me something about yourself?

What do you know about different kinds of help for adolescents and young adults exposed to violence at home?

What do you think is important when you want help dealing with violence at home?

- Where/To whom would you go?
- Where would you go first if there were no barriers?
- What do you wish?
- What do you need?
- Can you give examples?
- Should your parents be informed?

Do you think that adolescents and young adults exposed to violence should seek help themselves?

Do you have experience seeking help for the violence at your home?

- Can you tell me more?
- How did you find help?
- Did others help you finding help?
- How did you feel about the help you received?
- Did you feel at ease?
- What was good, and what could be improved?
- Did you feel you were listened to?
- Did you feel you were taken seriously?

If not, did you ever think about seeking help?

- Why not?
- Did it have something to do with your parents?
- What did you think might happen?

You told us before that you have experienced seeking help. Could you tell us something about the reasons for you to go and seek help?

or

You told us that you have not sought help yet. Could you tell us something about the reasons for you to go and seek help?

What do you think are the consequences of being exposed to violence at home?

Are you yourself experiencing any problems that you attribute to the violence?

Do you know something about problems that adolescents and young adults exposed to violence may encounter when they grow up and get into relationships themselves?

What do you think about a website for adolescents and young adults exposed to violence?

What do you think there should be found on such a website?

How do you think we could make the website safe to visit?

Table 2 Participant Quotes as indicated in the results

Quote number	Participant number	Sex	Age	Quotation
Q1	P2	F	20	It's all you know: you're in bed and you hear you parents scream to each otheryou're used to it.
Q2	P15	F	23	My parents often screamed to each other. My father got so angry that he threw stuff to my mother or hit her to the ground. When I was little I watched and tried to protect my little brother who was terrified. When I was older I got between themI protected my mother standing between them, but then I got hit too.
Q3	Р3	F	21	It was not that I didn't dare to say noI said 'no' and then it happened anyway, which is totally different.
Q4	P3	F	21	I was done with him and he didn't accept itit was like 'I go', 'no you don't', 'yes, I do', and then he threw me over the table [] but I could forgive him for doing it [] because of his past.
Q5	P15	F	23	Setting boundaries and showing consideration for each other [] I don't know how to do that, whatever my father wanted happened. I'm now learning to do this [setting boundaries], in this relationship.
Q6	P3	F	21	Afterwards, I wasn't too happy about it, but he had his own house. For me that was it was not like prostitution but I thought, it's quiet over there and I could stay there so I'll just do it [have sex] because one good turn deserves another.
Q7	P3	F	21	I didn't need to live at home anymore, but I wanted to protect my siblings, but then I got pregnant, so then it was over, bye bye, leave the house, getting out of it all
Q8	P5	F	18	It is a cultural thing, because it is not normal to wash your dirty linen in public, to speak figural To talk about your problems, to cast such aspersions on your parents, I won't do it.
Q9	P14	F	16	I would search help from a friend first, because I could get it off my chestAnd with her I could think of solutionsor maybe with a teacher I really trust.
Q10	P15	F	23	That you can hear stories of people who also have been through this; who have sought help and who made it through. Light at the end of the tunnel.
Q11	P13	F	15	Well, you don't know if you can rely on this person, when I got to know her I didn't know if I could trust her either, and at some point, she got me.
Q12	P14	F	16	Children are scared: only when they feel comfortable they will talk freely [] talking with peers is more comfortable than with a person [HCP], but when you talk more with that person you will built trust and then you might get some hope [] because people who are scared don't want to talk right away, and therefore it is better to build a personal bond first so the child will feel safe when he talks to the HCP.

Q13	P4	F	25	Well, it is all very nice Yes, you can go to youth care and they are there for youbut if you don't feel understoodThat is why I think that you should be able to talk with peers who know what you are going throughsharing,
Q14	P3	F	21	I had a counsellor at school, and he was supposed to keep it a secret, but he didn't. So, after that, I haven't tried anything anymore [] because he asked my father about it. I didn't want that: he asked him [father] to come to school.
Q15	P11	F	25	You can't go to a psychologist either, because of the Insurance [] so I think that the Internet is the best option available.
Q16	P1	M	14	There's this girl in my class; every time she is picked out from class [] by the social worker [] the entire class knows something is wrong with her.
Q17	P4	F	25	That is why they don't take steps, because the parents will know what you did. That is why it is very difficult and besidesthey won't understand you, they won't believe you, it doesn't matter, because you're a kid and you can say everything you want, but nowell I can understand why it is important [that parents know you're searching help], but that is the reason that children won't search professional help, I'm sure about it.
Q18	P6	F	16	It must be clear to children what will happen if you finally decide to search for help. That you don't need to fear for the worst, and that it will go in steps [] It is ignorance which withholds children from asking for help, I cannot stress this enough. It must be very clear what will happen if you ring that bell.
Q19	P6	F	16	I'd have to leave my mother, and I don't want that; I want to stay with my mother, even though she's like this, she's still my mother.
Q20	P16	M	18	Well, I don't think that someone will start with accepting help. I think that it can take some time, quite some time [] and after a long time [] then you're going to accept help.
Q21	P5	F	18	Most people, I think, don't want to take action, but read about it, search for contact, search for recognition and acknowledgement from others.
Q22	P6	F	16	It will talk much easier with someone you know for a longer time.
Q23	P15	F	23	The threshold to search help is very high. Most children and adolescents don't know where to find help [] Adolescents are focused on the Internet. It is accessible and it leads to more action. There is more information available [] A website could help and it is nice that you can talk with peers. I think this is very important, because you can feel very lonely when you're in a violent situation.
Q24	P16	M	18	I think that information is the most importantand that you can read other's stories. How it went and how they found a solution [] Others could find courage and see that it will end well in the end.
Q25	P5	F	18	Some kind of forum, with other people who went through the same, about how you could find help, which was very unclear to me too. Maybe if there would be a website with information on what you could do, or that you can encourage people to go to their GPoh and peer contact.

Q26	P16	М	18	The Internet, nobody sees you, nobody knows that you're doing it.
Q27	P2	F	20	For helpwell, you needed a referral for everythingand there was no websitewhere you could chat with someone who could give you advise andyeswhere you could tell your story.
Q28	P14	F	16	It's easier to talk to people you don't know and who've been through the same.
Q29	P11	F	25	If someone reads your story or listens to youI really believe that talking can be a relieve [] You're anonymous, so you can say everything you want and hopefully there are people with experience, who can give you advice.

Table 3 Participant characteristics (n = 12)

rable 3 ranticipant character			
Age		Household members	
mean	18.83 (SD 3.9)	Parent(s) + sibling(s)	8
12–17	5	Partner	3
18–25	7	Child	1
Sex		Relationship	
M	3	Boyfriend/girlfriend	4
F	9	Married	1
		No	6
Ethnic & religious background		Unclear ^a	1
Dutch (all Atheist)	4		
Netherlands Antilles (Christian)	1	Sexually active	
Moroccan (all Muslim)	3	Yes, 1 partner	2
Surinam (both Hindu)	2	Yes, 2-5 partners	3
Other (both Muslim)	2	Yes, >5 partners	2
		No	5
Education			
Primary school	1	Age of first intercourse (n = 7)	
Lower	4	12	1
Middle	3	13	0
Higher	4	14	3
		15	1
Alcohol		16	1
No	9	17	1
<1×/week, 2 units	2		
1–2×/week, 2 units	1	Forced to have sex (n = 7)	
		yes	3
Smoking		no	4
No	10		
Yes	2	Pregnancy (n = 7)	
		Yes, unwanted, abortion	2
Drugs		Yes, unplanned, wanted	1
No	9	No	4
<1×/month	3		
		STD (n = 7)	
Place of residence		No, tested	5
Village	4	Not sure, not tested, unsafe sex	1
Small town	3	Not sure, not tested, safe sex	1
Large city	5		

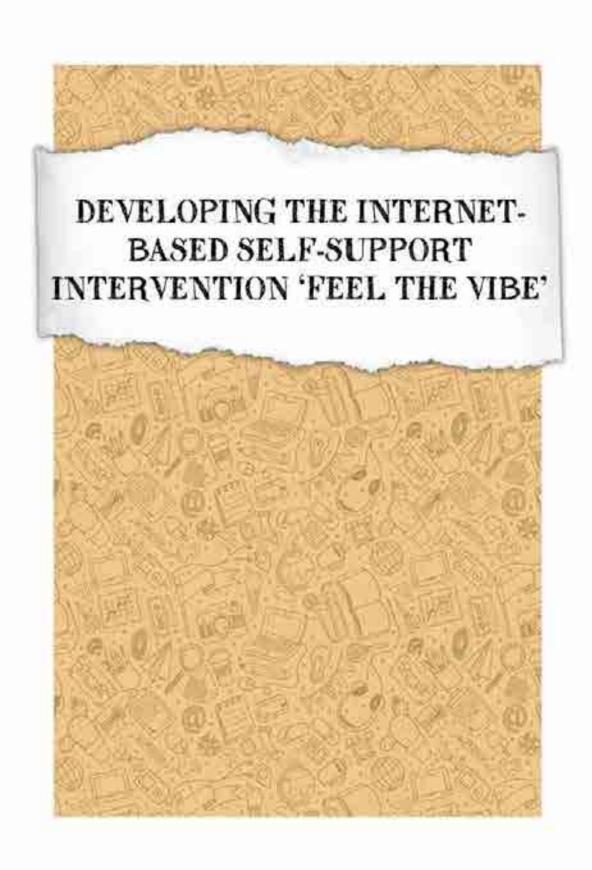
^a Participant indicated she had a potential boyfriend, but as he was also violent to her, she did not want to mention this as such.

REFERENCES

- Devries, K.M., et al., The global prevalence of intimate partner violence against women. Science, 2013. 340(6140): p. 1527-1528.
- McDonald, R., et al., Estimating the number of American children living in partner-violent families.
 Journal of Family Psychology, 2006. 20(1): p. 137.
- Holden, G.W., Children exposed to domestic violence and child abuse: Terminology and taxonomy.
 Clinical child and family psychology review, 2003. 6(3): p. 151-160.
- 4. Hamby, S.L., et al. Children's exposure to intimate partner violence and other family violence. 2011; Available from: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf. (Archived by WebCite® at http://www.webcitation.org/6gt02RIVb).
- 5. Finkelhor, D., et al., Violence, crime, and abuse exposure in a national sample of children and youth: an update. JAMA pediatrics, 2013. 167(7): p. 614-621.
- Ehrensaft, M.K., et al., Intergenerational transmission of partner violence: a 20-year prospective study. J Consult Clin Psychol, 2003. 71(4): p. 741-53.
- Holt, S., H. Buckley, and S. Whelan, The impact of exposure to domestic violence on children and young people: a review of the literature. Child Abuse Negl, 2008. 32(8): p. 797-810.
- 8. Widom, C.S., S.J. Czaja, and M.A. Dutton, Childhood victimization and lifetime revictimization. Child abuse & neglect, 2008. 32(8): p. 785-796.
- Evans, S.E., C. Davies, and D. DiLillo, Exposure to domestic violence: a meta-analysis of child and adolescent outcomes. Aggression and violent behavior, 2008. 13: p. 131-140.
- Van Niel, C., et al., Adverse events in children: predictors of adult physical and mental conditions. J
 Dev Behav Pediatr, 2014. 35(8): p. 549-51.
- 11. Chan, Y.-C. and J.W.-K. Yeung, Children living with violence within the family and its sequel: a metaanalysis from 1995 - 2006. Aggression and violent behavior, 2009. 14: p. 313-322.
- 12. Eriksson, L. and P. Mazerolle, A cycle of violence? Examining family-of-origin violence, attitudes, and intimate partner violence perpetration. J Interpers Violence, 2015. 30(6): p. 945-64.
- Black, D.S., S. Sussman, and J.B. Unger, A further look at the intergenerational transmission of violence: witnessing interparental violence in emerging adulthood. J Interpers Violence, 2010. 25(6): p. 1022-42.
- 14. Bandura, A., Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall.
- Carpenter, G.L. and A.M. Stacks, Developmental effects of exposure to Intimate Partner Violence in early childhood: A review of the literature. Children and Youth Services Review, 2009. 31(8): p. 831-839.
- Freyd, J., Betrayal trauma, in Encyclopedia of Psychological Trauma, G. Reyes, J. Elhai, and J. Ford, Editors. 2008, John Wiley & Sons: New York. p. 76.
- 17. Bowlby, J., Maternal care and mental health. Bull World Health Organ, 1951. 3(3): p. 355-533.
- 18. NJI. Kindermishandeling (Child abuse). Kinderen die getuige zijn van huiselijk geweld (Children exposed to Family Violence) 2016 [cited 2016 25-11-2016]; Available from: http://www.nji.nl/Vormen-Kinderen-die-getuige-zijn-van-huiselijk-geweld.
- DiClemente, R.J., W.B. Hansen, and L.E. Ponton, Handbook of adolescent health risk behavior. 2013:
 Springer Science & Business Media.
- Lerner, R.M. and L. Steinberg, Handbook of Adolescent Psychology, Volume 1: Individual Bases of Adolescent Development. Vol. 1. 2009: John Wiley & Sons.
- Goldblatt, H., Strategies of coping among adolescents experiencing interparental violence. Journal of Interpersonal Violence, 2003. 18(5): p. 532-552.
- 22. Goldblatt, H. and Z. Eisikovits, Role taking of youths in a family context: adolescents exposed to interparental violence. American Journal of Orthopsychiatry, 2005. 75(4): p. 644.

- Cunningham, A. and L.L. Baker, The adolescent's experience of intimate partner violence and implications for intervention. How intimate partner violence affects children: Developmental research, case studies, and evidence-based intervention, 2011: p. 247-272.
- Sox, R., Integrative Review of Recent Child Witness to Violence Research. Clinical Excellence for Nurse Practitioners, 2004. 8(2): p. 68-78.
- Rickwood, D., F. Deane, and C. Wilson, When and how do young people seek professional help for mental health problems? Med J Aust, 2007. 187.
- Rowe, S.L., et al., Help-seeking behaviour and adolescent self-harm: A systematic review. Australian and New Zealand journal of psychiatry, 2014. 48(12): p. 1083-1095.
- Ashley, O.S. and V.A. Foshee, Adolescent help-seeking for dating violence: Prevalence, sociodemographic correlates, and sources of help. Journal of Adolescent Health, 2005. 36(1): p. 25-31.
- Lepisto, S., T. Luukkaala, and E. Paavilainen, Witnessing and experiencing domestic violence: A descriptive study of adolescents. Scandinavian Journal of Caring Sciences, 2011. 25(1): p. 70-80.
- 29. Gulliver, A., K.M. Griffiths, and H. Christensen, Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. BMC Psychiatry, 2010. 10(1): p. 113.
- 30. Barker, G., A. Olukoya, and P. Aggleton, Young people, social support and help-seeking. Int J Adolesc Med Health, 2005. 17(4): p. 315-35.
- 31. Statline, C., Internet; toegang, gebruik en faciliteiten (Internet; Access, Use, and Facilities). 2016, Centraal Bureau voor de Statistiek: Den Haag/Heerlen.
- Best, P., R. Manktelow, and B.J. Taylor, Social Work and Social Media: Online Help-Seeking and the Mental Well-Being of Adolescent Males. British Journal of Social Work, 2016. 46(1): p. 257-276.
- 33. Buckley, H., N. Carr, and S. Whelan, 'Like walking on eggshells': service user views and expectations of the child protection system. Child & Family Social Work, 2011. 16(1): p. 101-110.
- 34. Cossar, J., M. Brandon, and P. Jordan. 'Don't make assumptions': Children's and young people's views of the child protection system and messages for change 2011; Available from: http://dera.ioe.ac.uk/2690/1/force_download.php%3Ffp%3D%252Fclient_assets%252Fcp%252Fpubl ication%252F486%252FChildrens_and_young_peoples_views_of_the_child_protection_system_.pdf (Archived by WebCite® at http://www.webcitation.org/6gsyiZim3).
- Featherstone, B. and H. Evans, Children experiencing maltreatment: who do they turn to? 2004,
 NSPCC London.
- Freake, H., V. Barley, and G. Kent, Adolescents' views of helping professionals: a review of the literature. J Adolesc, 2007. 30(4): p. 639-53.
- Jobe, A. and S. Gorin, 'If kids don't feel safe they don't do anything': Young people's views on seeking and receiving help from Children's Social Care Services in England. Child and Family Social Work, 2012.
- 38. Whitehall-Smith, M., Counselling & support services for young people aged 12–16 who have experienced sexual abuse: a study of the provision in Italy, The Netherlands & the United Kingdom. Edited by Mary Baginsky, NSPCC, London, 2001. 140pp. ISBN 1-84228-020-1 (Pbk). Child Abuse Review, 2002. 11(5): p. 333-334.
- van Rosmalen-Nooijens, K.A., et al., 'Young people, adult worries': RCT of an internet-based selfsupport method 'Feel the ViBe' for children, adolescents and young adults exposed to family violence, a study protocol. BMC Public Health, 2013. 13: p. 226.
- 40. Loeffen, M.J., et al., Implementing mentor mothers in family practice to support abused mothers: study protocol. BMC Fam Pract, 2011. 12(1): p. 113.
- 41. Ayres, L., Thematic Coding and Analysis. The SAGE Encyclopedia of Qualitative Research Methods. SAGE Publications, Inc. 2014, Thousand Oaks, CA: SAGE Publications, Inc. 868-869.
- 42. Friese, S., Qualitative Data Analysis with ATLAS.ti. 2011: SAGE Publications.

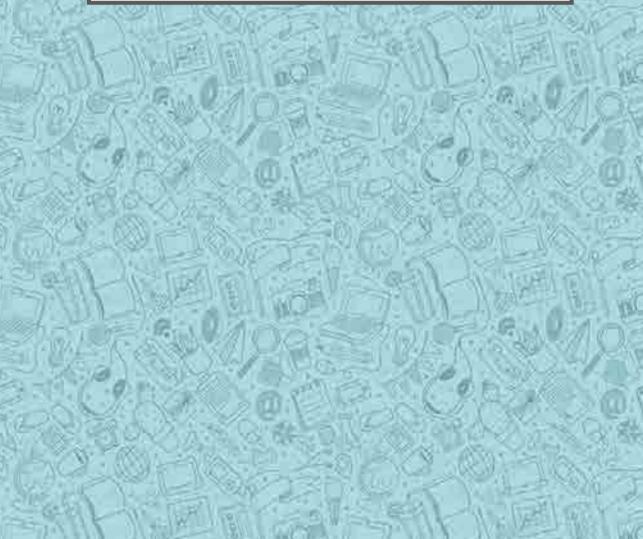
- Tajima, E.A., et al., Moderating the Effects of Childhood Exposure to Intimate Partner Violence: The Roles of Parenting Characteristics and Adolescent Peer Support. J Res Adolesc, 2011. 21(2): p. 376-394.
- 44. Elwyn, G., et al., Shared decision making: a model for clinical practice. Journal of general internal medicine, 2012. 27(10): p. 1361-1367.
- 45. Kasper, J., et al., MAPPIN'SDM—the multifocal approach to sharing in shared decision making. PLoS One, 2012. 7(4): p. e34849.
- 46. Edwards, A. and G. Elwyn, Inside the black box of shared decision making: distinguishing between the process of involvement and who makes the decision. Health Expectations, 2006. 9(4): p. 307-320.
- 47. Battaglia, T.A., E. Finley, and J.M. Liebschutz, Survivors of intimate partner violence speak out: trust in the patient-provider relationship. J Gen Intern Med, 2003. 18(8): p. 617-23.
- 48. Joosten, E., et al., Systematic review of the effects of shared decision-making on patient satisfaction, treatment adherence and health status. Psychotherapy and psychosomatics, 2008. 77(4): p. 219-226.
- 49. Britto, M.T., et al., Health Care Preferences and Priorities of Adolescents With Chronic Illnesses. Pediatrics, 2004. 114(5): p. 1272-1280.
- 50. Beresford, B.A. and P. Sloper, Chronically ill adolescents' experiences of communicating with doctors: a qualitative study. J Adolesc Health, 2003. 33(3): p. 172-9.





Young People, Adult Worries:

RCT of an Internet-Based Self-Support Method 'Feel the ViBe' for Children, Adolescents and Young Adults Exposed to Family Violence, A Study Protocol



KARIN AWL VAN ROSMALEN-NOOIJENS
JUDITH B PRINS
MARIANNE VERGEER
SYLVIE H LO FO WONG
ANTOINE LM LAGRO-JANSSEN

BMC PUBLIC HEALTH 2013 13:226. DOI:10.1186/1471-2458-13-226

ABSTRACT

BACKGROUND

Violence in families affects children. Exposure to violence is seen as child abuse. Figures show that about one third of children exposed to violence become victim or perpetrator in their adult life: known as intergenerational transmission. Violence also affects sexual and reproductive health. To prevent problems in adult life, children need help and support. However, while trying to protect their parents, children often do not seek help, or perceive the threshold as too high. Since almost all children of the current generation have access to the internet, an online intervention will make help better available for this target group. In 2011, an internet-based self-support method for children, adolescents and young adults exposed to family violence was developed in the Netherlands: 'Feel the ViBe'. The intervention was developed in close collaboration with the target group. This article describes the protocol of the RCT to study the effectiveness of this intervention.

METHODS/DESIGN

This study is a randomized controlled trial using the method of minimization to randomize the participants in two parallel groups with a 1:1 allocation ratio, being an intervention group, having access to 'Feel the ViBe' and usual care (UC), and a control group, having access to minimally enhanced usual care (mEUC) followed by access to the intervention after twelve weeks. Outcomes are measured with questionnaires on PTSD symptoms, mental health and sexual and reproductive health. Routine Outcome Measurement (ROM) will be used to measure a direct effect of participating in the intervention. Data from a web evaluation questionnaire (WEQ), user statistics and qualitative analysis of online data will be used to support the findings. To compare results Cohen's d effect sizes will be used.

DISCUSSION

A RCT and process evaluation will test effectiveness and provide information of how the effects can be explained, how the intervention meets the expectation of participants and which possible barriers and facilitators for implementation exist. A qualitative analysis of the data will add information to interpret the quantitative data. This makes 'Feel the ViBe' unique in its field.

TRIAL REGISTRATION

The Netherlands National Trial Register (NTR), trial ID NTR3692.

KEYWORDS

Family violence; Exposure to violence; Witness violence; Sexual and reproductive health; Children Adolescents Young adults; E-health; RCT; Mental health

BACKGROUND

Violence in families mostly affects women and children. Cross-sectional surveys in General Practice show that the prevalence of family violence (FV) for women between 16–65 years of age is estimated at 30-41% [1-3]. The WHO defines FV as any behaviour within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours. This definition covers violence by both current and former spouses and partners [4]. The Netherlands Youth Institute (NJI) includes in their definition that other family members, including children, are, directly or indirectly, affected by the exposure to the violence and considers it as child abuse [5]. In 2006, in 60% of the cases of FV in Dutch women registered by the police, there were children living at home, and in most cases, they were exposed to the violence against their mothers. This leads to an estimate of 15.340 children in the Netherlands exposed to FV [6]. In 2008, 23% of the contacts with the Dutch Child Abuse Authority (AMK) concerned exposure to FV [7].

FV contributes to significant morbidity, such as depression and anxiety disorders [8]. Children in families where violence occurs are in a very difficult position, often supporting the victim, trying to protect him or her, instead of being protected themselves. Their feelings and comprehension of 'safety' as well as their immediate safety are highly under pressure. Repeated subjection to violence and the interfamilial character increase the chance of developing mental health or behavioural problems. These children are as much at risk for long term negative consequences as children who are abused themselves. The consequences are diverse: mental health problems, such as affective and depressive disorders and suicide attempts, educational problems, such as school drop-out, behavioural problems, substance/drug abuse and risk-taking behaviour. They also have a one-in-three chance of becoming either victim or abuser in their adult life. This is called intergenerational or transgenerational transmission [9-14]. Several theoretical models underlie these findings. Ehrensaft et al. and Carpenter & Stacks both give an extensive overview of these models, including the social learning theory of Bandura [11, 15, 16]. This theory states that children learn new behaviour by observing and imitating significant others, called modelling. If children are exposed to violence, they learn that violence is an acceptable or effective means of resolving conflicts with the partner. Other theories are the betrayal trauma theory [17] and the attachment theory: parenting stress can impact internalizing and externalizing behaviour and lead to increased stress and symptoms of posttraumatic stress disorder (PTSD) [18-20].

FV also influences reproductive and sexual health. A systematic review by Coker [21] addressed FV and sexual health. FV was consistently associated with sexual risk taking, unplanned pregnancy or induced abortion, sexually transmitted disease (STD) and

sexual dysfunction [21]. There is hardly any research studying the consequences of exposure to FV on reproductive and sexual health issues in children and adolescents. The few studies focusing on adolescents exposed to violence at home, found an association with sexual risk behaviour, having sex before age 15, multiple partners, having a STD, unplanned pregnancy, and alcohol/drug use in relation to sexual activities [9, 22-26].

In order to prevent intergenerational transmission, mental health problems and sexual/reproductive risk behaviour in adult life, it is important that early support for children, adolescents and young adults exposed to FV is available. Support, however, is scarce. Most of the preventive interventions in the Netherlands are regional, do not offer specialized care or have a high threshold. Interventions specifically aimed at children and adolescents exposed to FV are mostly group therapy. These interventions all require involvement and/or consent of parent(s), regular mental healthcare and/or need a referral from the GP or Child Protection agency. Knowing that these children often support their mother by trying to protect her, instead of being protected, they are not likely to seek help for themselves unless their mother is already receiving help [27, 28]. Unfortunately, women who face FV are often too afraid to seek help and mothers with children at home are even more vulnerable since they try to protect their children. Trying to maintain the family, they do not leave the abusive partner in many cases. Above that, regular health services frequently fail to deliver appropriate support due to long waiting lists and because they do not meet women's needs [29, 30]. The surroundings, abusers, mothers and GP's are in most cases not aware of the long-term consequences of exposure to FV for children [3]. Therefore, children and adolescents exposed to FV are difficult to reach. Moreover, evidence is lacking on the effects of preventive interventions and the possible role of primary health care [31].

To prevent intergenerational transmission and negative effects on reproductive and mental health, a low-threshold support method is needed for children, adolescents and young adults exposed to FV. Children and adolescents of the current generation often rely on the internet as source of information and to maintain their social contacts. In the Netherlands, 93% of the children age 6–18 use the internet and 78% use social networking sites. Of the adolescents, age 12–18, 96% have a mobile phone. After contacting friends in real life, the internet and their mobile phone are the most important sources for adolescents age 12–18. A good website according to adolescents age 12–18, gives them reliable information, provides social support and is safe [32, 33].

Considering this, it is to be expected that children who are exposed to FV will search for information on the internet. Although general information on sexual and reproductive health and general help, for example the 'Kindertelefoon' ('Children's telephone': support for children by phone and chat), is available online, there is hardly any specific information on what to do. An internet-based self-support method can be a

low-threshold method to give support. E-health is still a commencing method and most interventions available online are based on assumptions and literature instead of including the wishes, needs and demands of the target group. Because of constraints from ethical boards when it concerns minors, most of these interventions are not evaluated well. Peer support and peer education, however, are researched extensively and are nowadays recognized as effective methods to change behaviour [34, 35, 36, 37]. Furthermore, social support has proven to be effective in adults exposed to violence and is associated with good mental and physical health outcomes [38, 39].

In 2011 'Young People, Adult worries' started with the development of a new internet-based self-support method for children, adolescents and young people exposed to FV. Based on opinions from the target group, experts and literature, 'Feel the ViBe (Violence Beaten)' was developed. 'Feel the ViBe' is intended as a freely available, low-threshold stand-alone intervention for children, adolescents and young people who are exposed to FV. The primary goals are to provide (peer)support and information. If 'Feel the ViBe' is successful, this may have large impact on the traditional healthcare, possibly leading to more help offered and less costs.

This study protocol briefly describes the development of the intervention, which took place in 2011, followed by the protocol for the effectiveness study.

- Primary objective:
 To study the effectiveness of the internet-based self-support method 'Feel the ViBe'.
- Secondary objectives

To explore knowledge about sexual and reproductive health in children, adolescents and young adults exposed to FV.

To explore sexual risk-taking behaviour in children, adolescents and young adults exposed to FV.

METHODS/DESIGN

TRIAL DESIGN

This study is a randomized controlled trial using the method of minimization, as described by Taves (1974), to randomize the participants in two parallel groups with a 1:1 allocation ratio, being an intervention group, having access to 'Feel the ViBe' + usual care (UC), and a control group, having access to minimally enhanced usual care (mEUC) [40, 41]. Subcategories for the process of minimization will be sex (male or female) and age (12–17 years old and 18–25 years old). The study is conducted in the Netherlands. This trial is registered in The Netherlands National Trial Register (NTR) and assigned the trial ID NTR3692.

PARTICIPANTS

For reading purposes, we will use 'adolescent' from now on to refer to the target group. The definition of 'adolescent' for this study protocol is: children, adolescents and young adults in the age of 12 to 25 years old. The study population consists of two age groups: 12–17 years old and 18–25 years old. We chose the age of twelve years old based on the common age in the Netherlands to start reproductive and sexual education and activities [42, 43].

INCLUSION CRITERIA

Participants are adolescents in the age of 12–25 years old, exposed to FV at home. Any adolescent encountering FV at home, whether this is direct or indirect, is considered to be exposed to FV.

EXCLUSION CRITERIA

Since the internet-based self-support method is in Dutch, participants who do not speak the Dutch language are excluded. If, during the intervention period, a participant proves to be not a member of the target group, he/she is asked about the reason for his/her participation. The community manager will discuss this reason anonymously with the supervising research team and decides if the participant is permitted to continue or will be excluded from further participation. In either case, his/her data are not being used in the evaluation.

RECRUITMENT AND INFORMED CONSENT

Participants will be recruited both offline and online, by posters and flyers of the website 'Feel the ViBe' spread amongst stakeholders in the field, general websites and social media to reach as many participants as possible. In this target group, internet literacy is assumed.

According to the principles of Dutch law, for participants age 12 to 16 years old, both parents (or guardians) must consent in addition to the minor him/herself. However, in cases of FV, informing the abusive partner can be potentially dangerous, for both the abused parent and the adolescent exposed to the violence, and safety cannot be ensured. Therefore, in these cases we ask informed consent from the abused parent, being the mother in most cases, only.

Participants register themselves by sending an email to the community manager through the contact form online. In this early phase, inquiring participants about the type and severity of the violence would enlarge the threshold for participation. We therefore

choose to consider every potential participant eligible as target group. If participants have read the patient information letter, available on the homepage, and have no further questions, they are eligible to participate and will receive a login name and password. On their first login, participants have to give informed consent electronically. If applicable, participants are requested to provide contact information of their parent(s), who then receive a unique code and a link to give consent as well.

The intervention is internet-based without face-to-face components. This means that participants are quasi-anonymous for each other. Having multiple identities is being prevented by making the registration a manual process, including a IP-address check and e-mail contact, and the informed consent process.

SETTINGS

Participants can access 'Feel the ViBe' from any computer, needing only their login name and password. All outcomes will be self-assessed through online questionnaires.

DEVELOPMENT OF THE INTERVENTION

Before starting the internet-based self-support method, we conducted a literature research, consulted experts in the field and identified existing healthcare services available for adolescents exposed to FV. We then identified three aims for a first version of the internet-based method 'Feel the ViBe (Violence Beaten)':

- 1. To offer peer support.
- 2. To offer information on FV in broad sense, including information on dating violence and sexual and reproductive health.
- 3. To lower the threshold to existing healthcare by supplying information about healthcare services.

We set up criteria for the company building the internet-based self-support method, being:

- 1. Experience in building psychosocial interventions
- 2. Experience in building internet-based methods for adolescents
- 3. Employing a medical ICT specialist
- 4. Being able to comply to the safety and privacy rules for websites processing patient details.
- 5. Having all the necessary facilities, without having to hire consultants.

Two companies fitted these requirements, from which we selected the company that could provide personal support to the researchers daily, being 'Re:publik'.

Based on expert opinions, literature, and in close collaboration with the medical ICT specialist from 'Re:publik' we identified key elements and requirements of the internet-based method, divided in content available for everyone visiting 'Feel the ViBe' and content for participants only. While a basic version of 'Feel the ViBe' was being built, the researchers recruited GP's to identify adolescents exposed to FV who were not in an immediate need for professional care, and asked them to take part in a semi-structured interview about online support, reproductive and sexual health and wishes, needs, and expectations for general healthcare. Themes emerging from these interviews were used to formulate important features and subjects for the website and were added to the basic version of 'Feel the ViBe'.

To improve the intervention further, we asked all participants who took part in the semi-structured interview to visit the website extensively as if they were actively searching for help at that time and comment on the website using a Web Evaluation Questionnaire (WEQ) about the goals, content and lay-out. Their comments were used to make final improvements on 'Feel the ViBe'. This led to the intervention as described below.

INTERVENTION

'Feel the ViBe' is an internet-based intervention without face-to-face elements. 'Feel the ViBe' is based on the theory that self-help, by means of peer-support and information, is an effective way of healthcare for the majority of the target group, while a minority will need further, face-to-face, help. The intervention is available online via http://www.feel-the-vibe.nl and consists of several elements, being amongst others a forum, a chat function, information, and a 'ask the expert' function (Table 1). More information can be obtained by contacting the corresponding author. During the RCT the intervention will be 'frozen': no changes will be made to the intervention, except for changes due to unexpected events, such as bug fixes. These and other unexpected events, such as system downtimes, will be registered.

'Feel the ViBe' is to be used ad libitum. However, to stimulate participation, participants receive a fact or figure by email or text message every day (Table 1). Elements, such as the guided chat and 'facts and figures', are repeated every twelve weeks. Strictly spoken there is no hard endpoint to the intervention, because 'Feel the ViBe' is meant to support participants as long as they need this. However, we decided to link measurements to this twelve-week period (Figure 1). Some items are obligatory to fill out to gain access to other features, such as the questionnaires. Restrictions are given in Table 1. 'Feel the ViBe' is monitored by a community manager who answers questions, guides the chat, moderates the forum and addresses possible safety issues with

participants. To prevent bias, the Community Manager uses a protocol. Every action from the community manager not covered by the protocol will be registered, discussed with the supervising research team, and, if necessary, added to the protocol.

The intervention group will receive immediate access to 'Feel the ViBe' after registration. Considering ethical concerns of withholding an intervention with a possible positive effect on physical and mental health, the control group will be a waiting list condition receiving minimally Enhanced Usual Care (mEUC) for twelve weeks before getting access to the intervention. mEUC is in general defined as non-study care enhanced in minor ways to address methodological or ethical issues. For this RCT mEUC is defined as Usual Care and access to a restricted version of 'Feel the ViBe' offering only access to the user profile, consent forms, digital testament, research information, questionnaires and the 'ask the expert' function to ask questions in case of emergency.

Questions asked by members of the control group will not be answered by the Community Manager, but by one of the members of the Research Team who is not actively involved in the intervention, being author SLFW. If help is needed immediately, the participant will be referred to his/her GP (Figure 1).

OUTCOMES

The intervention aims to offer peer support, information about FV and sexual and reproductive health, including relational health, and mental support, in order to reduce PTSD symptoms and improve symptoms of depression and anxiety. Therefore, we chose the outcomes measures as follows:

PRIMARY OUTCOME MEASURE

- The Impact of Event Scale (IES) will be used to measure PTSD symptoms. The IES is a short set of 15 questions measuring the impact of events and the amount of distress associated with events. It comprises the subscales Intrusion (8 items, mean α = .86) and Avoidance (7 items, mean α = .82). The IES is measured at t = 0, T = 1, T = 2, T = 3 and T = 4 for both groups [44, 45, 46].
- The Depression and Anxiety subscales of the Symptom CheckList-90-R (SCL-90-R DEP and ANX) will be used to measure an improvement in symptoms of depression and anxiety. The SCL-90-R DEP and ANX subscales measure symptoms of depression and anxiety during the previous week on a five-point Likert scale. Both subscales showed good convergent and divergent validity, and high internal consistencies. The SCL-90-R is validated for participants of twelve years old and older. The depression subscale comprises 16 items (α = .88). The

SCL-90-R DEP and ANX subscales are measured at T = 0, T = 1, T = 2, T = 3 and T = 4 for both groups [47].

SECONDARY OUTCOME MEASURES

- Routine Outcome Measurement (ROM) will be used to follow participants from session to session. On every login, participants will see a pop-up asking them how they would grade their mood at that precise moment on a visual analogue scale using smiley's. After logging out they will receive a pop-up asking the same question. The scores and differences in scores before and after the session are analysed to find any direct effects of visiting the website [48].
- An adapted version of the 'Seks onder je 25e' (Sex-under-25) questionnaire will be used to measure an increase in knowledge on sexual and reproductive health, including relational health and a decrease of sexual risk-taking behaviour. This validated questionnaire is used in a survey in the Netherlands every few years amongst adolescents twelve to twenty-five. In 2011 the questionnaire was filled out online by a representative sample of 10.000 youngsters. It discusses sexual, reproductive and relational health in a broad way handling for example topics as sexual education, 'the first time', negative experiences, and contraception. Using this questionnaire will enable us to compare health status of the target group with a population sample. The 'Seks onder je 25e' (Sex-under-25) questionnaire is measured at T = 0, T = 2 and T = 4 for both groups [49].

PROCESS EVALUATION

- The web evaluation questionnaire (WEQ) will contain questions about content, layout, the perceived effectiveness and usefulness of the website, as well as the question to give the website a motivated overall score from 0 to 10, based on their experiences and taking into account their own wishes and needs. The evaluation questionnaire has as goal to identify issues for further improvement of 'Feel the ViBe', to collect possible facilitators and barriers for implementation and to evaluate if the website meets the expectations of the target group. The WEQ is measured twelve weeks after getting access to Feel the ViBe, being T = 2 for the intervention group and T = 4 for the control group.
- 'Use' is measured by the collection of quantitative data being amongst others and duration, visited pages, and visitor numbers - and qualitative data - being forum and chat entries and questions asked to the experts – and is monitored on a continuous base [50, 51].

- Demographic variables and data on other (health) care and support received will be collected. At t = 0, participants will also be asked to their expectations, needs and wishes for 'Feel the ViBe'.
- After participants have finished all components of the intervention, including all
 questionnaires, they will be asked if they consent to take part in an interview to
 discuss in depth their experiences with the intervention.

All questionnaires are provided online and are mandatory to get access to other features. The IES, the SCL-90 and the 'Sex-under-25' questionnaire have been administered online before in other studies. Both the general questionnaire and the WEQ have been developed for this trial. Comments and suggestions of test users were incorporated. All the questionnaires have been tested for usability and technical functionality. All responses are being captured automatically.

The primary outcome measures, being the IES and the SCL-90R subscales will be administered four times. This will give us the possibility to determine the optimal duration of the intervention. Participants receive a reminder in their personal menu and via a text message (Figure 1).

SAMPLE SIZE

For the calculation of de sample size of the RCT, we searched for studies investigating internet-based methods with the Impact of Event Scale (IES) as a primary outcome measurement [52, 53, 54, 55]. We set the confidence interval to 95% and the power to 80%. We calculated the minimal sample sizes using the Cohen's d effect sizes found in these studies. In general, an effect of 0.5 is considered to be a large effect. In the four selected studies, the effect size ranged from 0.7 (leading to 26 participants needed) to 2.0 (4 participants needed), with a mean of 11 and a median of 9 participants needed for each group. Considering the relatively high effect sizes found in these studies and because both the subject of the study and the age of the participants can lead to high drop-out, as seen before in a group of sexually abused adolescents, we aim to include 50 participants for each group at t = 0 [53].

RANDOMIZATION

Randomized trials with children and adolescents are controversial. The subject of our study enhances this even more. However, to measure the effectiveness of an intervention, a randomized controlled trial is preferred above pre- post-test designs. Participants registering themselves online will be randomized to the intervention or the control group using the method of Minimization, as described by Taves (1974) [40, 41].

Subcategories will be sex (male or female) and age (12–17 years old and 18–25 years old). This method minimizes the difference between the intervention and the control group. The allocation is carried out with help of a computer program by a research assistant.

Due to the nature of the study, participants cannot be blinded. Because of the nature of the overall study, containing both quantitative and qualitative parts, blinding of the investigators is difficult because the researchers need to know the group of the participant to be able to perform qualitative analysis and to follow each participant individually for the process evaluation. However, questionnaires will be collected automatically during the trial in a SPSS file and delivered anonymized to the researchers.

DATA ANALYSIS

Data will be collected for the duration of one year. First, descriptive statistics of the characteristics of the intervention and the control group will be compared to check whether randomization resulted in similar groups. The effectiveness of the intervention will be tested with ANOVA of the primary outcome measures. This gives us the opportunity to compare not only the intervention with mEUC (between groups effects), but also to do pre-post-test analysis for all participants (within subjects effects). Data will be analysed in SPSS. Effect sizes will be expressed in Cohen's d to make data comparable with earlier studies. Data will be analysed both together and separately for the group 12–17 years old and 18–25 years old.

In eHealth trials attrition is typically high and not all participants will use the intervention as intended. A participant will be excluded from analysis if he/she visited the intervention less than five times. His/her entry data (t = 0) will be used to describe baseline characteristics [56].

To interpret the findings, usage data, the WEQ, and the interviews held with the participants after finishing their participation will be analysed alongside. Qualitative data will be analysed with qualitative coding [57]. Interview data will be recorded and transcribed. Two researchers will study all transcripts independently, identify themes and establish the definite codes. Consensus will be reached in mutual discussion.

Subsequently these outcomes will be formulated and interpreted in the supervising research group for final results. Quotes will be used to underline the results.

ETHICAL AND SAFETY ISSUES

The Committee on Research Involving Human Subjects of the Radboud University Medical Centre (Dutch initials: CMO) has assessed this study and judged that the study does not fall within the remit of the Medical Research Involving Human Subjects Act (WMO).

Therefore, the study can be carried out (in the Netherlands) without approval by an accredited research ethics committee (2011/053. NL nr 35813.091.11. March 16th, 2012).

After signing up, all participants receive a username and password to create security and to follow them for analysing properties. Each participant will receive a number. We hereby secure the anonymity of adolescents. To enhance the safety even more, the website is based on a secured server, which meets the safety criteria for eHealth applications containing medical information. Acquired data will be handled according to the digital testament of the participant. Quantitative data will be collected during the trial on a secured server. The community manager moderates the interactive parts of the website and, if applicable, asks participants to remove personal information.

Participants can email or call the community manager, even if they have not completed the obligated parts. Emails are answered within 72 hours. If there are concerns, for the safety of a participant or his/her close family, the participant will be addressed by the community manager to discuss this further. All participants are asked to give contact details of an adult they trust. In case of severe danger, the community manager can contact this person with consent of the participant, or, if a participant is below 16, also without consent. The participant is free to decide whether he/she continues with 'Feel the ViBe'.

DISCUSSION

This study protocol describes the process of developing and evaluating an internet-based self-support method 'Feel the ViBe' for children, adolescents and young adults exposed to FV.

E-health research is still relatively new and has some limitations due to its online nature: attrition is usually high which makes sample size calculations difficult. Data must be handled differently than offline data, because safety and privacy issues are a concern, especially in our target group. While making this protocol, the authors followed the CONSORT-EHEALTH checklist version 1.6.1 and The Checklist for Reporting Results of Internet E-surveys (CHERRIES) [58-61].

Publishing a research protocol before starting a RCT is essential. It not only prevents publication of positive-only results, by changing the protocol or outcomemeasures, it also enables researchers to discuss their intervention and methods more indepth. There are some limitations to this study: developing an online intervention for a vulnerable group of adolescents means it is hard to reach a representative sample. For this RCT, participants will register themselves, which means only participants actively searching for help and having access to the internet will be included. However, in the Netherlands, 93% of children above twelve years old have access to the internet and the

researchers try to further minimize this bias by advertising the intervention in a broad way, both online and offline [32, 33]. To keep attrition to a minimum, researchers send reminders for questionnaires and daily 'facts and figures' to the participants. A process evaluation is being held to investigate, amongst others, recruitment and attrition. Lastly, the community manager monitors the intervention to motivate participants to be actively involved. To minimize possible bias, all actions of the external community manager will be registered and discussed with the supervising research team. Results of the questionnaires will be collected during the trial and delivered to the researchers at the end of the trial. In this way, the community manager cannot be influenced by questionnaire results.

'Feel the ViBe' is not the first intervention for this target group. However, 'Feel the ViBe' is an online-only intervention, it offers help to older children, adolescents and young adults and is self-supporting. The intervention 'Feel the ViBe' is developed in close collaboration with the target group. A RCT and a process evaluation will follow to test effectiveness and help us understand how the effects of the intervention can be explained, how the interventions meet the expectation of the participants and what possible barriers and facilitators for implementation are. Qualitative analysis will complete quantitative data. This makes 'Feel the ViBe' unique in its field.

ACKNOWLEDGEMENTS

The project is funded by Fonds Slachtofferhulp (Victim Support Fund, the Netherlands).

TABLES AND FIGURES

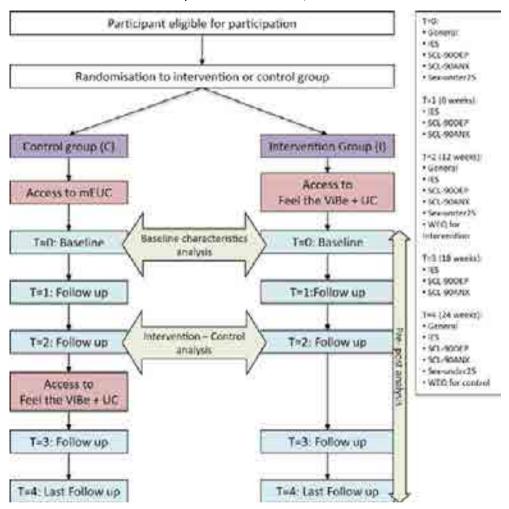
Table 1 'Feel the ViBe' elements and restrictions

Element	Extra information	Restrictions
General information on exposure to family violence	Information by age (under-twelve, 12-17, 18-25 and parents) and by subject.	No restrictions
Research information & disclaimer	Information for participants and parents about research, safety and privacy.	No restrictions
Information on sponsoring	Homepage, bottom left.	No restrictions
Contact page	Option to register or ask questions to the community manager or researchers.	No restrictions
News page	Twitter newsfeed included. The news page states important information for participants such as major bug fixes, changes in content and scheduled maintenance.	No restrictions
Emergency exit	A button on every page directing participants to www.google.nl, without option to go back in the browser.	No restrictions
Electronic consent for participants	Consent is necessary to get access to other elements behind login	Available after first login. Element will be removed after trial.
Electronic consent for parents	Consent is necessary for participants under 16 years old to get access to other elements behind login	Accessible by e-mail link with a code. Element will be removed after trial.
Questionnaires	Measure outcomes and need to be filled out before accessing the elements behind login. Questionnaires will be activated in the personal menu. Questionnaires can be filled out one-byone. Whenever possible, adaptive questioning is being used to make the burden as low as possible. There is a maximum of 15 questions per page. All items need to be filled out to submit a questionnaire. Participants cannot review their answers.	Available after first login, re-activated after 6,12, 18 and 24 weeks. Element will no longer be obligated after trial.
Personal menu	Menu for the participants with overview to all the available elements, access to the participants profile, digital testament, research information and contact information.	Login needed
User profile	The profile contains information of the participant, being: full name, nickname, avatar, sex, age, contact details and contact	Login needed

	person. Only the nickname is available for other participants. The participant can choose a theme for the lay-out.	
Digital testament	The digital testament is required to fill out and lets participants choose how their data must be handled if they stop their participation.	Login needed
Ask the expert	Option to ask questions by e-mail to several experts, including a general practitioner, a sexologist, a psychologist and an expert in the field of FV. Participants can also contact the community manager for general questions and questions regarding regular healthcare services. Response is given within 72 hours. During the RCT, this is the only available element for participants in the control group.	Login needed & questionnaires finished
Forum	The forum is meant to stimulate peer support. The community manager moderates the forum and stimulates contact. She will not intervene in the conversations except in case of offensive or factually wrong comments.	Login needed & questionnaires finished
Chat	Every two weeks we will offer a chat session for the participants with a specific theme and supported by an expert. Every other week there will be an unguided chat.	Login needed & questionnaires finished
Information	Information will be offered to the participants. Depending on the age in the profile, participants have access to tailored information about partner violence, sexual health, reproductive health, relations and healthcare. Participants are encouraged to discuss topics on the forum.	Login needed & questionnaires finished
Routine Outcome Measurement (ROM)	Directly after login and after logout a popup appears to the participant requesting to state their mood by means of smiley's. The smiley is optionally visible in the profile as avatar.	Login needed
Facts & Figures	In a twelve-week cycle, participants receive a one-sentence fact or figure about FV, sexual health, or reproductive health every day on their mobile or by e-mail.	Questionnaires finished

Figure 1 Flowchart randomization procedure, received care and data collection

Abbreviations: mEUC = minimally enhanced usual care, UC = usual care.

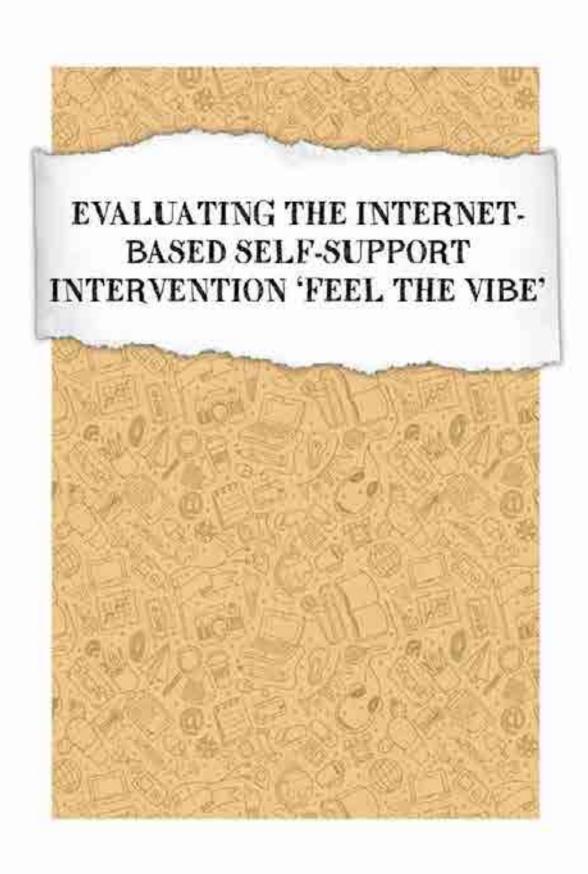


REFERENCES

- Bradley F, Smith M, Long J, O'Dowd T: Reported frequency of domestic violence: cross sectional survey of women attending general practice. BMJ. 2002, 324: 271
- Hegarty KL, Bush R: Prevalence and associations of partner abuse in women attending general practice: A cross-sectional survey. Aust N Z J Public Health. 2002, 26: 437-442. 10.1111/j.1467-842X.2002.tb00344.x.
- Prosman G-J, Jansen SJC, Lo Fo Wong SH, Lagro-Janssen ALM: Prevalence of intimate partner violence among migrant and native women attending general practice and the association between intimate partner violence and depression. Fam Pract. 2011, 28 (3): 267-271. 10.1093/fampra/cmg117.
- 4. World Health Organization: Preventing intimate partner and sexual violence against women: taking action and generating evidence. 2010, Geneva: World Health Organization
- 5. Partnergeweld [partner violence]. [http://www.nji.nl/eCache/DEF/1/16/674.html]
- 6. Ferwerda H: Met de deur in huis: omvang, aard, achtergrondkenmerken en aanpak van huiselijk geweld in 2006 op basis van landelijke politiecijfers [Magnitude, nature, characteristics and approach to domestic violence in 2006 based on nationwide policedata]. 2007, Arnhem/Dordrecht: Landelijk project huiselijk geweld en de politietaak 2006
- Movisie: Factsheet Huiselijk geweld: feiten en cijfers [Factsheet domestic violence: facts and figures].
 2009. Utrecht: Movisie
- Campbell JC: Health consequences of intimate partner violence. Lancet. 2002, 359: 1331-1336.
 10.1016/S0140-6736(02)08336-8.
- Bair-Merritt MH, Blackstone M, Feudtner C: Physical Health Outcomes of Childhood Exposure to Intimate Partner Violence: A Systematic Review. Pediatrics. 2006, 117: e278-e290. 10.1542/peds.2005-1473.
- Edleson JL: Children's witnessing of adult domestic violence. J Interpers Violence. 1999, 14: 839-870.
 10.1177/088626099014008004.
- 11. Ehrensaft MK, Cohen P, Brown J, Smailes E, Chen H, Johnson JG: Intergenerational transmission of partner violence: A 20-year prospective study. J Consult Clin Psychol. 2003, 71: 741-753.
- Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS: Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. Am J Prev Med. 1998, 14: 245-258. 10.1016/S0749-3797(98)00017-8.
- 13. Kitzmann KM, Gaylord NK, Holt AR, Kenny ED: Child witnesses to domestic violence: A meta-analytic review. J Consult Clin Psychol. 2003, 71: 339-352.
- 14. Widom CS, Czaja SJ, Dutton MA: Childhood victimization and lifetime revictimization. Child Abuse Negl. 2008, 32: 785-796. 10.1016/j.chiabu.2007.12.006.
- 15. Bandura A: Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall
- Carpenter GL, Stacks AM: Developmental effects of exposure to Intimate Partner Violence in early childhood: A review of the literature. Child Youth Serv Rev. 2009, 31: 831-839. 10.1016/j.childyouth.2009.03.005.
- 17. Freyd J: Betrayal trauma. Encyclopedia of Psychological Trauma. Edited by: Reyes G, Elhai J, Ford J. 2008, New York: John Wiley & Sons, 76.
- 18. Dijkstra S, Baeten P: Carved out in memory: Children as witnesses of violence between their parents. Tijdschr Psychother. 2003, 29: 138-148. 10.1007/BF03062019.
- 19. Vercoulen J, Prins J: Leren en gedrag [Learning and behaviour]. Medische psychologie. Edited by: Kaptein A. 2010, Houten: Bohn Stafleu van Loghum, 41-48.
- 20. Bowlby J: Maternal care and mental health. Bull World Health Organ. 1951, 3: 355-534.
- 21. Coker AL: Does physical intimate partner violence affect sexual health?: A systematic review. Trauma Violence Abuse. 2007, 8: 149-177. 10.1177/1524838007301162.
- 22. Berenson AB, Wiemann CM, McCombs S: Exposure to Violence and Associated Health-Risk Behaviors Among Adolescent Girls. Arch Pediatr Adolesc Med. 2001, 155: 1238-1242.

- Edleson JL, Ellerton AL, Seagren EA, Kirchberg SL, Schmidt SO, Ambrose AT: Assessing child exposure to adult domestic violence. Child Youth Serv Rev. 2007, 29: 961-971. 10.1016/j.childyouth.2006.12.009.
- Hillis SD, Anda RF, Dube SR, Felitti VJ, Marchbanks PA, Marks JS: The Association Between Adverse Childhood Experiences and Adolescent Pregnancy, Long-Term Psychosocial Consequences, and Fetal Death. Pediatrics. 2004, 113: 320-327. 10.1542/peds.113.2.320.
- 25. Hillis SD, Anda RF, Felitti VJ, Marchbanks PA: Adverse Childhood Experiences and Sexual Risk Behaviors in Women: A Retrospective Cohort Study. Fam Plann Perspect. 2001, 33: 206-211. 10.2307/2673783.
- Hillis SD, Anda RF, Felitti VJ, Nordenberg D, Marchbanks PA: Adverse Childhood Experiences and Sexually Transmitted Diseases in Men and Women: A Retrospective Study. Pediatrics. 2000, 106: e11-10.1542/peds.106.1.e11.
- Fitzgerald MM, Schneider RA, Salstrom S, Zinzow HM, Jackson J, Fossel RV: Child Sexual Abuse, Early Family Risk, and Childhood Parentification: Pathways to Current Psychosocial Adjustment. J Fam Psychol. 2008, 22: 320-324.
- 28. Kelley ML, French A, Bountress K, Keefe HA, Schroeder V, Steer K, Fals-Stewart W, Gumienny L: Parentification and family responsibility in the family of origin of adult children of alcoholics. Addict Behav. 2007, 32: 675-685. 10.1016/j.addbeh.2006.06.010.
- Wester W, Wong SLF, Lagro-Janssen ALM: What Do Abused Women Expect from Their Family Physicians?
 A Qualitative Study Among Women in Shelter Homes. Women Health. 2007, 45: 105-119.
 10.1300/J013v45n01 07.
- 30. Lo Fo Wong S, Wester F, Mol S, Römkens R, Hezemans D, Lagro-Janssen T: Talking matters: Abused women's views on disclosure of partner abuse to the family doctor and its role in handling the abuse situation. Patient Educ Couns. 2008, 70: 386-394. 10.1016/j.pec.2007.11.013.
- Loeffen M, Lo Fo Wong S, Wester F, Laurant M, Lagro-Janssen A: Implementing mentor mothers in family practice to support abused mothers: Study protocol. BMC Fam Pract. 2011, 12: 113-10.1186/1471-2296-12-113.
- 32. Kernnetwerk Jeugd: Jongeren en media in 't kort [Youth and Media in short]. 2011, Den Haag (The Hague): Tympaan instituut
- 33. Pons K, Waling L, Kroon R: Technische innovaties: kansen voor de jeugdsector [Technical innovations: chances for the youth sector]. 2011, Den Haag: Alares
- Eysenbach G, Powell J, Englesakis M, Rizo C, Stern A: Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions. BMJ. 2004, 328: 1166-10.1136/bmj.328.7449.1166.
- 35. Melling B, Houguet-Pincham T: Online Peer Support for Individuals with Depression: A Summary of Current Research and Future Considerations. Psychiatr Rehabil J. 2011, 34: 252-254.
- 36. Milburn K: A critical review of peer education with young people with special reference to sexual health. Health Educ Res. 1995, 10: 407-420. 10.1093/her/10.4.407.
- 37. Schwartz CE, Sendor RM: Helping others helps oneself: response shift effects in peer support. Soc Sci Med. 1999, 48: 1563-1575. 10.1016/S0277-9536(99)00049-0.
- Coker A, Smith P, Thompson M, McKeown R, Bethea L, Davis K: Social Support Protects against the Negative Effects of Partner Violence on Mental Health. J Womens Health Gend Based Med. 2002, 11: 465-476. 10.1089/15246090260137644.
- 39. Glass TA: Psychosocial interventions. Social Epidemiology. Edited by: Berkman LF, Kawachi I. 2000, New York: Oxford University Press, 267-305.
- 40. Scott NW, McPherson GC, Ramsay CR, Campbell MK: The method of minimization for allocation to clinical trials: a review. Control Clin Trials. 2002, 23: 662-674. 10.1016/S0197-2456(02)00242-8.
- 41. Taves DR: Minimization: a new method of assigning patients to treatment and control groups. Clin Pharmacol Ther. 1974, 15: 443-453.

- 42. Kocken P, Weber S, Bekkema N, van Dorst A, van Kesteren N, Wiefferink K: TNO Kwaliteit van leven: een inventarisatie van seksuele gezondheidsbevorderingsinterventies voor de jeugd van 10 tot 21 jaar [TNO quality of life: an inventarisation of interventions for the promotion of sexual health for youth age 10–21 years old]. 2007, Leiden: TNO
- 43. Schaalma HP, Kok G, Bosker RJ, Parcel GS, Peters L, Poelman J, Reinders J: Planned development and evaluation of AIDS/STD education for secondary school students in The Netherlands: short-term effects. Health Educ Q. 1996, 23: 469-487. 10.1177/109019819602300407.
- Brom D, Kleber RJ: De schokverwerkingslijst [The Dutch version of the Impact of Event Scale]. Ned T Psychologie en haar Grensgebieden. 1985, 40 (3): 164-168.
- 45. Horowitz M, Wilner N, Alvarez W: Impact of Event Scale: a measure of subjective stress. Psychosom Med. 1979, 41: 209-218.
- 46. Sundin EC, Horowitz MJ: Impact of Event Scale: psychometric properties. Br J Psychiatry. 2002, 180: 205-209. 10.1192/bjp.180.3.205.
- 47. Arrindell WA, Ettema JM: Symptom checklist SCL-90: handleiding bij een multidimensionele psychopathologie-indicator. 2003, Lisse; Amsterdam: Swets Test Publishers; Harcourt Test Publishers
- 48. Duncan BL, Miller SD, Sparks JA: The heroic client: a revolutionary way to improve effectiveness through client-directed, outcome-informed therapy. 2004, San Francisco, Calif: Jossey Bass Wiley
- 49. Seks onder je 25e [Sex-under-25]. [http://www.seksonderje25e.nl]
- 50. Chiu T, Eysenbach G: Stages of use: consideration, initiation, utilization, and outcomes of an internet-mediated intervention. BMC Med Inform Decis Mak. 2010, 10: 73-10.1186/1472-6947-10-73.
- Crutzen R, de Nooijer J, Brouwer W, Oenema A, Brug J, de Vries NK: Strategies to Facilitate Exposure to Internet-Delivered Health Behavior Change Interventions Aimed at Adolescents or Young Adults: A Systematic Review. Health Educ Behav. 2011, 38: 49-62. 10.1177/1090198110372878.
- 52. Lange A, Rietdijk D, Hudcovicova M, Van de Ven JP, Schrieken B, Emmelkamp PMG: Interapy: A controlled randomized trial of the standardized treatment of posttraumatic stress through the internet. J Consult Clin Psychol. 2003, 71: 901-909.
- Lange A, Ruwaard J: Ethical dilemmas in online research and treatment of sexually abused adolescents. J Med Internet Res. 2010, 12: e58-10.2196/jmir.1455.
- 54. Lange A, van de Ven J-P, Schrieken B, Emmelkamp PMG: Interapy. Treatment of posttraumatic stress through the Internet: a controlled trial. J Behav Ther Exp Psychiatry. 2001, 32: 73-90. 10.1016/S0005-7916(01)00023-4.
- 55. Wagner B, Knaevelsrud C, Maercker A: Internet-Based Cognitive-Behavioral Therapy for Complicated Grief: A Randomized Controlled Trial. Death Stud. 2006, 30: 429-453. 10.1080/07481180600614385.
- 56. Eysenbach G: The Law of Attrition. J Med Internet Res. 2005, 7: e11-10.2196/jmir.7.1.e11.
- 57. Silverman D: Doing qualitative research: a practical handbook. 2010, Los Angeles; London: SAGE
- 58. Proudfoot J, Klein B, Barak A, Carlbring P, Cuijpers P, Lange A, Ritterband L, Andersson G: Establishing Guidelines for Executing and Reporting Internet Intervention Research. Cogn Behav Ther. 2011, 40: 82-97. 10.1080/16506073.2011.573807.
- 59. Eysenbach G, Group C-E: CONSORT-EHEALTH: Improving and Standardizing Evaluation Reports of Webbased and Mobile Health Interventions. J Med Internet Res. 2011, 13: e126-10.2196/jmir.1923.
- 61. Eysenbach G: Improving the Quality of Web Surveys: The Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Internet Res. 2004, 6: e34-10.2196/jmir.6.3.e34.





Young People, Adult Worries:

RCT and Feasibility Study of the Internet-Based Self-Support Method 'Feel the ViBe' for Adolescents and Young Adults Exposed to Family Violence.



KARIN AWL VAN ROSMALEN-NOOIJENS
SYLVIE H LO FO WONG
JUDITH B PRINS
ANTOINE LM LAGRO-JANSSEN

J MED INTERNET RES 2017;19(6):E204. DOI: 10.2196/JMIR.6004

ABSTRACT

BACKGROUND

Adolescents and young adults (AYAs) are of special interest in a group of children exposed to family violence (FV). Past-year prevalence of exposure to FV is known to be highest in AYAs and has severe consequences. Peer support is an effective approach to behaviour change and the Internet is considered suitable as a mode of delivery.

OBJECTIVE

The study aimed to evaluate both effectiveness and feasibility of a randomized controlled trial (RCT) and feasibility study of the Internet-based self-support method 'Feel the ViBe' (FtV) using mixed-methods approach to fully understand the strengths and weaknesses of a new intervention.

METHODS

AYAs aged 12-25 years and exposed to FV were randomized in an intervention group (access to FtV + usual care) and a control group (minimally enhanced usual care) after they self-registered themselves. From June 2012 to July 2014, participants completed the Impact of Event Scale (IES) and Depression (DEP) and Anxiety (ANX) subscales of the Symptom CheckList-90-R (SCL-90) every 6 weeks. The Web Evaluation Questionnaire was completed after 12 weeks. Quantitative usage data were collected using Google analytics and content management system (CMS) logs and data files. A univariate analysis of variance (UNIANOVA) and mixed model analysis (intention-to-treat [ITT], complete case) were used to compare groups. Pre-post t tests were used to find within-group effects. Feasibility measures structurally address the findings. The CONsolidated Standards Of Reporting Trials of Electronic and Mobile HEalth Applications and onLine TeleHealth (CONSORT-EHEALTH) checklist was closely followed.

RESULTS

In total, 31 out of 46 participants in the intervention group and 26 out of 47 participants in the control group started FtV. Seventeen participants (intervention: n=8, control: n=9) completed all questionnaires. Mixed model analysis showed significant differences between groups on the SCL-90 DEP (P=.04) and ANX (P=.049) subscales between 6 and 12 weeks after participation started. UNIANOVA showed no significant differences. Pre-post paired sample t tests showed significant improvements after 12 weeks for the SCL-90 DEP (P=.03) and ANX (P=.046) subscales. Reported mean Web-based time per week was 2.83

with a session time of 36 min. FtV was rated a mean 7.47 (1-10 Likert scale) with a helpfulness score of 3.16 (1-5 Likert scale). All participants felt safe. Two-thirds of the intervention participants started regular health care.

CONCLUSIONS

No changes on the IES were found. SCL-90 DEP and ANX showed promising results; however, the calculated sample size was not reached (n=18). FtV functions best as a first step for adolescents and young adults in an early stage of change. FtV can be easily implemented without extensive resources and fits best in the field of public health care or national governmental care.

TRIAL REGISTRATION

Netherlands National Trial Register (NTR): NTR3692; http://www.trialregister.nl/trialreg/admin/ rctview.asp?TC=3692 (Archived by WebCite at http://www.webcitation.org/6qleKyjA4)

KEYWORDS

domestic violence; child abuse; exposure to violence; adolescent; young adult; telemedicine; peer group; peer influence; Internet; feasibility studies; randomized controlled trial; delivery of health care

INTRODUCTION

Family violence (FV) mostly affects women and children—about 30% of all women in a relationship reported to have experienced some form of violence in their relationship [1,2]; and in approximately 60% of the cases, children are living in these violent households [3,4]. Nowadays, it is widely acknowledged that children in violent homes are almost always exposed to this violence. The most common form of exposure to FV is exposure to intimate partner violence, including assaults by parents on siblings or among siblings. There are many possible forms of exposure that vary from direct exposure (seeing or hearing the violence) to indirect exposure (having to deal with the consequences of the violence in daily life) [5]. Recent studies show that 8-12% of all children were exposed to some form of FV in the preceding year [4,6,7]. In the last two decades, numerous studies were published on the effects of exposure to FV on children. Exposure to violence is associated with emotional, behavioural, and adjustment problems as internalizing and externalizing behaviour, educational dropout, and mental health disorders such as post-traumatic stress disorder (PTSD), affective and depressive disorders, and suicidal attempts. It is associated with adolescent dating violence, high-risk sexual behaviour, teenage pregnancy, and intergenerational transmission—becoming a victim or perpetrator of FV in adult life [8-20]. These consequences closely resemble those of direct victims of physical abuse. In the Netherlands, exposure to FV is therefore considered a form of child abuse [21].

Adolescents and young adults (AYAs) are a group of special interest in a group of children exposed to FV. Hamby (2011) showed that the past-year prevalence of any exposure to FV was highest in 14-17-year olds (13.8%) [6]. Adolescence is an important and life-altering period in human life with tremendous physical and psychological changes [22,23]. In this period, peers are highly important and are considered, more than family, significant others when facing problems.

The transtheoretical stages-of-change model by Prochaska and DiClemente [24] describes the process of intentional behaviour change and can be used to describe the situation of AYAs exposed to FV. We hypothesize that AYAs exposed to FV to be in a Precontemplation phase. In this phase, they are not yet ready to take action to change their situation. AYAs in a Precontemplation phase may be unaware of the abnormality of their living situation and therefore unable to change it. In this phase, education focusing on what is and what is not normal in families could help move AYAs from Precontemplation to a Contemplation phase. This could make AYAs aware of the abnormality of their home situation and thus help them move from Precontemplation to Contemplation.

In the Contemplation phase, AYAs exposed to FV are aware of the abnormality of this violence but are not committed to change this: they might be hesitant to share experiences with peers or significant others out of shame or fear that their home situation may harm their status (peer pressure) [25,26]. Besides, knowing that AYAs often support their mother by trying to protect her instead of being protected, they are not likely to seek help for themselves [27-29]. To induce change to a Preparation phase, in which someone is ready to initiate change, it is needed to educate a person in a general and nonprovocative manner. Therefore, it is important to identify and reach AYAs exposed to FV as soon as possible.

Several reviews have addressed adolescent help-seeking behaviour for mental health problems, including being a victim of violence. Barriers include attitude toward health care; confidentiality and trust issues; fear or stress about help-seeking; and lack of knowledge, accessibility, or recognition by others [30-32]. Having detected them, it is challenging to provide health care that is appropriate to both the age group and their specific problems [32-34]. Traditional programs are often not ready for participants in a Precontemplation phase—directed at immediate change, they are not suitable for participants who are still weighing the pros and cons of changing their situation. Besides, most interventions need parent involvement, are regional, or do not offer specialized care.

In need of alternative ways to provide low threshold care to AYAs exposed to FV, the Internet could be an effective way to deliver care. In 2013, 100% of the adolescents between 12-25 years old in the Netherlands had access to the Internet [35]. The Internet is used by AYAs to retrieve health information and to self-disclose problems to peers on the Web, rather than asking for help elsewhere [36-38]. eHealth is a rapidly developing and upcoming mode of therapy. Internet-based intervention have been shown to be cost-effective in different health problems [39-43], including mental health in an adolescent population [44-46]. Provision of information, sharing experiences, and peer modelling are known to increase self-management [47-49] and peer- and social support are effective methods to change behaviour, both offline and on the Web [49-55]. Furthermore, social support has proven to be effective in adults exposed to violence and is associated with good mental and physical health outcomes [56-58].

It is likely that AYAs exposed to FV will search for information on the Internet too. Therefore, an Internet-based self-help intervention targeted at this group could be a way to reduce barriers to help-seeking and help AYAs exposed to FV to become ready for change. To the best of our knowledge, there are no eHealth interventions for AYAs exposed to FV. Therefore in 2011, 'Feel the ViBe (Violence Beaten)' was developed as an alternative way to reach and support AYAs exposed to FV.

This study first describes a randomized controlled trial (RCT) and then, a feasibility study performed with the following research question: "Is 'Feel the ViBe' an effective and feasible way of reaching and delivering support to adolescents and young adults exposed to family violence?"

METHODS

INTERVENTION

'Feel the ViBe' (FtV) is a freely-available, Internet-based self-support method for AYAs exposed to FV (self-assessed) [59,60] with three main goals: (1) providing information, (2) offering (peer) support, and (3) lowering the threshold to regular health care services by supporting participants to move to a higher level of change and to find health care fitting their needs. The intervention comprises a variety of elements, being among others a forum, a chat function, informational pages, and an "ask the expert" function (Table 1). A community manager (CM) moderates the intervention, answers questions, assesses safety, and supports participants when needed, both on demand when asked for, and actively when they judge a participant could use support or additional information. The CM is a semi-professional with a background in health care and additional training on FV.

eHealth interventions often suffer from the law of attrition: the phenomenon of participants stopping usage or being lost to follow-up [61,62]. To facilitate exposure, we used expert literature and interviews with AYAs exposed to FV to compose the intervention and information on the Web, performed a search-engine optimization (SEO), and included general information about FV on the website of FtV to facilitate exposure for first-time visitors.

Participants could access FtV from any computer; they needed only their login name and password. FtV is to be used ad libitum without endpoint to the intervention; however, to facilitate exposure for returning visitors we included structured events and reminders [63-65]. FtV is described in detail in the study protocol of FtV [60]. The CONSORT-EHEALTH checklist was closely followed [66].

PARTICIPANTS

Participants included were AYAs aged 12-25 years, exposed to FV as defined previously, and who registered themselves at the homepage of FtV (feel-the-vibe.nl). Participants were included from June 2012 to January 2014. We did not actively recruit participants; all participants found FtV on Google or through other websites. In this early phase, inquiring participants about the type and severity of the violence would enlarge the threshold for participation. Therefore, we chose to consider every potential participant

eligible as target group. All participants who started to use FtV were exposed to FV, including 2 participants who were excluded after randomization because of their age. Excluded were participants not in command of the Dutch language, as FtV is in Dutch.

If participants read the patient information letter available on the homepage and had no further questions, they were eligible to participate and were randomized in 2 parallel groups with a 1:1 allocation ratio: an intervention group, having access to FtV + usual care (UC), and a control group, having access to minimally enhanced usual care (mEUC), meaning that they were placed on a waiting list for 12 weeks with access to 24 h emergency care. Both groups have been extensively described in the study protocol of FtV (Figure 1) [60].

On their first login, participants and parents of participants aged 12 to 16 years gave informed consent electronically. Multiple identities were prevented by making the registration a manual process, including an Internet protocol (IP) address check and email contact, and the informed consent process.

A safety protocol ensured participant safety: FtV is based on a secured server and participants had to use a nickname. All personal data on the Web was removed by a CM, who also monitored the intervention. Participants could contact the CM in case of emergency, independent of their randomization group and electronic consent. All participants were obligated to give contact details of any adult they trust. In case of severe danger, the CM could contact this person with consent of the participant; or, if a participant was below 16 years, the CM could also contact without consent. Participants could not be blinded due to the nature of the study. Participants, recruitment, randomization, consent, and intervention are all described in detail in the study protocol of FtV [60].

PRIMARY OUTCOMES

- The Impact of Event Scale (IES) was chosen to measure PTSD symptoms. The IES is a short set of 15 questions measuring the impact of events and the amount of distress associated with events. It comprises the subscales Intrusion (8 items, mean alpha=.86) and Avoidance (7 items, mean alpha=.82) [67-70].
- The Depression and Anxiety subscales of the Symptom CheckList-90-R (SCL-90-R DEP and ANX) were chosen to measure an improvement in symptoms of depression and anxiety. The SCL-90-R DEP and ANX subscales measure symptoms of depression and anxiety during the previous week on a 5-point Likert scale. Both subscales showed good convergent and divergent validity and high internal consistencies. The SCL-90-R is validated for participants aged 12 years and older. The Depression subscale

comprises 16 items (alpha=.90), and the Anxiety subscale comprises 10 items (alpha=.88) [71].

FEASIBILITY AND GENERAL MEASURES

- The General Questionnaire (GQ) collected data on demographics and other (health) care and support received.
- The Web Evaluation Questionnaire (WEQ) contained questions about content, layout, and the perceived effectiveness and usefulness of the website. The WEQ was meant to identify issues for further improvement of FtV, collect possible facilitators and barriers for implementation, and evaluate if the website met the expectations of the target group.
- "Use" was measured by the collection of quantitative data (login frequency and duration, visited pages, and visitor numbers) and qualitative data (forum and chat entries and questions asked to the experts) and was monitored on a continuous base [63,72].
- Qualitative data were collected from open-ended questions in questionnaires and from CM reports, including their daily activities and actions [73-75].

DATA COLLECTION

Participants in both groups were asked to complete the IES and SCL-90 DEP and ANX at baseline (T0) and every 6 weeks until 24 weeks after inclusion (T1-T2-T3-T4). The GQ was completed at baseline and after 12 (T2) and 24 (T4) weeks. The WEQ was completed 12 weeks after receiving full access to FtV, T2 for the intervention group and T4 for the control group. According to protocol, participants received up to 2 reminders if they did not complete a questionnaire within 1 week. All outcomes were self-assessed through Web-based questionnaires. All other data were collected on a continuous basis from Google analytics, content management system (CMS) logs, and data files (Figure 1).

SAMPLE SIZE

As described in the study protocol, we calculated the sample size from studies on eHealth also using the IES as primary outcome measure [44,45,76,77]. From these studies, we estimated that we needed 9 participants in each group after 12 weeks. Considering the relatively high effect sizes found in these studies and the expected loss to attrition, we aimed to include 50 participants for each group. We managed to include 93 participants within the inclusion period, of which 40 participants completed their baseline questionnaires and 17 participants (8 intervention, 9 control) completed at least their T1

and T2 questionnaires. This means that we did not reach our estimated sample size of 9 participants in each group.

CHANGES TO PROTOCOL AND UNEXPECTED EVENTS

No changes were made to the intervention. During the study period, every month between 1:00 AM and 6:00 AM there were brief (5-15 min) security updates. There were 5 bug fixes, three for the chat function, one for the login procedure, and one for the firewall. Bug fixes were planned in the night and lasted a maximum of 30 min. No content was changed. The procedure book for the intervention had minor changes 2 times during the intervention, none of which had visible impact for participants.

In the study protocol, we stated that all questionnaires were obligatory. In practice, however, due to ethical concerns, we did not exclude participants if they didn't complete all baseline questionnaires. We were not able to report results on routine outcome measurements (ROM); participants often used the emergency exit instead of logging out, making results on ROM unusable. The adapted version of the "Seks onder je 25e" (Sex-under-25) questionnaire was hardly completed by participants because they did not feel comfortable with the subject. Therefore, we could not use the questionnaire and excluded it from analysis.

DATA ANALYSIS

EFFECTIVENESS

Participant characteristics were collected from the contact forms and GQ. To maximize feelings of safety and anonymity, data on FV exposure was not actively collected. Therefore, data on FV exposure was collected from qualitative data. Characteristics of the intervention and the control group were compared to check whether randomization resulted in similar groups.

Initially, we planned an intention-to-treat (ITT) analysis, in which the intervention group, irrespective of Web-based activity and adherence to protocol, was compared with the control group at T0, T1, and T2. However, imputing missing data, which is essential to perform a full ITT analysis, is an important problem we expected to happen in an Internet-based self-support intervention for AYAs because of loss to attrition. After consultation of a medical statistician, we decided not to use imputation techniques for missing data, as this would lead to a too large level of uncertainty in the relatively small group.

Therefore, we primarily performed a complete case analysis using univariate analysis of variance (UNIANOVA) and mixed model analysis in statistical package for the

social sciences (SPSS version 22; IBM Corp) to analyse any effects of using FtV in the first 12 weeks, based on the randomization in the initial group (ITT).

Second, we performed a pre-post t test analysis for all participants being an active user for 12 weeks, independent of their original randomization group. P values <.05 were considered statistically significant. Whenever relevant, age-related differences were included.

FEASIBILITY

Feasibility studies aim to study several areas of focus to be able to fully understand the strengths and weaknesses of a new intervention: the potential for success when implementing it in the real-world. Feasibility was analysed using several areas of focus, as suggested by Bowen et al (2009) [78,79].

Participant characteristics and Google analytics were used to assess expressed interest. Quantitative usage data were used to assess demand. First, we focused on intention to use, followed by an analysis of actual use to assess continued use. Both individual elements as total usage time were included. Quantitative data were supported by self-reported qualitative data on use.

Quantitative and qualitative satisfaction assessed acceptability. Appropriateness was evaluated comparing user's wishes and needs, including safety, with expected goals as reported in the GQ. CM reports and a costs analysis were used to investigate possibilities for implementation in an uncontrolled design.

All qualitative data were analysed using a thematic coding approach. Two researchers (KRN and SLFW) read and coded all qualitative log files. Consensus was reached in mutual discussion. Coded fragments were grouped in themes using feasibility measures as overall guideline. Any disagreements in coding were discussed in the supervising research team. Quotes are given a quote number corresponding with the number in Table 6.

ETHICS

This study was conducted in the Netherlands and was registered in The Netherlands National Trial Register (NTR3692).

The Committee on Research Involving Human Subjects of the Radboud University Nijmegen Medical Centre (Dutch initials: CMO) has assessed this study and judged that the study does not fall within the remit of the Medical Research Involving Human Subjects Act (WMO). Therefore, the study could be carried out (in the

Netherlands) without approval by an accredited research ethics committee (2011/053. NL nr 35813.091.11. March 16th, 2012).

RESULTS

EFFECTIVENESS

100 participants, of which 9 male and 91 female participants with a mean age of 18.55 (SD 4.23) were included. After randomization, 7 participants were excluded. Fifteen participants in the intervention group and 21 participants in the control group did not give electronic consent, meaning that 31 out of 46 participants in the intervention group and 26 out of 47 participants in the control group started to use FtV. Of these participants, 20 participants in each group completed their baseline questionnaires and were included in the analysis (Figure 1). All these participants were exposed to FV. Eight participants in the intervention group, compared with 7 in the control group, were not only exposed but also a direct victim of FV. Overall participant characteristics are in Table 2.

Of the 40 participants who completed their baseline participants, 17 participants completed all questionnaires. There were no significant differences in age, sex, and type of violence between the participants who completed TO (n=40, mean age 18.38 [SD 3.23]) and the participants who did not (n=17, mean age 16.94 [SD 3.49]) (P=.14). There were no significant differences in patient characteristics between the intervention and the control group at TO (Table 2), except for country of birth and baseline measurements: The intervention group scored significantly lower scores on the IES with a mean score of 33.95, interpreting as "powerful impact event," whereas the control group scored 45.60, interpreting as "severe impact event" (P=.01). Dropouts, participants who completed TO but not T2 (n=15), were compared with completers (n=25); there were no significant differences at TO for the intervention group, but in the control group, dropouts scored higher on the IES avoidance subscale (not significant, ns) and significant lower on the IES intrusion subscale (16.67 [SD 9.69] vs 24.64 [SD 5.40], P=.03).

We performed a UNIANOVA to correct for the differences on baseline scores. This showed no overall significant differences between T0 and T2 (Table 3).

A mixed model analysis showed that the course of intervention participants is significantly different for control participants on the SCL-DEP and ANX sub scores. Repeating the analysis in separate age groups, results follow the same course, although results are no longer significant (Figure 2).

According to the protocol, the control group received full access to FtV after 12 weeks (Figure 1). Considering their T2-T4 measurements as T0-T2, we performed pre-

post-test measurements to further investigate the aforementioned findings. Considering them as two separate intervention groups, we saw that both groups improve on the SCL-90 DEP and ANX subscales between T0 and T2. For group 2, who had been on a waiting list for 12 weeks before receiving access, these differences were significant for all measurements (Table 4).

QUALITATIVE EFFECTIVENESS

Of the participants who completed the WEQ, 58% (11/19) answered to an open-ended question that they were doing okay-to-fine at that moment. To investigate subjective efficacy, we asked participants whether FtV was helpful for them: on a 1-5 Likert scale, the helpfulness score was 3.16, with 42% (8/19) of participants saying that FtV was helpful or very helpful and 26% (5/19) saying that FtV was partly helpful. Additionally, 5% (1/19) said that FtV was not helpful at all. Being asked to motivate, participants said that "meeting others who experience violence" (58%, 11/19), "recognizing other's stories" (58%, 11/19), and "being able to ask questions about violence" (58%, 11/19) was helpful. "Talking about their personal situation" (53%, 10/19) and "finding out if something was normal or not" (53% 10/19) were also indicated as helpful. Forty-two percent (8/19) of all participants said that giving support to others was also helpful for themselves.

FEASIBILITY

DEMAND AND USE

Google analytics data showed that 18,534 visitors visited the public website of FtV from June 1, 2012 to January 1, 2014. About 65.00% (12,047/18,534) of the users visited FtV only once with a bounce rate (percentage of users that leaves feel-the-vibe.nl after the first page they visit) of 58.00% (6987/12,047), which is considered good. The remaining 35.00% (6487/18,534) were recurrent visitors, visiting an average of 7.5 pages in 7 min per visit in the public part of the website. Most visitors accessed FtV either directly (32.00%, 5930/18,534) or by Google (47.00%, 8711/18534). A minority accessed FtV trough links on websites giving general information on child abuse or FV. Furthermore, 84% (16/19) of all participants who completed the WEQ agreed that FtV was easy to find on Google. A total of 194 visitors submitted a contact form. From these, 100 concerned eligible participants. Seven participants were excluded after randomization. Additionally, 31 out of 46 participants in the intervention group and 26 out of 47 participants in the control group started to use FtV (Figure 1). Participants under 16 years (needing parental consent), did not give less consent compared with older participants (65% [13/20] compared to 62% [44/71], respectively). Young adults (18-25 years) tend to give less often consent (55%, 27/49) than adolescents (12-17) (71%, 30/42), however, not

significant (P=.13). After giving consent, 29 participants (among which all male participants) did not use the intervention. Four users used the intervention for 12-24 weeks. The remaining 24 users used FtV for 24 weeks or longer. There were no significant differences between adolescents (12-17) and young adults (18-25) in login count or session time, but adolescents (12-17) used the chat significant more than young adults in their first 12 weeks of access. Overall participant activity can be found in Table 5. Table 5 shows usage data of participants during their first and second 12 weeks on the Web.

Actual use measured on the Web corresponded well with self-reported data by participants. The 19 participants who completed the WEQ reported a mean Web-based time of 2.83 (2-3 times a week), with a mean Web-based session time of 36 min. Participants said they visited the forum and chat most and information on sex and relations least often, which corresponds with the quantitative usage data.

ACCEPTABILITY

Results from the baseline GQ and WEQ show that first impressions of FtV were positive—participants were enthusiastic (47%, 9/19) or felt that FtV was made especially for people in their own situation (32%, 6/19). At TO, "contact with fellow sufferers" was said to be both the most important wish and the most important need for their participation in FtV, followed by "someone listening without taking action right away." "Gathering information" and "receiving support or advice" were other frequently named wishes, also expressed as needs. "Receiving help from Web-based health care providers" was indicated third most expressed wish for FtV but was not named as a need. Asked to goals, both in open and multiple-choice questions, the same 5 categories were named as most important (Table 6, Q1).

Whereas support and information were very important, direct action was less asked for: Only one in five participants wished the violence at home would stop because of their participation and no participants identified it as a need. "Stopping the violence" (21%, 4/19) and "getting someone to receive help from a health care provider" (16%, 3/19) were chosen least often as goals of FtV.

After being on the Web for 12 weeks, participants expressed mostly joy about the existence of FtV (58%, 11/19) but only 16% (3/19) felt FtV had already helped them solve their problems. FtV was rated a mean score of 7.47 (range 6-9) on a 1-10 Likert scale (Q2, Q3). Overall, content, language, structure, user interface, and layout were rated good. Guided chat (42%, 8/19) and forum (37%, 7/19) were chosen the best parts of FtV because of the possibility to share stories and ask questions (Q4). All theme chats were valued positively, including the professional contact options and information about

FV. Least valued were the unguided chat and informational pages, especially on sex and relations (Q5).

SAFETY

Safety was named second most frequently as need for FtV, directly after "contact with fellow sufferers." All participants said they felt safe, because of the relative anonymity (26%, 5/19); the emergency exit (21%, 4/19); acknowledgement and recognition by peers and professionals (21%, 4/19); the enjoyable, pleasant, and cosy environment (16%, 3/19); the approach and availability of the CMs (11%, 2/19); reliability of FtV (5%, 1/19); the technical security protocols (5%, 1/19); and/or having a safety protocol with contact details in case of participant danger (5%, 1/19) (Q6, Q7).

Seventy-four percent (14/19) of the participants thought that a personal message with the results of their questionnaires would make them feel even safer and 16% (3/19) thought that a better explanation of the safety protocols or 1 phone call with the CM could improve safety. In general, however, participants would not want more of their details to be known. Parent consent was perceived negatively.

IMPLEMENTATION AND PRACTICALITY

CMs spent an average of 14 h a week on FtV. A guided chat lasted a mean 100 min, an individual chat, held only in case of danger or request for immediate help, 70 min. Around 70% (136/194) of all contact forms were answered within 36 h, the remaining 30% (58/194) within the maximum 72 h. All emergency messages were answered within 24 h, mainly within 6 h. CMs were asked to name essentials for success (Table 7). If these cannot be met, risks indicated concerned mainly harm for the participant and suboptimal care, but also a risk of burn-out for the CM, when time investment and commitment are too high.

CMs agreed that their work might be done by a student or volunteer with a background in health care, although they feared that the continuity of care would be endangered (Q8). Above that, they felt that the strain on personal life and the risk to become too personally involved were rather high.

To identify the position of FtV within the current field of health care, we asked participants in the baseline GQ to identify all possible sources of help when encountering FV. The mentor (73%, 29/40) and the school counsellor (60%, 24/40) were the most named persons. The family physician was the most well-known health care provider—55% (22/40) knew how to get help there. One third of the participants did not know they could ask for help at the national emergency line and the police. At baseline, 18 participants received another form of health care, being mostly informal care from a

mentor (15%, 6/40) or school counsellor (13%, 5/40), or formal care from a psychologist (10%, 4/40). After the first 12 weeks of the intervention, 24 participants filled out the follow-up GQ. Two-thirds of them (15/24) started regular health care: mental health care (10/15), general practice (1/15), counsellor or mentor (4/15), youth care (2/15), other Web-based help (2/15).

CMs agreed that FtV should be integrated within public health care or as part of the national services for FV and child abuse instead of existing health care institutions: they feared limited availability and accessibility, lack of anonymity, legal rules and/or regulations, and insurance requirements. CMs thought this would lower feelings of safety and enlarge the threshold for participation (Q9).

DISCUSSION

PRINCIPAL FINDINGS

AYAs exposed to FV need health care in an early phase to deal with the consequences of this exposure. FtV was developed as a low-threshold, Internet-based, self-support intervention to provide AYAs exposed to FV with (peer) support and information, to lower the threshold to regular health care for those who need this. This study investigated first, the efficacy of FtV and second, the feasibility of FtV using a mixed methods approach. To our knowledge, we are the first to use this approach for the evaluation of an eHealth method in the field of FV. No strict conclusions on efficacy could be drawn as the participant rate was rather low. We conclude that the acceptability for FtV, including satisfaction and safety, was good. In the following paragraphs, we would like to highlight some of the most important findings.

EFFECTIVENESS

Overall, we feel that FtV is a suitable and satisfying intervention for the target group. However, in a small population with large differences in characteristics, it is difficult to find meaningful effects. Besides, we did not reach the sample size (17 instead of 18 participants). In our study sample, mean scores at baseline were very high, indicating a potential post-traumatic stress disorder in almost all participants. Intervention participants worsened in their scores before improving to levels above their start level. Control group participants showed the other way around. Further research exploring possible explanations is needed: One could hypothesize that control group participants improve because they are happy to have sought help, stepping up to a higher level of change, whereas intervention participants become aware of their situation and the abnormality of it. Depressive thoughts could increase as well as anxiety out of fear for the consequences of seeking help for their situation.

Overall, it is well known from literature that AYAs exposed to FV suffer from mental health problems, comparable with being a victim of child abuse themselves [6,8,25,80-82]. Treating this may take much longer than 6 or 12 weeks. Considering that, results indicating that SCL-90 ANX and DEP scores improve significantly within the second 6 weeks of access are promising. The subjective effect is high: participants feel helped by their participation and two-thirds of all participants started other health care while being a participant of FtV. Therefore, we think that FtV is a promising intervention, although future research should study prolonged effects over time.

STAGES OF CHANGE

Characteristics of participants registering for FtV are diverse. All participants were exposed to FV. Fifteen participants were not only exposed but also a victim themselves, which is in accordance with literature [4]. Wishes, needs, and goals, however, are quite uniform and mainly directed at support, information, and safety, which is in line with other studies [28,30,31,33,83-86].

As we described in the General Introduction, we used the transtheoretical model of behaviour change of Prochaska and Di Clemente [24] to categorize potential participants of FtV and hypothesized that most of them would be in a Precontemplation phase, whereas regular health care is mostly directed at participants in an Action phase. Results show us that the bounce rate is relatively low, meaning that many visitors visiting FtV want to know more about the subject. However, only a small part of the visitors to the public website of FtV send a contact form. This corresponds with a Precontemplation phase; recognizing that their situation at home is different, participants in this phase might be looking for information only. This could be a too early phase to participate in FtV. Therefore, it is important to optimize access to FtV by extending both the public part of the intervention and Google optimization. Participants who send a contact form, use their login, and give consent might be one step further than what we hypothesized: in the Preparation or Planning phase. Participants in this phase are thinking about how to change their situation and are ready to take action in the near future. For them, is it important to lower the threshold to start their participation as far as possible; questionnaires and other obligated parts could hinder participants in this still early phase of change. Of the 57 participants who gave consent, only 40 participants completed their baseline questionnaires and 28 participants became active users. Therefore, interventions that mainly support participants in (Precontemplation and Preparation phases should focus first on safety and second on support and advice. A major pitfall in these phases is intervention requirements which enlarge the threshold for continued participation. In our target group for example, the safety protocol, including the contact person, could have enlarged the threshold for participation.

ATTRITION

eHealth interventions have to cope with the law of attrition: high levels of non-usage and dropout, which can be as high as 80-90% [61]. Considering these percentages, drop out for FtV is relatively low, with one-third of the participants still active after 36 weeks. Attrition can partly be explained by the stages of change model, but it is also important to identify possible other factors influencing non-usage and dropout since this influences the feasibility of the intervention. The threshold for participation in FtV was made as low as possible without compromising safety. However, a low threshold to participation and easy enrolment could lead to high dropout, as users fully realize the consequences of their participation only after they start participating. More strict information, personal contact (telephone, face-to-face), and making participants pay for their participation, all decrease non-usage and dropout attrition but also increase the threshold, which does not fit the early stage of change of most participants.

Another important factor in this study could be expectation management. Only after randomization and consent participants could see the intervention content and layout. Looking at the wishes and needs indicated by the participants, encountering others is very important. Finding out that there are not many participants in your first visit could lead to non-usage and dropout, meaning that new participants encounter the same problem again. We tried to solve this problem by giving the CMs more time to be on the Web and participate in discussions and chats in the first months of FtV.

Personal contact lowers dropout attrition rate. As FtV focuses on (peer) support from CMs and participants, this could have lowered the dropout attrition rate.

EHEALTH AND VIOLENCE

Especially in this target group, that values safety besides peer support as most important need for participation, the advantages of an eHealth intervention are numerous. Due to its nature, it is easier to conserve anonymity and safety, lowering the threshold for participation. It is flexible and accessible. The participants lived in a large geographical range, and more often, they had difficulties visiting other health care institutions because they had to use public transport and needed money to do that. Being able to include participants from a large geographical range means that it is easier to collect enough people to give adequate support and to be economically profitable. Besides, eHealth means not having to explain absence due to therapy or other treatment requirements. To our opinion, this makes eHealth an ideal method to start health care for AYAs exposed to FV.

LIMITATIONS

eHealth studies have to deal with a wide range of challenges and traditional designs may be less suitable for an Internet-based self-support intervention [87]. Therefore, we chose not only a traditional RCT design but also an innovative feasibility design using mixed methods. However, there are limitations that should be considered when interpreting the findings of this study. First, it is only possible to apply the results to female participants, as no male participants completed their participation. Only 9 males applied; none of which completed their questionnaires. The set-up of FtV, explicitly stating that FtV gives (peer) support and information, could be more attractive to women. Males may be less hesitating to find regular health care, having less fear to harm family and surroundings. Besides, they are also more at risk for externalizing behavioural problems, which might need a different approach.

Second, in our study the control group and the intervention group differed on their baseline measurements. There could be several explanations for this finding. Due to the nature of this study, participants knew their group when starting to fill out the questionnaires. Participants in the control group may have felt let down or could have wanted to show their need for participation. It could also mean that less severe affected participants don't start the waiting list because their problems are not severe enough. The groups did not differ on depression and anxiety at TO.

A limitation is the fact that, due to safety protocols and according to protocol, control group participants received mEUC, meaning that they could send an emergency message when they felt they needed this. Although in none of the cases there was actual danger and all messages were handled according to protocol, we still feel that participants may experience these short contacts as support, thus influencing results.

IMPLICATIONS AND RECOMMENDATIONS

FtV is a promising intervention. Future research should focus on larger samples and investigate the optimal intervention duration.

We found that the role of the CM is very important. The CM supports, informs, and motivates, thus functioning as a coach around the clock. However, in the design of FtV, the CM was only intended to monitor, support, and inform from the background. Therefore, further research should investigate the position of the CM in a qualitative manner.

As we concluded that eHealth seems an adequate method to provide AYAs exposed to FV with care, we recommend further research to study eHealth in other

groups coping with violence. One could expect results to be similar, although Internet literacy and access could be limiting potential effects.

FtV can be easily implemented without extensive resources. Nevertheless, implementing FtV within an existing health care organization, could lead to an enlargement of the threshold, or a situation in which participants who need more care are not always referred to the best health care option because of incomplete knowledge or strategy of the implementing organization. Therefore, we feel that FtV, when implemented, should be in the field of public health care or national governmental care, to provide the lowest possible threshold and long-term sustainability. FtV functions, to our opinion, best as a first step for AYAs in an early stage of change to get them ready for action and to fill the gap between exposure to FV and starting regular health care to stop violence and treat the consequences.

CONCLUSIONS

Based on the available data, we conclude that pre-set goals for FtV, that is, peer support, giving information, and support in finding regular health care, have been met, making FtV a promising intervention. Reaching back to the stages of change model, we feel that participants who are in a Preparation stage benefit best from FtV in gathering information and receiving support, maximizing safety, and minimizing external control. FtV may help them to move on to the Action stage, get ready to start regular health care treatment, or discover that they do not need more help as FtV provides them with sufficient support.

ACKNOWLEDGMENTS

The authors would like to thank Hans Bor, statistician at the Radboud University Medical Center, Nijmegen, the Netherlands, for his help in the efficacy analysis of this study. The project is funded by Fonds Slachtofferhulp (victim support fund, the Netherlands). The sponsor had no influence on any part of the study.

TABLES AND FIGURES

Table 1 Overview of 'Feel the ViBe' elements

Element	Extra information	Restrictions
General information on exposure to family violence	Information by age (under 12 years, 12-17 years, 18-25 years, and parents) and by subject.	Public
Research information and disclaimer	Information for participants and parents about research, safety, and privacy.	Public
Information on sponsoring	Homepage, bottom left.	Public
Contact page	Option to register or ask questions to the community manager or researchers.	Public
News page	Twitter newsfeed included. The news page states important information for participants such as major bug fixes, changes in content, and scheduled maintenance.	Public
Emergency exit	A button on every page directing participants to a search engine without option to go back in the browser.	Public
Electronic consent for participants	Consent is necessary to get access to other elements behind login	Available after first login.
Electronic consent for parents	Consent is necessary for participants under 16 years old to get access to other elements behind login	Accessible by email with a code.
Questionnaires	Questionnaires will be activated in the personal menu. Questionnaires can be filled out one-by-one. Whenever possible, adaptive questioning is being used to make the burden as low as possible. There is a maximum of 15 questions per page. All items need to be filled out to submit a questionnaire. Participants cannot review their answers.	Available after first login, and every 6 weeks.
Personal menu	Menu for the participants with overview to all the available elements, access to the participants profile, digital testament, research information, and contact information.	Login needed
User profile	The profile contains information of the participant, being: full name, nickname, avatar, sex, age, contact details, and contact person. Only the nickname is available for other participants. The participant can choose a theme for the layout.	Login needed
Digital testament	The digital testament is required to fill out and lets participants choose how their data must be handled if they stop their participation.	Login needed
Ask the expert	Option to ask questions by email to several experts, including a general practitioner, a sexologist, a psychologist, and an expert in the field of family violence. Participants can also contact the community manager for general questions and questions regarding regular health care services. Response is given within 72 h.	Login needed
Forum	The forum is meant to stimulate peer support. The community manager moderates the forum and stimulates contact.	Login needed

Chat	Every 2 weeks we will offer a chat session for the participants with a specific theme and supported by an expert and the community manager. Every other week there will be an unguided chat.	Login needed
Information	Depending on the age in the profile, participants have access to tailored information about partner violence, sexual health, reproductive health, relations, and health care.	Login needed
Facts and figures	In a 12-week cycle, participants receive a 1-sentence fact or figure about family violence, sexual health, or reproductive health every day on their mobile or by email.	Consent needed

Table 2 Participant characteristics as measured in the General Questionnaire (n=40)

Participant characteristics		Intervention (n=20)	Control (n=20)	P value
Age (years)	Mean age	18.40 (SD 3.62)	18.20 (SD 3.02)	
	12-17	8	10	.54
	18-25	12	10	
Sex	Male	1	0	.32
	Female	19	20	
Country of birth	Netherlands	20	16	.04
	Belgium	0	4	
Country of birth mother	Netherlands	17	12	.24
	Belgium	0	5	
	Other	3	3	
Country of birth father	Netherlands	17	13	.55
	Belgium	0	3	
	Other	3	4	
Religion	Christianity	11	9	.29
	Islam	1	1	
	No religion	5	8	
	Other	3	2	
mportance of religion	Not important	11	16	.06
	A bit important	7	4	
	Very important	2	0	
Employment	Full time education	10	11	.54
	Employed	3	3	
	Both studying and job	6	5	
	Disabled	1	1	
Education	Lower education	3	3	.65
	Middle education	9	5	
	Higher education	8	12	
Current relationship	Boyfriend	5	7	.38
	Girlfriend	0	1	
	Dating	1	1	
	None	14	11	
Living situation	At home with parents	14	15	.71
	With partner	1	0	
	Alone	3	4	
	Sheltered housing	2	1	
Alcohol use	Daily	1	0	.90
	>1 time/week	3	5	
	<1 time/week	6	6	
	Never	10	9	
Smoking	Yes	1	2	.67
	Before	3	1	
	No	16	17	
Use of drugs	>1 time/week	1	0	.35
	<1 time/week	1	1	
	Never	18	19	

Table 3 Effect of 'Feel the ViBe' after 6 weeks (T1) and 12 weeks (T2) controlling for T0 (intention-to-treat, complete case)

UNIANOVA calculating mean score, controlling for T0 to correct for differences between groups.

Outcome	Time	Intervention (n=8)	Control (n=9)	В	Р
		Mean (95% CI)	Mean (95% CI)		
Impact of Event Scale	T1 ^a	42.34 (34.71-49.97)	38.59 (31.44-45.73)	3.75	.48
	T2 ^a	42.89 (34.38-51.40)	44.54 (36.57-52.51)	-1.65	.78
Symptom CheckList-90-R, Depression subscale	T1 ^b	56.44 (48.60-64.29)	43.61 (36.21-51.00)	12.84	.02
	T2 ^b	47.70 (38.73-56.67)	52.60 (44.15-61.05)	-4.90	.41
Symptom CheckList-90-R, Anxiety subscale	T1 ^c	34.67 (28.16-41.18)	26.07 (19.96-32.18)	8.60	.07
	T2c	29.18 (25.64-32.71)	28.73 (25.41-32.05)	.45	.85

^a Mean score at T1 and T2 corrected for the overall mean score at T0 = 39.76 (n=17)

Table 4 Pre-post-test analysis (n=14)

Outcome	Group 1 Mean (SD) (n=8) ^a			Group 2 Mean (SD) (n=6) ^b		All Mean (SD) (n=14)			
	T0	T2	P	T0	T2	P	T0	T2	P
IES ^c sum	31.38 (18.25)	37.25 (15.12)	.07	52.83 (9.77)	36.33 (10.78)	.02	40.57 (18.37)	36.86 (12.94)	.36
SCL-90 DEP ^d	50.38 (17.70)	46.38 (15.93)	.47	57.17 (11.99)	42.50 (10.71)	.01	53.29 (15.36)	44.71 (13.59)	.03
SCL-90 ANX ^e	26.00 (9.18)	25.00 (8.91)	.54	34.00 (9.82)	27.67 (8.34)	.045	29.43 (9.97)	26.14 (8.45)	.046

^a Originally randomized to intervention group.

^b Mean score at T1 and T2 corrected for the overall mean score at T0 = 52.18 (n=17)

^c Mean score at T1 and T2 corrected for the overall mean score at T0 = 30.29 (n=17)

^b Originally randomized to control group, considering T2-T4 measurements (after receiving full access) as T0-T2.

^c IES: Impact of Event Scale.

^d SCL-90 DEP: Symptom Checklist-90 Depression subscale.

^e SCL-90 AUX: Symptom Checklist-90 Anxiety subscale.

Table 5 Participant activity for all active users ≥24 weeks (n=24)

Table 5 shows usage data of participants during their 1st and 2nd 12 weeks on the Web.

	0-12 weeks access	12-24 weeks access	P value
Activity	Mean (SD)	Mean (SD)	
Total sessions (n)			
All ages (n=24)	50 (45,57)	16 (15.63)	<.001
Age 12-17 years (n=11)	43 (45.56)	19 (15.29)	.05
Age 18-25 years (n=13)	55 (46.72)	13 (15.89)	.001
P	.54	.32	
Session duration in minutes			
All ages (n=24)	27 (14.12)	23 (14.37)	.35
Age 12-17 years (n=11)	31 (13.46)	24 (14.14)	.32
Age 18-25 years (n=13)	24 (14.36)	21 (15.00)	.71
P	.23	.59	
Chat per session			
All ages (n=24)	.54 (.28)	.61 (.34)	.16
Age 12-17 years (n=11)	.73 (.21)	.69 (.26)	.31
Age 18-25 years (n=13)	.37 (.22)	.55 (.40)	.04
P	<.001	.34	
Forum per session			
All ages (n=24)	.69 (.32)	.65 (.38)	.56
Age 12-17 years (n=11)	.59 (.35)	.49 (.45)	.09
Age 18-25 years (n=13)	.78 (.27)	.79 (.24)	.86
P	.15	.06	
Chat and/or Forum per session			
All ages (n=24)	.91 (.12)	.91 (.15)	.99
Age 12-17 years (n=11)	.95 (.06)	.91 (.09)	.18
Age 18-25 years (n=13)	.89 (.15)	.91 (.19)	.66
P	.21	.98	
Information per session			
All ages (n=24)	.10 (.09)	.05 (.07)	.02
Age 12-17 years (n=11)	.11 (.11)	.05 (.07)	.09
Age 18-25 years (n=13)	.09 (.07)	.05 (.08)	.12
P	.64	.78	
Ask-the-Expert per session			
All ages (n=24)	.05 (.05)	.05 (.11)	.91
Age 12-17 years (n=11)	.06 (.06)	.04 (.07)	.27
Age 18-25 years (n=13)	.04 (.04)	.06 (.14)	.60
P	.33	.65	

Table 6 Qualitative quotes by participants and community managers (CM)

Question number	Participant number	Age	Source	Quote
Q1	290	19	GQ ^a	Giving people information and helping or supporting. And chatting with people who have gone through the same en by doing this helping each other.
Q2	209	20	WEQ ^b	Keep up the good work. I wish there were more people like you guys.
Q3	204	24	WEQ	I think the website is super, good initiative. You can find good and clear information. For me though I am not feeling a real connection or click with the others, which I think is because of the age difference. I pity that.
Q4	241	17	WEQ	The professional and the other participants answer your questions directly and help you immediately, and it feels like a relieve when you had a conversation like that.
Q5	207	21	WEQ	I don't think this is relevant, sex has, to my opinion, not always something to do with domestic violence. Sometimes it seems that, if it concerns adolescents, there always has to be a part about sexual education
Q6	228	17	WEQ	I feel safe because there is an emergency exit and your contact details are being stored, so when you really need help they can help you and they answer your questions personally.
Q7	209	20	WEQ	The Community Manager is very committed and gives you a warm feeling. I am not scared at all that she will tell anybody or forces me to do anything (which I know from my own experience).
Q8	CMc1	51	CM report	A strength of FtV is the time for participants to build a trusting relation and I fear this is not possible with a student.
Q9	CM3	26	CM report	I feel that FtV works, because it is not seen as healthcare by the participants, being not linked to any kind of organisation () thus feeling safe.

^a GQ: general questionnaire. ^b WEQ: Web evaluation questionnaire.

Table 7 Essentials for successful implementation of 'Feel the ViBe'

General essentials ^a	Community manager characteristics ^b
Unrestricted access to the Internet for community managers	Computer and Internet skills
Unrestricted access to the internet for participants	Trained in giving Web-based support and help
Safety protocols to handle the variety of problems and participants	Trained in assessing safety during Web-based communication
24/7 availability in case of emergency (ICE) from pool of community managers	Flexible and able to adapt quickly in time, nature, and language of help provided
Colleagues to discuss participants' situation	-

^a Community managers were asked to name elements essential for FtV.

Table 8 Estimation of costs for implementation of 'Feel the ViBe'. Costs were calculated using actual costs for 2012, 2013, and 2014 (mean score is given when applicable)

Category	Necessity	Costs (US \$)	Recurrent?
Intervention	Development only ^a	50,000	One-time only
Mobile app	Optional	10,000	One-time only
Hosting, security, and updates	Essential	12,000	Yearly
Internet, mobile and office resources, for example, computer, mobile phone, subscriptions.	Essential ^b	2000	Yearly
Salary costs: community manager (20h/week), coordinator (8h/week)	Essential ^{c,d}	48,000	Yearly
Professionals on consultation base	Essential	6000	Yearly

^a Adaptation will cost about 10-25% of development costs, depending on need for translation.

^b Community managers were asked to identify personal characteristics of community managers essential for FtV.

^b Costs based on minimally needed resources.

^c Costs are calculated for Dutch salary norms, meaning that the actual costs can vary across countries depending on the salary norms.

^d Costs could be lowered using trained volunteers or medical students.

Figure 1 Flowchart

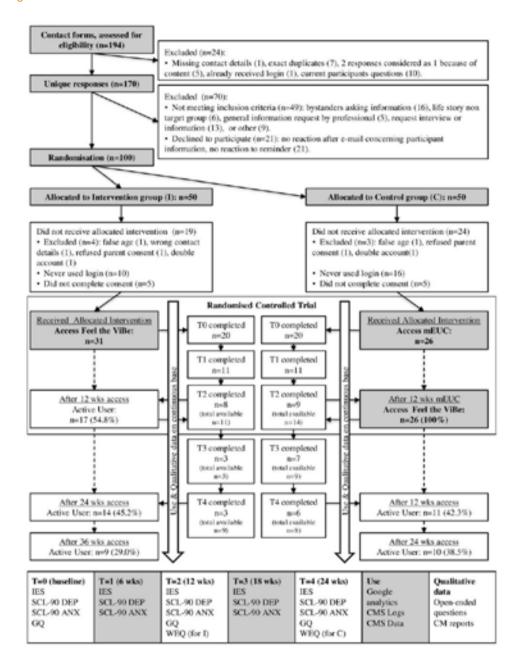
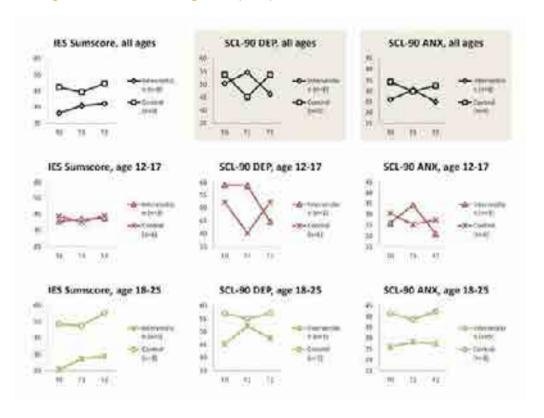


Figure 2 Course in time for intervention compared with control group participants, grey area meaning that course difference is significant (P<.05)



REFERENCES

- Devries KM, Mak JY, Bacchus LJ, Child JC, Falder G, Petzold M, et al. Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. PLoS Med 2013;10(5):e1001439
- Devries KM, Mak JY, García-Moreno C, Petzold M, Child JC, Falder G, et al. Global health. The global prevalence of intimate partner violence against women. Science 2013 Jun 28;340(6140):1527-1528.
- 3. Fantuzzo J, Boruch R, Beriama A, Atkins M, Marcus S. Domestic violence and children: prevalence and risk in five major U.S. cities. J Am Acad Child Adolesc Psychiatry 1997 Jan;36(1):116-122.
- McDonald R, Jouriles EN, Ramisetty-Mikler S, Caetano R, Green CE. Estimating the number of American children living in partner-violent families. J Fam Psychol 2006 Mar;20(1):137-142.
- Holden GW. Children exposed to domestic violence and child abuse: terminology and taxonomy. Clin Child Fam Psychol Rev 2003 Sep;6(3):151-160.
- Hamby S, Finkelhor D, Turner H, Ormrod R. NCJRS. 2011. Children's exposure to intimate partner violence and other family violence URL: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf [accessed 2016-04-19] [WebCite Cache]
- 7. Finkelhor D, Turner HA, Shattuck A, Hamby SL. Violence, crime, and abuse exposure in a national sample of children and youth: an update. JAMA Pediatr 2013 Jul;167(7):614-621.
- 8. Kitzmann KM, Gaylord NK, Holt AR, Kenny ED. Child witnesses to domestic violence: a meta-analytic review. J Consult Clin Psychol 2003 Apr;71(2):339-352.
- 9. Evans S, Davies C, DiLillo D. Exposure to domestic violence: a meta-analysis of child and adolescent outcomes. Aggress Violent Behav 2008 Mar;13(2):131-140.
- Wolfe DA, Crooks CV, Lee V, McIntyre-Smith A, Jaffe PG. The effects of children's exposure to domestic violence: a meta-analysis and critique. Clin Child Fam Psychol Rev 2003 Sep;6(3):171-187.
- Van NC, Pachter LM, Wade R, Felitti VJ, Stein MT. Adverse events in children: predictors of adult physical and mental conditions. J Dev Behav Pediatr 2014 Oct;35(8):549-551.
- 12. Sternberg K, Baradaran L, Abbott C, Lamb M, Guterman E. Type of violence, age, and gender differences in the effects of family violence on children's behaviour problems: a mega-analysis. Dev Rev 2006 Mar;26(1):89-112.
- Chan Y, Yeung J. Children living with violence within the family and its sequel: a meta-analysis from 1995–2006. Aggress Violent Behav 2009 Sep;14(5):313-322.
- 14. Bair-Merritt MH, Blackstone M, Feudtner C. Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. Pediatrics 2006 Feb;117(2):e278-e290.
- Dube SR, Felitti VJ, Dong M, Giles WH, Anda RF. The impact of adverse childhood experiences on health problems: evidence from four birth cohorts dating back to 1900. Prev Med 2003 Sep;37(3):268-277.
- Holt S, Buckley H, Whelan S. The impact of exposure to domestic violence on children and young people: a review of the literature. Child Abuse Negl 2008 Aug;32(8):797-810.
- 17. Ehrensaft MK, Cohen P, Brown J, Smailes E, Chen H, Johnson JG. Intergenerational transmission of partner violence: a 20-year prospective study. J Consult Clin Psychol 2003 Aug;71(4):741-753.
- Widom CS, Czaja SJ, Dutton MA. Childhood victimization and lifetime revictimization. Child Abuse Negl 2008 Aug;32(8):785-796
- Eriksson L, Mazerolle P. A cycle of violence? examining family-of-origin violence, attitudes, and intimate partner violence perpetration. J Interpers Violence 2015 Mar;30(6):945-964.
- Black DS, Sussman S, Unger JB. A further look at the intergenerational transmission of violence: witnessing interparental violence in emerging adulthood. J Interpers Violence 2010 Jun;25(6):1022-1042
- 21. Netherlands Youth Institute. Nederlands Jeugdinstituut (Netherlands Youth Institute). 2016. Kinderen die getuige zijn van huiselijk geweld (children exposed to domestic violence) URL:

- http://www.nji.nl/Vormen-Kinderen-die-getuige-zijn-van-huiselijk-geweld [accessed 2017-05-16] [WebCite Cache]
- DiClemente R, Hansen W, Ponton L. Handbook of adolescent health risk behaviour. New York: Plenum Press; 1996.
- 23. Lerner R, Steinberg L. Handbook of adolescent psychology. Hoboken, NJ: John Wiley & Sons; 2009.
- Prochaska J, DiClemente C. Transtheoretical therapy: Toward a more integrative model of change.
 Psychotherapy: theory, research & practice 1982;19(3):276.
- 25. Cunningham A, Baker L. The adolescent's experience of intimate partner violence and implications for intervention. In: Graham-Bermann SA, editor. How Intimate Partner Violence Affects Children: Developmental Research, Case Studies, and Evidence-based Intervention. Washington DC: American Psychological Association (APA); 2011:247-272.
- 26. Sox R. Integrative review of recent child witness to violence research. Clin Excell Nurse Pract 2004;8(2):68-78.
- Kelley ML, French A, Bountress K, Keefe HA, Schroeder V, Steer K, et al. Parentification and family responsibility in the family of origin of adult children of alcoholics. Addict Behav 2007 Apr;32(4):675-685.
- Freake H, Barley V, Kent G. Adolescents' views of helping professionals: a review of the literature. J Adolesc 2007 Aug;30(4):639-653.
- Fitzgerald MM, Schneider RA, Salstrom S, Zinzow HM, Jackson J, Fossel RV. Child sexual abuse, early family risk, and childhood parentification: pathways to current psychosocial adjustment. J Fam Psychol 2008 Apr;22(2):320-324.
- Gulliver A, Griffiths KM, Christensen H. Perceived barriers and facilitators to mental health helpseeking in young people: a systematic review. BMC Psychiatry 2010;10:113
- 31. Barker G, Olukoya A, Aggleton P. Young people, social support and help-seeking. Int J Adolesc Med Health 2005;17(4):315-335.
- 32. Cossar J, Brandon M, Jordan P. IOE. London: Office of the Children's Commissioner; 2011. 'Don't make assumptions': Children's and young people's views of the child protection system and messages for change URL: http://dera.ioe.ac.uk/2690/1/force_download.php%3Ffp%3D%252Fclient_assets%252Fcp%252Fpubl ication%252F486%252FChildrens_and_young_peoples_views_of_the_child_protection_system_.pdf [accessed 2016-04-19] [WebCite Cache]
- 33. Buckley H, Carr N, Whelan S. 'Like walking on eggshells' service user views and expectations of the child protection system. Child Fam Soc Work 2011 Feb;16(1):101-110.
- 34. Whitehall-Smith M. Counselling & support services for young people aged 12-16 who have experienced sexual abuse: a study of the provision in Italy, The Netherlands & the United Kingdom. Edited by Mary Baginsky, NSPCC, London, 2001. 140pp. ISBN 1-84228-020-1 (Pbk). In: Child Abuse Review. London: National Society for the Prevention of Cruelty to Children; Sep 2002:333-334.
- 35. Centraal Bureau voor de Statistiek. 2013. ICT gebruik van personen naar personskenmerken (internet usage of persons divided to personal characteristics) database on the internet URL: http://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=71098NED&D1=0-14,33-133&D2=3,7-8&D3=7-8&HD=140213-1522&HDR=G1,G2&STB=T [accessed 2016-04-19] [WebCite Cache]
- Rowe SL, French RS, Henderson C, Ougrin D, Slade M, Moran P. Help-seeking behaviour and adolescent self-harm: a systematic review. Aust N Z J Psychiatry 2014 Dec;48(12):1083-1095.
- 37. Best P, Manktelow R, Taylor B. Social work and social media: online help-seeking and the mental well-being of adolescent males. Br J Soc Work 2014 Nov 11;46(1):257-276.
- 38. Gray NJ, Klein JD, Noyce PR, Sesselberg TS, Cantrill JA. Health information-seeking behaviour in adolescence: the place of the internet. Soc Sci Med 2005 Apr;60(7):1467-1478.

- Riper H, Kramer J, Keuken M, Smit F, Schippers G, Cuijpers P. Predicting successful treatment outcome of web-based self-help for problem drinkers: secondary analysis from a randomized controlled trial. J Med Internet Res 2008;10(4):e46
- van SA, Cuijpers P, Smits N. Effectiveness of a web-based self-help intervention for symptoms of depression, anxiety, and stress: randomized controlled trial. J Med Internet Res 2008;10(1):e7
- 41. Postel MG, de Haan HA, ter Huurne ED, Becker ES, de Jong CA. Effectiveness of a web-based intervention for problem drinkers and reasons for dropout: randomized controlled trial. J Med Internet Res 2010 Jan;12(4):e68
- Ritterband LM, Andersson G, Christensen HM, Carlbring P, Cuijpers P. Directions for the International Society for Research on Internet Interventions (ISRII). J Med Internet Res 2006;8(3):e23
- McCrone P, Knapp M, Proudfoot J, Ryden C, Cavanagh K, Shapiro DA, et al. Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: randomised controlled trial. Br J Psychiatry 2004 Jul;185:55-62
- 44. Wagner B, Knaevelsrud C, Maercker A. Internet-based cognitive-behavioral therapy for complicated grief: a randomized controlled trial. Death Stud 2006 Jun;30(5):429-453.
- 45. Lange A, Ruwaard J. Ethical dilemmas in online research and treatment of sexually abused adolescents. J Med Internet Res 2010 Dec 19;12(5):e58
- 46. Merry SN, Stasiak K, Shepherd M, Frampton C, Fleming T, Lucassen Mathijs F G. The effectiveness of SPARX, a computerised self help intervention for adolescents seeking help for depression: randomised controlled non-inferiority trial. BMJ 2012;344:e2598
- 47. Eysenbach G, Powell J, Englesakis M, Rizo C, Stern A. Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions. BMJ 2004 May 15;328(7449):1166
- 48. Backett-Milburn K, Wilson S. Understanding peer education: insights from a process evaluation. Health Educ Res 2000 Feb;15(1):85-96
- Melling B, Houguet-Pincham T. Online peer support for individuals with depression: a summary of current research and future considerations. Psychiatr Rehabil J 2011;34(3):252-254.
- 50. Parry M, Watt-Watson J. Peer support intervention trials for individuals with heart disease: a systematic review. Eur J Cardiovasc Nurs 2010 Mar;9(1):57-67.
- 51. Ancker JS, Carpenter KM, Greene P, Hoffman R, Kukafka R, Marlow LA, et al. Peer-to-peer communication, cancer prevention, and the internet. J Health Commun 2009;14 Suppl 1:38-46
- Høybye MT, Dalton SO, Deltour I, Bidstrup PE, Frederiksen K, Johansen C. Effect of internet peersupport groups on psychosocial adjustment to cancer: a randomised study. Br J Cancer 2010 Apr 27;102(9):1348-1354
- 53. Kaplan K, Salzer MS, Solomon P, Brusilovskiy E, Cousounis P. Internet peer support for individuals with psychiatric disabilities: a randomized controlled trial. Soc Sci Med 2011 Jan;72(1):54-62.
- 54. Salzer MS, Palmer SC, Kaplan K, Brusilovskiy E, Ten HT, Hampshire M, et al. A randomized, controlled study of Internet peer-to-peer interactions among women newly diagnosed with breast cancer. Psychooncology 2010 Apr;19(4):441-446.
- Takahashi Y, Uchida C, Miyaki K, Sakai M, Shimbo T, Nakayama T. Potential benefits and harms of a peer support social network service on the internet for people with depressive tendencies: qualitative content analysis and social network analysis. J Med Internet Res 2009;11(3):e29
- 56. Coker AL, Smith PH, Thompson MP, McKeown RE, Bethea L, Davis KE. Social support protects against the negative effects of partner violence on mental health. J Womens Health Gend Based Med 2002 Jun;11(5):465-476.
- Levendosky AA, Huth-Bocks A, Semel MA. Adolescent peer relationships and mental health functioning in families with domestic violence. J Clin Child Adolesc Psychol 2002 Jun;31(2):206-218.

- 58. Tajima EA, Herrenkohl TI, Moylan CA, Derr AS. Moderating the effects of childhood exposure to intimate partner violence: the roles of parenting characteristics and adolescent peer support. J Res Adolesc 2011 Jun;21(2):376-394
- 59. van Rosmalen-Nooijens K, Lagro-Janssen A, Prins J, LoFoWong S. Feel the ViBe. Nijmegen: Radboud university medical center, Gender & Women's Health; 2012 Jun. URL: https://www.feel-the-vibe.nl/ [accessed 2016-04-18] [WebCite Cache]
- 60. van Rosmalen-Nooijens KA, Prins JB, Vergeer M, Wong SH, Lagro-Janssen AL. "Young people, adult worries": RCT of an internet-based self-support method "Feel the ViBe" for children, adolescents and young adults exposed to family violence, a study protocol. BMC Public Health 2013;13:226
- 61. Eysenbach G. The law of attrition. J Med Internet Res 2005;7(1):e11
- Neil AL, Batterham P, Christensen H, Bennett K, Griffiths KM. Predictors of adherence by adolescents to a cognitive behaviour therapy website in school and community-based settings. J Med Internet Res 2009;11(1):e6
- 63. Crutzen R, de NJ, Brouwer W, Oenema A, Brug J, de Vries NK. Strategies to facilitate exposure to internet-delivered health behaviour change interventions aimed at adolescents or young adults: a systematic review. Health Educ Behav 2011 Feb;38(1):49-62.
- 64. Brouwer W, Kroeze W, Crutzen R, de Nooijer J, de Vries NK, Brug J, et al. Which intervention characteristics are related to more exposure to internet-delivered healthy lifestyle promotion interventions? A systematic review. J Med Internet Res 2011;13(1):e2
- 65. Brouwer W, Oenema A, Crutzen R, de NJ, de Vries Nanne K, Brug J. An exploration of factors related to dissemination of and exposure to internet-delivered behaviour change interventions aimed at adults: a Delphi study approach. J Med Internet Res 2008;10(2):e10
- 66. Eysenbach G, CONSORT- E. CONSORT-EHEALTH: improving and standardizing evaluation reports of web-based and mobile health interventions. J Med Internet Res 2011;13(4):e126
- 67. Brom D, Kleber R. De schokverwerkingslijst (The Dutch version of the Impact of Event Scale). Ned T Psychologie en haar Grensgebieden 1985;40(3):164-168.
- 68. Horowitz M, Wilner N, Alvarez W. Impact of Event Scale: a measure of subjective stress. Psychosom Med 1979 May;41(3):209-218.
- Sundin EC, Horowitz MJ. Impact of event scale: psychometric properties. Br J Psychiatry 2002 Mar;180:205-209
- 70. van der Ploeg E, Mooren TT, Kleber RJ, van der Velden PG, Brom D. Construct validation of the Dutch version of the impact of event scale. Psychol Assess 2004 Mar;16(1):16-26.
- Arrindell W, Ettema J. SCL-90 Guide for a multidimensional psychopathology indicator in Dutch:
 handleiding bij een multidimensionale psychopathologie indicator. Lisse: Swets Tests Services; 2009.
- 72. Chiu TM, Eysenbach G. Stages of use: consideration, initiation, utilization, and outcomes of an internet-mediated intervention. BMC Med Inform Decis Mak 2010;10:73
- 73. Britten N. Qualitative interviews in medical research. BMJ 1995 Jul 22;311(6999):251-253
- 74. Friese S. Qualitative Data Analysis with ATLAS.ti. Thousand Oaks: SAGE Publications; 2011.
- Moltu C, Stefansen J, Svisdahl M, Veseth M. Negotiating the coresearcher mandate service users' experiences of doing collaborative research on mental health. Disabil Rehabil 2012;34(19):1608-1616.
- Lange A, Rietdijk D, Hudcovicova M, van de Ven JP, Schrieken B, Emmelkamp PM. Interapy: a controlled randomized trial of the standardized treatment of posttraumatic stress through the internet. J Consult Clin Psychol 2003 Oct;71(5):901-909.
- 77. Lange A, van de Ven J, Schrieken B, Emmelkamp PM. Interapy. Treatment of posttraumatic stress through the Internet: a controlled trial. J Behav Ther Exp Psychiatry 2001 Jun;32(2):73-90.

- 78. Visser A, van Laarhoven HW, Govaert PH, Schlooz MS, Jansen L, van DT, et al. Group medical consultations in the follow-up of breast cancer: a randomized feasibility study. J Cancer Surviv 2015 Sep;9(3):450-461.
- 79. Bowen DJ, Kreuter M, Spring B, Cofta-Woerpel L, Linnan L, Weiner D, et al. How we design feasibility studies. Am J Prev Med 2009 May;36(5):452-457
- Carpenter G, Stacks A. Developmental effects of exposure to intimate partner violence in early childhood: a review of the literature. Child Youth Serv Rev 2009 Aug;31(8):831-839.
- Edleson J. Children's witnessing of adult domestic violence. J Interpers Violence 1999 Aug;14(8):839-870.
- 82. Edleson JL, Ellerton AL, Seagren EA, Kirchberg SL, Schmidt SO, Ambrose AT. Assessing child exposure to adult domestic violence. Child Youth Serv Rev 2007 Jul;29(7):961-971.
- 83. Crisma M, Bascelli E, Paci D, Romito P. Adolescents who experienced sexual abuse: fears, needs and impediments to disclosure. Child Abuse Negl 2004 Oct;28(10):1035-1048.
- 84. Jobe A, Gorin S. 'If kids don't feel safe they don't do anything': young people's views on seeking and receiving help from children's social care services in England. Child Fam Soc Work 2012;18(4):429-438.
- 85. O'Connor PJ, Martin B, Weeks CS, Ong L. Factors that influence young people's mental health help-seeking behaviour: a study based on the health belief model. J Adv Nurs 2014 Nov;70(11):2577-2587.
- 86. Sheffield JK, Fiorenza E, Sofronoff K. Adolescents' willingness to seek psychological help: promoting and preventing factors. J Youth Adolesc 2004 Dec;33(6):495-507.
- 87. Ahern DK, Patrick K, Phalen JM, Neiley JD. An introduction to methodological challenges in the evaluation of eHealth research: perspectives from the health e-technologies initiative. Eval Program Plann 2006 Nov;29(4):386-389.

SUPPLEMENTARY MATERIALS

Multimedia Appendix 1

Demonstration PowerPoint slides 'Feel the ViBe'

Multimedia Appendix 2

CONSORT EHealth Checklist

Both available at http://www.jmir.org/2017/6/e204/



A Multi-Method Qualitative Study
Investigating Themes Discussed
among Adolescents and Young Adults
Exposed to Family Violence
Participating in an Internet-Based
Intervention.

KARIN AWL VAN ROSMALEN-NOOIJENS
SYLVIE H LO FO WONG
RENSKE LJA MEIJER
JUDITH B PRINS
ANTOINE LM LAGRO-JANSSEN

MANUSCRIPT UNDER REVIEW JOURNAL OF INTERPERSONAL VIOLENCE

ABSTRACT

PURPOSE

Adolescents and young adults exposed to family violence need professional healthcare, but this is difficult to provide adequately. This study evaluates major themes discussed by adolescents and young adults exposed to family violence participating in the internet-based self-support method 'Feel the ViBe'.

METHODS

All data posted online by 28 active users of 'Feel the ViBe' was analysed in atlas.ti, using multiple qualitative methods, including word counts, to find important topics and major themes.

RESULTS

Three major themes were found: sharing stories and peer support; consequences of family violence including normality; professional support and mental healthcare.

CONCLUSIONS

In general, all three major themes centre on help seeking and support. Sharing stories is the most important theme in the online data of 'Feel the ViBe', which coincides with the primary goal of the intervention: providing peer support. The theme of consequences of violence and normality could well illustrate the early state of change of participants. They seek support to deal with their home situation, and need help to become ready for change. Community Managers play an important role as semi-professionals to realize this change.

DISCUSSIONS

This study shows that 'Feel the ViBe' gives support, information and semi-professional help to the target group. Therefore, it should be positioned within or even before primary care, functioning as a first entry at an early state of change, giving adolescents and young adults time to be ready for professional (mental) healthcare, while maintaining safety by means of the safety protocol. Semi-professionals are helpful to bring about this change.

KEYWORDS

Family Violence; Adolescence; Young Adulthood; eHealth; Qualitative Research

INTRODUCTION

Family Violence (FV) mostly affects women and children and can be defined as any behaviour that causes physical, sexual or psychological harm, has been committed in current or past family or domestic or intimate relationships, and includes physical aggression, sexual coercion, psychological abuse and controlling behaviours. About 30% of all women in a relationship reported they had experienced some form of violence in their relationship [1, 2], and in approximately 60% of these cases, children were living in these violent households [3]. These children are almost always exposed to this violence. The most common form of exposure to FV is exposure to Intimate Partner Violence (IPV), but it also covers assaults by parents on siblings or among siblings. There are many possible forms of exposure, varying from direct exposure, that is, seeing or hearing the violence, to indirect exposure, that is, having to deal with the consequences of violence in daily life [4]. Recent studies show that 8-12% of all children were exposed to some form of FV in the preceding year [3, 5, 6]. Adolescents and young adults (AYAs) are a group of special interest within the total group of children exposed to FV. Hamby (2011) showed that past-year prevalence for any exposure to FV was highest in 14-17-year olds (13.8%) [5].

The consequences of being exposed to FV are considered to be comparable to being a direct victim and include a wide range of psychological, emotional, cognitive and physical problems [7-10]. Studies focusing especially on AYAs exposed to FV have found associations with substance abuse, adolescent pregnancy, high-risk behaviour and psychosocial problems, such as family and job issues, financial problems and controlling anger [11, 12]. FV exposure increases the risk of intergenerational transmission: becoming a victim or a perpetrator in adult life [13]. Therefore, exposure to FV is considered one of the most harmful types of child abuse, which needs to be identified and addressed as early as possible.

For healthcare professionals (HCP), it is difficult to first identify AYAs exposed to violence [14-16]. For young children, identification and treatment depend on either the identification of the victimized parent (mostly the mother), or alertness to (hidden) signs by HCP or school teachers. For AYAs however, this is somehow different: Adolescence is an important and life-altering period in human life with tremendous physical and psychological changes [17, 18]. In this period, peers are highly important and are considered, more than family, significant others when facing problems. Only 18-34% of AYAs seek professional help for mental health problems and they prefer informal help above professional help [10, 19-23].

The transtheoretical stages-of-change model by Prochaska and DiClemente [24] describes the process of intentional behaviour change and can be used to describe the

situation of AYAs exposed to FV. We hypothesize that AYAs exposed to FV to be in a (Pre)Contemplation phase, not yet ready to take action. There might be several explanations for this: AYAs exposed to FV might be unaware of the abnormality of their home situation; and when they are, they often feel responsible for the victimized family member and try, mostly unsuccessfully, to protect the family, out of loyalty or fear for the consequences of searching help. Their feelings and comprehension of 'safety' as well as their immediate safety are highly under pressure and they might be hesitant to share experiences with peers or significant others out of shame or fear that their home situation may harm their status (peer pressure). Besides, adolescents in general do not have adequate health literacy, which is needed to understand the need for help and to gain access to system of services available. They are often not aware of what health and other services are being provided and how to obtain them. This could impair the help-seeking process [25-29].

Several reviews have addressed adolescent help-seeking behaviour for mental health problems, including being a victim of violence. Barriers include attitude towards healthcare, confidentiality and trust issues, fear or stress about help-seeking and lack of knowledge, accessibility, or recognition by others [30-32]. Facilitators include the adolescents' competence to address emotions, positive past experiences and trusted relationships with a HCP [14-16, 20, 30-37]. None of these studies involved specifically AYAs exposed to FV and most participants in these studies already received healthcare.

Having detected them it is challenging to provide healthcare that is appropriate to both the age group and their specific problems [14, 16, 32]. AYAs exposed to FV have three basic needs when searching for healthcare: control, safety and trust [38]. Most of the existing interventions do not meet these needs: they are, for example, not available in the place where the AYA lives, do not offer specialized care or have a high threshold, because of entry requirements or restricted access times. Interventions are mostly group therapy sessions. Parents are often involved or needed for consent and insurance. Above that, HCP have to comply to safety and child protection laws. This often leads to insufficient respect in clinical practice for adolescents' rights to information, privacy and confidentiality.

Provision of information, sharing experiences and peer modelling are known to increase self-management [39-41] and peer- and social support are effective methods to change behaviour, both offline and online [41-47]. Furthermore, social support has proven to be effective in adults exposed to violence and is associated with good mental and physical health outcomes [48-50].

When HCP seek alternative ways to reach and treat this vulnerable age group, the internet seems to be the most obvious medium: E-health is seen as an effective

method to change behaviour [51]. Moreover, peer-to-peer communication is able to influence health behaviour and health by means of information sharing, emotional and instrumental social support and peer modelling [39, 43, 52]. Besides, it could help maintain feelings of safety and control, because of its relatively anonymity.

In 2011, the department of primary and community care, gender and women's health, of Radboud University Medical Center, developed a new internet-based self-support method for AYAs exposed to FV: 'Feel the ViBe' (FtV) [53]. This intervention, which is described in more detail in the methodology, is a freely available, stand-alone, low threshold intervention for AYAs exposed to FV. The intervention has three main goals: to stimulate peer support, to offer information on FV, and to lower the threshold to existing healthcare. This study describes a thematic qualitative evaluation of FtV, answering the following research questions: 1) Which themes are most important for AYAs exposed to FV visiting the online self-support method 'Feel the ViBe'; and 2) Do these themes fit the pre-set goals of the intervention?

METHODS

DESIGN

This study has a qualitative design using a variety of website data from FtV, complemented with online user interviews, to answer the research questions.

INTERVENTION

'Feel the ViBe' is a freely-available, Internet-based self-support method for AYAs exposed to FV (self-assessed) [53-55] with three main goals: (1) providing information, (2) offering (peer) support, and (3) lowering the threshold to regular health care services by supporting participants to move to a higher level of change and to find health care fitting their needs. The intervention comprises a variety of elements, being among others a forum, a chat function, informational pages, and an "ask the expert" function (table 1). A community manager (CM) moderates the intervention, answers questions, assesses safety, and supports participants when needed, both on demand when asked for, and actively when they judge a participant could use support or additional information. The CM is a semi-professional with a background in health care and additional training on FV.

Participants could access FtV from any computer, needing only their login name and password. FtV is to be used ad libitum without endpoint to the intervention; however, to facilitate exposure for returning visitors we included structured events and

reminders [56-58]. FtV is described in detail in the study protocol and RCT and feasibility study of FtV [53-55].

PARTICIPANTS

Participants included were AYAs in the age of 12–25 years old, exposed to FV as defined above, and registering themselves online at the homepage of 'Feel the ViBe'. Participants were included between June 2012 and January 2014. We did not actively recruit participants: all participants found FtV on Google or trough other websites. Excluded were participants not in command of the Dutch language, as FtV is in Dutch.

If participants read the patient information letter, available on the homepage, and had no further questions they were eligible to participate and randomized in two parallel groups with a 1:1 allocation ratio: an intervention group, having access to 'Feel the ViBe' + usual care (UC), and a control group, having access to minimally enhanced usual care (mEUC), meaning that they were placed on a waiting list for twelve weeks with access to 24h emergency care. After twelve weeks, the participants initially randomized to the control group received full access to FtV as well.

For this study, all 28 participants who were active users of FtV were included, regardless of their initial randomization (figure 1) [53]. Patient characteristics can be found in table 2.

A safety protocol ensured participant safety: FtV is based on a secured server and participants had to use a nickname. All personal data online were removed by a Community Manager (CM), who also monitored the intervention. Participants could contact the CM in case of emergency, independently of their randomization group and electronic consent. All participants were obligated to give contact details of any adult they trust. In case of severe danger, the CM could contact this person with consent of the participant, or, if a participant was below 16, also without consent. Participants could not be blinded due to the nature of the study. Participants, recruitment, randomization, consent and intervention are all described in detail in the study protocol of FtV [53].

DATA COLLECTION

To ensure anonymity and participant safety, the researchers could not access the actual intervention. One of the CMs (AP) provided the researchers with an extensive database containing all chat logs (weekly 'life' conversations between either participants and HCP or CMs, or participants among each other, lasting an average 30-90 minutes) and forum content (conversations on a diverse range of subjects for which participants do not have to be online at the same time), produced between June 2012 and January 2014.

From this database, all personal data were removed. All data were imported in Atlas.ti 7.1.5 [59], which led to a data file containing 86 chats (127,356 text lines) and 8,585 text lines of forum data. To be able to link website data to participant characteristics the researchers also received access to a restricted database with participant numbers and general characteristics including their online nickname.

DATA ANALYSIS

To analyse the qualitative data, we primarily used an open thematic coding approach [60, 61]. After familiarizing with the data, forum data were chosen as the base for qualitative analysis because of the relative small amount of data, compared to the large amount of data from chat, and because the wide range of subjects that were discussed on the forum. All forum data were coded independently by three researchers (KRN, KP, RM). After 4.000 text lines, all text fragments and adjacent codes were discussed until consensus was reached among the three researchers. When in doubt, both fragments and both codes were kept. The resulting code list was used to recode the first half of the forum. No new fragments emerged. The remaining forum data were analysed using the code list by all three researchers. Fragments not fitting any of the existing codes were given new codes and discussed between the researchers. With the final code list, two researchers (KP, RM) reread all data to check if there were no new fragments or new codes. No new data emerged.

A total of 127.356 text lines from 86 chats were available to the researchers for analysis. Because of the large amount of data, we decided to select the six chats that were visited by the most participants. Using the forum code list, two researchers (KP, RM) independently analysed these chats and discussed the codes found with three researchers (KP, RM, KRN). No new codes came up, for which we decided that data saturation was reached.

The final code list was discussed in the research team and grouped in categories. This code list formed the base for semi-structured interview guide (table 3), which was used to interview four participants after the inclusion period ended and all participants finished all questionnaires as described in the study protocol of FtV [53]. These participants were selected by the CM (knowing all participants) using purposive sampling. All participants asked gave consent to take part in the interview. The interviews were held using the chat function, within the security of the intervention, lasting 30-45 minutes. One researcher (KRN) did the interview, in presence of the two researchers who coded the text data (RM, KP). The interviews were coded in Atlas.ti, using the existing code list, by two researchers independently (RM and KP) [59]. The coded data from the

interviews fitted within the existing categories. The complete research team discussed all categories and formulated themes in consensus.

In addition to the thematic data approach, we performed a word count in Atlas.ti to analyse all 127.356 text lines of the chat. The ten most used and relevant words (e.g. 'the' is not relevant, but 'safety' is) were independently selected by the researchers (KP, RM, KRN) and compared. All three researchers selected the same ten words. For each of these, the 1-10th, the 41-50th and the 81-90th, text fragments were selected from the chats. Table 4 shows these ten words, followed by an example of a selected text fragment. The resulting 300 text fragments were analysed independently by two researchers (KP and RM) using the existing code list. No new codes or themes arose. The research team decided that saturation was reached and that it was not necessary to analyse all remaining chat data.

ETHICAL AND SAFETY ISSUES

The Committee on Research Involving Humans Subjects of Radboud University Medical Centre (Dutch initials: CMO) assessed this study and judged that it does not fall within the remit of the Medical Research Involving Human Subjects Act (WMO). Therefore, the study can be carried out (in The Netherlands) without approval of an accredited research ethics committee.

To illustrate our findings quotes from participants were used (Q1-Q24). All quotes were translated from Dutch to English in table 5 and are followed by participant number, age, sex and source of the fragment. We provided figures in the text to whether topics have been brought up by a few (<9), some (9-16), many (17-24), most (25-32) or nearly all (>32) participants. While reporting this study, we followed the Standards for Reporting Qualitative Research (SRQR)criteria [62].

RESULTS

Three major themes were found: First sharing stories and peer support; Secondly consequences of FV and normality; and thirdly professional support.

SHARING STORIES AND PEER SUPPORT

Sharing your story was a key topic online. Forum and chat were mainly used to talk about feelings, about the home situation and to share daily life stories. We identified different ways to share a story: in a short narrative or poem in a forum topic, or interactive at one of the chats (Q1, Q2). In the word count analysis 'talking' and 'telling' were the two most

mentioned words (together 1057 times), and the fragment code 'peer support' (189 times) and 'sharing a story' (110 times) were the most coded items on the forum (table 4). Participants mostly 'just wanted to share what's on their mind' (Q3).

Even though most of the participants had friends in real life, it was difficult to share their real story, because they did not want to burden friends with their problems (many participants), they feared they would lose their friends (many participants) or they thought their friends would not understand (some participants) (Q4, Q5, Q6). Story sharing was convenient because participants knew someone was reading their story, which made it different from a diary or other personal file (Q7). They invited each other to talk about their situation and it became clear that for most of the participants sharing their story with peers was an important reason to register for FtV (Q8, Q9).

Essential for peer support were recognition and acknowledgement: recognizing yourself in the family situation, mental health problems or daily issues of the other participants. Participants said it was revealing and relieving to find out that they were not the only one (Q10). Recognition made participants feel taken seriously, understood and acknowledged. Often participants actively asked if other participants recognized certain situations or actions they had undertaken and they felt reassured if this was indeed the case (Q11).

CONSEQUENCES OF FAMILY VIOLENCE

The most discussed subjects were questions on how to deal with the violence at home and consequences of violence: having difficulties with intimate contact, feelings of guilt, anger and sadness, having a poor self-image, having symptoms of PTSD, experiencing anxiety, and dealing with eating disorders. Discussing mental health problems gave participants more insight about the relation between their home situation and these problems (Q12).

An important subject worth further exploring was 'normality': what is and is not normal in an average family situation. Items discussed most were communication between family members, type and frequency of physical contact and tasks and chores to be done. Many participants seemed to have an unaccustomed idea about what is normal in a family living situation, and some participants blamed themselves for the violent situation at home (Q13). Reading about 'normality' on the forum was an eye-opener for some participants, as some participants have thought for years that violence is a normal way of resolving problems (Q14-Q17).

PROFESSIONAL SUPPORT AND MENTAL HEALTHCARE

Professional (194 times) support was one of the most coded items on the forum. In the word count, 'help' was the third most counted word (372 times) (table 4). However, participants were in general dissatisfied about the existing mental healthcare and complained they were not taken seriously. Additionally, professional healthcare was feared for taking action right away without explicit consent. Still, they all stressed the necessity of professional help (Q18), although all participants with mental care experience stated that they mainly felt helped by an HCP when they could tell their story.

Few participants were actively searching for professional mental care other than FtV, although almost all participants said they wanted and needed professional help to help them cope with their problems and to stop the violence at home. Participants who want to find professional mental healthcare asked actively for support, mainly on the forum. The most important reason for not wanting to find regular (mental) healthcare was that they just felt not ready (most). Other (mostly older) participants said that they already received healthcare before (some) and that they were only looking to find support (some). Participants tried to help each other giving advice and information using online sources and personal experiences (Q19).

The CMs were supposed to have solely a monitoring role to assess participant safety and answer questions. In practice however, they had an active role in stimulating participants to find professional mental care, although there was a difference between the chat and the forum. At the forum participants supported each other. The CM functioned as an additional but not essential source of information. At the chat however, we found that semi-professional support from the CM was far more prominent than support from peers (coded respectively 303 and 130 times). Conversations were seen mainly between the CM and participants instead of participants among each other. In the chats, the CM functioned as an engine to keep the conversations going: encouraging participants to tell their story, reacting reassuringly and encouraging the participant to talk to someone, building trust and giving semi-professional support, which was appreciated highly (Q20, Q21, Q22).

Many participants started professional mental healthcare during their participation in FtV, which we concluded from the amount of conversations on this topic (Q23). No results on whether this was the direct result of the participation in FtV emerged. Therefore, in the interviews, participants were asked if FtV was useful in finding help from existing healthcare services. One participant said she did not need this, because she already had professional healthcare before FtV. The other three said that it helped, but that it was still a large step and the participant really needs to want it (Q24).

DISCUSSION

This study has investigated the type of themes discussed online among AYAs exposed to FV. Three major themes emerge from the data: sharing stories and peer support, including recognition and acknowledgement; consequences of FV and normality; and professional support.

Participants mainly use FtV to tell their story. This online story sharing we observed as substantially different from sharing a story with friends, family, or HCP. We hypothesize that of the cause of this difference is the nature of the intervention, participants being anonymous except for nickname and age. Control, safety and trust are basic needs for AYAs exposed to FV [38]. The relative anonymity could generate a feeling of safety. A sense of control could spur from the physical distance and the lack of HCP presence, preventing unwanted actions to be taken without their explicit consent. CMs having free access to full contact information and a contact person seems to have no influence on these feelings since it did not prevent participants to share their stories without major hesitations. It would appear that the amount of control participants have, being quasi-anonymous and able to share what, how much and when they want is enough to make them feel in control. In our opinion, this degree of control is an advantage compared to regular (mental) healthcare, which often is time- and place bound, as well as difficult to provide anonymously.

An additional reason to share their personal stories online is the wish for support. It is well known that peer support is an adequate form of help [39, 41, 63], but it can be difficult for AYAs exposed to FV to find it in their close surroundings. For example, they could fear being misunderstood, or feel that they are burdening their friends with their problems. Moreover, they often believe to be different because of their personal difficulties, and this in turn seems to increase their fear of being excluded by the peer group. [64]. Knowing that the person they are talking to has had similar experiences is important for AYAs and makes them less hesitant to share their story [44, 45, 49, 52]. In our study, participants sharing their stories feel that their situation and problems are acknowledged. This might encourage them to seek professional help, which is also known from the literature [30, 65-67].

The second major topic follows the first one. In addition to sharing stories, participants often discussed consequences of living in a violent home situation. The subject of 'normality' stood out in particular. Participants discussed about this subject, trying to find out what is normal in a normal family living situation. Several theories explain this focus on normality: witnessing FV may lead to wrong assumptions about what behaviour is normal in a loving relationship, as captured by the social learning theory of Bandura [68]. This theory states that individuals learn from and are shaped by

the behaviours of their role models in the close social circle. Growing up in an environment with interparental violence exposes these individuals to aggressive role models, and through observation, they will learn to think that such behaviour is normal and functional [69].

AYAs exposed to FV become aware that their living situation is different from others, and may start to search for information. In this phase, it is important that information is easily accessible with via non-threatening channels. 'Feel the ViBe' could help to provide this information.

Considering that one of the pre-set goals was to help participants find regular (mental) healthcare, it is not surprising that professional support was the third major theme discussed online. However, we did not foresee the major role of the CMs. They were intended to support and monitor the platform, maintaining participant's safety, and taking action in cases of potential danger. Participants highly valued the advice and help of the CMs, assigning them the role of 'professional friend': someone they can trust and is not seen as an HCP, but still can give support and information comparable to a semi-professional. This is a subject for further exploration.

All three major topics are focused on searching and receiving support, whether this is peer support or professional support. The participants searched for different amounts and types of support, a finding that is likely related to the participants' stage of change. Discussing normality could be a sign of an early stage of change, since AYAs exposed to FV are still unsure about taking action to change their situation. One of our initial assumption was that the participants knew that they belonged to the target group and were ready for change at the moment of registration. In practice however, they were in doubt and not yet ready to start regular (mental) healthcare in most cases. They might have feared the consequences of starting (mental) healthcare, or had a negative attitude towards regular professional care, not uncommon for AYAs and persons exposed to violence or trauma. Negative experiences and a low health literacy are among common reasons preventing individuals from starting professional care [23, 30, 38, 70-72].

At the early stage, AYAs exposed to FV are searching for support and information. They may be using FtV as a safe resource where they find confirmation that their home situation is not normal and that they need help. This may also explain the key role of the CMs: participants in this early state might need a 'professional friend': a (semi-) professional who can be trusted to provide them with correct information. Sharing stories and talking about normality with peers and CMs could help them move from a Contemplation or Preparation phase to an Action phase, in which they have less concerns about the consequences of their help seeking behaviour and have easier access to proper mental healthcare. In our opinion, this is an interesting finding, which shows the position

and strength of FtV. However, more research is needed to investigate the position of the CM as semi-professional.

LIMITATIONS

During the inclusion period participants could start their participation at any moment, meaning that some participants had substantially more data online than other participants. However, we coded fragments and quotes from participants and had sufficient input from all participants online. Besides, we used several data sources and methods for the data analysis in which we reached saturation. In addition, there were no male participants online, meaning that this article can be only applicable to female adolescents and young female adults exposed to violence.

CONCLUSION

Sharing stories is the most important theme on FtV, which was also the primary goal of FtV: providing peer support. The second important theme was the subject on consequences of violence and normality and could well illustrate the early state of change of participants of FtV. The third major theme is professional care: participants appreciate the advice and information given by each other and the CMs, in which the latter seem to function as semi-professionals. In general, all three major themes centre on help seeking and support. Participants seek support to deal with their home situation, and indicate they need (mental) care. 'Feel the ViBe' could be an intervention providing support and information, helping AYAs exposed to FV to become ready for regular (mental) healthcare.

IMPLICATIONS

This study shows that (peer)support and information are important for AYAs exposed to FV. FtV could be a promising intervention for this target group, providing peer and semi-professional support and helping AYAs exposed to FV become ready to start regular (mental) healthcare. Therefore, we feel it should be positioned within or even before primary care, functioning as a first entry at an early state of change, giving AYAs time to be ready for professional (mental) healthcare, while maintaining safety by means of the CMs and the safety protocol [73].

Further research should evaluate the differences between peer support and semi-professional support, and should include an exploration of the importance of the CM as a 'professional friend'. Research should also be conducted to study effects of FtV in finding regular (mental)healthcare and the effects of participation in FtV on mental health.

Considering the methodology, in this study we used different techniques to analyse a large amount of qualitative data, of which some are relatively new for the field. Additionally, using qualitative techniques on online data files is still a new area of research. This study in which we reached saturation without having to analyse all data, implicates that this approach is promising for future qualitative studies of online data as well, which should be investigated, preferably in a qualitative study which compares a full analysis with a limited analysis as used in this study to investigate for any differences in results and conclusions.

ACKNOWLEDGEMENTS

The authors would like to thank Katie Postma (KP), medical student, for her work in the analysis of the study data.

TABLES AND FIGURES

Table 1 Overview of 'Feel the ViBe' elements

Element	Extra information	Restrictions
General information on exposure to family violence	Information by age (under 12 years, 12-17 years, 18-25 years, and parents) and by subject.	Public
Research information and disclaimer	Information for participants and parents about research, safety, and privacy.	Public
Information on sponsoring	Homepage, bottom left.	Public
Contact page	Option to register or ask questions to the community manager or researchers.	Public
News page	Twitter newsfeed included. The news page states important information for participants such as major bug fixes, changes in content, and scheduled maintenance.	Public
Emergency exit	A button on every page directing participants to a search engine without option to go back in the browser.	Public
Electronic consent for participants	Consent is necessary to get access to other elements behind login	Available after first login.
Electronic consent for parents	Consent is necessary for participants under 16 years old to get access to other elements behind login	Accessible by email with a code.
Questionnaires	Questionnaires will be activated in the personal menu. Questionnaires can be filled out one-by-one. Whenever possible, adaptive questioning is being used to make the burden as low as possible. There is a maximum of 15 questions per page. All items need to be filled out to submit a questionnaire. Participants cannot review their answers.	Available after first login, and every 6 weeks.
Personal menu	Menu for the participants with overview to all the available elements, access to the participants profile, digital testament, research information, and contact information.	Login needed
User profile	The profile contains information of the participant, being: full name, nickname, avatar, sex, age, contact details, and contact person. Only the nickname is available for other participants. The participant can choose a theme for the layout.	Login needed
Digital testament	The digital testament is required to fill out and lets participants choose how their data must be handled if they stop their participation.	Login needed
Ask the expert	Option to ask questions by email to several experts, including a general practitioner, a sexologist, a psychologist, and an expert in the field of family violence. Participants can also contact the community manager for general questions and questions regarding regular health care services. Response is given within 72 h.	Login needed

Forum	The forum is meant to stimulate peer support. The community manager moderates the forum and stimulates contact.	Login needed
Chat	Every 2 weeks we will offer a chat session for the participants with a specific theme and supported by an expert and the community manager. Every other week there will be an unguided chat.	Login needed
Information	Depending on the age in the profile, participants have access to tailored information about partner violence, sexual health, reproductive health, relations, and health care.	Login needed
Facts and figures	In a 12-week cycle, participants receive a 1-sentence fact or figure about family violence, sexual health, or reproductive health every day on their mobile or by email.	Consent needed

Table 2 Participant characteristics (n=40)^a

Participant characteristics		Intervention (n=20)	Control (n=20)	P value
Age (years)	Mean age	18.40 (SD 3.62)	18.20 (SD 3.02)	
	12-17	8	10	.54
	18-25	12	10	
Sex	Male	1	0	.32
	Female	19	20	
Country of birth	Netherlands	20	16	.04
	Belgium	0	4	
Country of birth mother	Netherlands	17	12	.24
	Belgium	0	5	
	Other	3	3	
Country of birth father	Netherlands	17	13	.55
	Belgium	0	3	
	Other	3	4	
Religion	Christianity	11	9	.29
	Islam	1	1	
	No religion	5	8	
	Other	3	2	
Importance of religion	Not important	11	16	.06
	A bit important	7	4	
	Very important	2	0	
Employment	Full time education	10	11	.54
	Employed	3	3	
	Both studying and job	6	5	
	Disabled	1	1	
Education	Lower education	3	3	.65
	Middle education	9	5	
	Higher education	8	12	
Current relationship	Boyfriend	5	7	.38
	Girlfriend	0	1	
	Dating	1	1	
	None	14	11	
Living situation	At home with parents	14	15	.71
	With partner	1	0	
	Alone	3	4	
	Sheltered housing	2	1	
Alcohol use	Daily	1	0	.90
	>1 time/week	3	5	
	<1 time/week	6	6	

	Never	10	9	
Smoking	Yes	1	2	.67
	Before	3	1	
	No	16	17	
Use of drugs	>1 time/week	1	0	.35
	<1 time/week	1	1	
	Never	18	19	

 $^{^{\}rm a}$ only participants who also completed their IES and SCL-90 DEP and ANX questionnaires were included.

Table 3 Interview guide

	Question
1	What is your opinion about 'Feel the ViBe'?
2	Do you experience difficulties whilst using the website?
3	Do you think you use 'Feel the ViBe' a lot, average or a little?
4	What is it like for you to be in contact with peers?
5	How are you doing since you are using the website?
6	Has using 'Feel the ViBe' influenced you in looking for other professional help?
7	Have you ever thought about quitting with 'Feel the ViBe'?

Table 4 Ten most used relevant words in the chat logs on 'Feel the ViBe'

Word	Amount	Example of text fragment selected containing this word.
To Talk	550 (1057) ^a	"no, there are no others [] I cannot talk to my family"
Parents	493	"When I was younger, I always wished for other parentsdo you recognize that?"
Help	372	"I did search for help, but they all turned me down"
To Ask	370	"If you want to ask me something, I can try to help you."
Difficult	304	"I find it difficult to say what's 'normal' at home"
Violence	270	"I never told anyone about it (the violence), because, in my eyes, I would be seen as 'the weaker one'."
To Help	257	"This site really helps me, they help you here and you really feel at ease to share everything you want."
Scared	231	"I'm really scared that she wants to start other professional help"
General Practitioner	204	"As from today, I will start consultations with my General Practitioner on a general base."
Problems	186	At home, the problems became worse and the healthcare organization I went to wants to do all kinds of tests, which I don't want them to do."

^a between brackets, all variances of 'to talk' were added up, which includes 'to tell' and all grammatical variances of these two verbs.

Table 5 Participant quotes

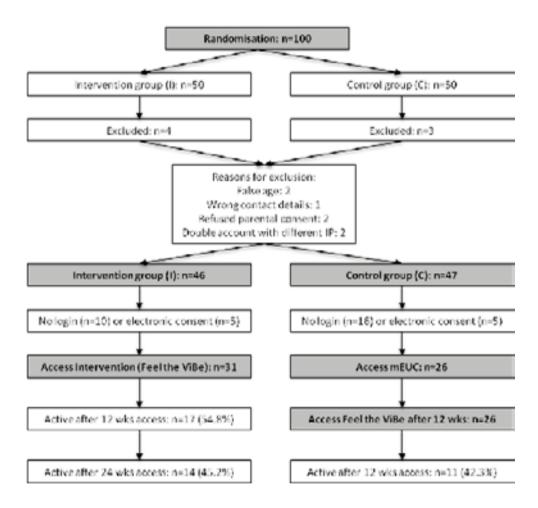
	Participant Participant	_		Quote
Q1	202	21	forum	I want to write down my story. I find it hard to write down [] My parents had a lot of fights together [] every time I see the bumps in the table I get reminded of that fight. [] When they fought I went upstairs to my bedroom [] I was with my sister at our bedroom and heard them fight [] I can still remember how scared and upset I was. My father came upstairs [] and told me to stop crying very fast. I was really small then, but I still remember it as yesterday.
Q2	244	16	forum	Tears, tears of misery and pain, tears of pain and hurt, tears of grief. Do they know what they do, do they know how I feel, know what is eating me, what bothers me? Feeling so alone, wanting arms around me, crying at your shoulder, telling what's really going on. They won't understand, won't see my grief, won't understand my problems, won't understand
Q3	257	16	forum	I feel like screaming, like yelling, to break something, whatever. I just needed to put this somewhere and I didn't know where [] Oh, this actually feels as a relieve.
Q4	207	23	chat	I do have people around me who are there for me, but I'm always afraid that they will leave if I ask too much attention.
Q5	210	20	forum	I mostly felt it when I was with friends. If I wanted to tell it to them they often took over the conservation and talked about their own fights with parents, telling me that my story was nothing.
Q6	209	20	forum	For sure. I never told anyone anything about my history with violence, because I would be seen as the weaker one in my eyesI think.
Q7	237	19	forum	A while ago I wrote a letter in my diary [] After I wrote it I felt it should be read, but I can't even consider letting it be read [] so I want to share the letter with you all.
Q8	278	23	chat	I tried to search for help from the school counsellor, but they didn't believe me [] That is the reason why I'm so happy that this exists, that I can talk about it with 'fellow sufferers'.
Q9	220	15	forum	Indeed, everyone reacts so lovingly because they know what it is [] You look for comfort online and here you get comforted [] I always feel a bit better after I visited the website, you can write everything down and help others or others help you and I think that's really amazing!

Q10	207	23	forum	I just wanted to say to you that the way you write and the way you talk about yourself is really very familiar to me.
Q11	225	24	forum	I feel bad for you, and happy for myself, to hear that you recognize it. The thought that I made it all up, dramatized it, that is a thought I recognize anywhere.
Q12	207	23	chat	Could all of this really be caused by what happened? I'm out of the house for years now.
Q13	282	19	forum	Despite everything I still love my parents. I know they have problems which need solving first. I know it is not me, although I think I should be more tolerant and fight them less [] I am not an easy child [] I had to finish a lot of homework, so I couldn't always finish the household [] Because of their problems I feel guilty when they had a fight, I know it is not my fault, but I still feel it this way.
Q14	257	16	chat	But I still think it is a bit strange, since I have been raised with the idea: if you are annoying you get beaten. I've only found out last month that it is really not normal.
Q15	231	18	forum	By reading about it (forum topic about 'what is normal') I found out that almost nothing is right in my situation.
Q16	257	16	forum	but still the question remains to me: is this really so bad? Do children really never get beaten at home? Aren't children beaten at all?
Q17	231	18	forum	To what extent is crying normal? And is it the parents' duty to console the child? In what situations? And are there situations where no console is needed, because you have to learn not always to cry?
Q18	264	16	chat	Youth Care listened a lot to my parents but not to me. They just didn't believe me even though I was crying my eyes out.
Q19	202 207 209	21 23 20	chat	Chat conservation between three participants "I wouldn't be able to do it without professional help and if I hear what you are going through I cannot imagine that you do not need help" (207). "I think that you are right, that I need to find help" (209). "You only get better from it, eventually" (202). "But I don't know where and it is very confronting to me" (209). "Well, it will not be solved right away, but eventually it will help you" (207). "You can start by going to your GP" (202). "I think you both are very brave that you found professional help, and that you protected yourselves" (209). "Well, I didn't have a choice, yeahI did, but help really was the best option, I waited until the end, but I wished I went sooner for help" (202).
Q20	207	23	chat	Thank you (CM), my mood actually improved because of this conversation, strangely enough!
Q21	216	21	chat	Thanks for everything (CM), I am very happy I have found this website [] This is relieving and it is nice that I can do something about it (negative thoughts) now.
Q22	202	21	chat	Sleep well (CM). Thank you for your help and thinking with me. You really are helpful to me.

Q23	220	15	forum	I just wanted to talk to someone outside school about it and then I met someone from the Centre for Youth and Children. He thinks I should talk to my parents. [] He is forcing me to do it, I have no choice, otherwise he will call my parents himself and he will inform the Dutch Child Abuse Authority!! [] I do regret telling him because I don't want this, I don't want to talk to my parents. I just wanted to hold on for three more years until I can leave home, but nobody is asking to my opinion which I think is sad, because it concerns my parents and my life!
Q24	207	23	interview	I think that the step towards professional healthcare is quite big. Especially if you still live at home or at the place where the violence takes place. And then you don't really let a virtual someone tell you what to do.

Figure 1 Flowchart 'Feel the ViBe'

The flowchart shows inclusion, exclusion and drop-out for 'Feel the ViBe'. After having had twelve weeks of access to 'Feel the ViBe', 28 out of 57 participants are still active users (mEUC = minimally Enhanced Usual Care)



REFERENCES

- Devries, K.M., et al., Global health. The global prevalence of intimate partner violence against women. Science, 2013. 340(6140): p. 1527-8.
- WHO, Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence. 2013, Geneva, Switzerland: World Health Organization.
- McDonald, R., et al., Estimating the number of American children living in partner-violent families. J Fam Psychol, 2006. 20(1): p. 137-42.
- Holden, G.W., Children exposed to domestic violence and child abuse: terminology and taxonomy.
 Clin Child Fam Psychol Rev, 2003. 6(3): p. 151-60.
- 5. Hamby, S.L., et al. Children's exposure to intimate partner violence and other family violence. 2011; Available from: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf. (Archived by WebCite® at http://www.webcitation.org/6gt02RIVb).
- 6. Finkelhor, D., et al., Violence, crime, and abuse exposure in a national sample of children and youth: an update. JAMA Pediatr, 2013. 167(7): p. 614-21.
- Hillis, S.D., et al., Adverse childhood experiences and sexually transmitted diseases in men and women: a retrospective study. Pediatrics, 2000. 106(1): p. E11.
- Campbell, J.C., Health consequences of intimate partner violence. Lancet, 2002. 359(9314): p. 1331-1336.
- Lepisto, S., T. Luukkaala, and E. Paavilainen, Witnessing and experiencing domestic violence: A descriptive study of adolescents. Scandinavian Journal of Caring Sciences, 2011. 25(1): p. 70-80.
- Brady, S.S. and G.R. Donenberg, Mechanisms linking violence exposure to health risk behaviour in adolescence: motivation to cope and sensation seeking. J Am Acad Child Adolesc Psychiatry, 2006. 45(6): p. 673-80.
- Berenson, A.B., C.M. Wiemann, and S. McCombs, Exposure to violence and associated health-risk behaviours among adolescent girls. Arch Pediatr Adolesc Med, 2001. 155(11): p. 1238-42.
- Hillis, S.D., et al., The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. Pediatrics, 2004. 113(2): p. 320-7.
- 13. Ehrensaft, M.K., et al., Intergenerational transmission of partner violence: a 20-year prospective study. J Consult Clin Psychol, 2003. 71(4): p. 741-53.
- Buckley, H., N. Carr, and S. Whelan, 'Like walking on eggshells': service user views and expectations of the child protection system. Child & Family Social Work, 2011. 16(1): p. 101-110.
- Featherstone, B. and H. Evans, Children experiencing maltreatment: who do they turn to? 2004,
 NSPCC London.
- 16. Whitehall-Smith, M., Counselling & support services for young people aged 12–16 who have experienced sexual abuse: a study of the provision in Italy, The Netherlands & the United Kingdom. Edited by Mary Baginsky, NSPCC, London, 2001. 140pp. ISBN 1-84228-020-1 (Pbk). Child Abuse Review, 2002. 11(5): p. 333-334.
- DiClemente, R.J., W.B. Hansen, and L.E. Ponton, Handbook of adolescent health risk behaviour. 2013:
 Springer Science & Business Media.
- Lerner, R.M. and L. Steinberg, Handbook of Adolescent Psychology, Volume 1: Individual Bases of Adolescent Development. Vol. 1. 2009: John Wiley & Sons.
- Sawyer, M.G., et al., The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. Aust N Z J Psychiatry, 2001. 35.
- Rickwood, D., F. Deane, and C. Wilson, When and how do young people seek professional help for mental health problems? Med J Aust, 2007. 187.

- 21. Essau, C.A., Frequency and patterns of mental health services utilization among adolescents with anxiety and depressive disorders. Depress Anxiety, 2005. 22.
- Rowe, S.L., et al., Help-seeking behaviour and adolescent self-harm: a systematic review. Aust N Z J Psychiatry, 2014. 48(12): p. 1083-95.
- Ashley, O.S. and V.A. Foshee, Adolescent help-seeking for dating violence: Prevalence, sociodemographic correlates, and sources of help. Journal of Adolescent Health, 2005. 36(1): p. 25-31.
- Prochaska, J.O. and C.C. DiClemente, Transtheoretical therapy: Toward a more integrative model of change. Psychotherapy: theory, research & practice, 1982. 19(3): p. 276.
- 25. Cunningham, A. and L.L. Baker, The adolescent's experience of intimate partner violence and implications for intervention. How intimate partner violence affects children: Developmental research, case studies, and evidence-based intervention, 2011: p. 247-272.
- 26. Kelley, M.L., et al., Parentification and family responsibility in the family of origin of adult children of alcoholics. Addict Behav, 2007. 32(4): p. 675-85.
- 27. Fitzgerald, M.M., et al., Child sexual abuse, early family risk, and childhood parentification: pathways to current psychosocial adjustment. J Fam Psychol, 2008. 22(2): p. 320-4.
- 28. Sox, R., Integrative Review of Recent Child Witness to Violence Research. Clinical Excellence for Nurse Practitioners, 2004. 8(2): p. 68-78.
- 29. WHO, Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of health-care providers. 2015: World Health Organization.
- 30. Gulliver, A., K.M. Griffiths, and H. Christensen, Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. BMC Psychiatry, 2010. 10(1): p. 113.
- 31. Barker, G., A. Olukoya, and P. Aggleton, Young people, social support and help-seeking. Int J Adolesc Med Health, 2005. 17(4): p. 315-35.
- 32. Cossar, J., M. Brandon, and P. Jordan. 'Don't make assumptions': Children's and young people's views of the child protection system and messages for change 2011; Available from: http://dera.ioe.ac.uk/2690/1/force_download.php%3Ffp%3D%252Fclient_assets%252Fcp%252Fpubl ication%252F486%252FChildrens_and_young_peoples_views_of_the_child_protection_system_.pdf (Archived by WebCite® at http://www.webcitation.org/6gsyiZim3).
- Rickwood, D., et al., Young people's help-seeking for mental health problems. Australian e-Journal for the Advancement of Mental Health, 2005. 4(3): p. 218-251.
- 34. Freake, H., V. Barley, and G. Kent, Adolescents' views of helping professionals: a review of the literature. J Adolesc, 2007. 30(4): p. 639-53.
- Jobe, A. and S. Gorin, 'If kids don't feel safe they don't do anything': Young people's views on seeking and receiving help from Children's Social Care Services in England. Child and Family Social Work, 2012.
- 36. Paine, M.L. and D.J. Hansen, Factors influencing children to self-disclose sexual abuse. Clinical Psychology Review, 2002. 22(2): p. 271-295.
- Dube, S., et al., Exposure to Abuse, Neglect, and Household Dysfunction Among Adults Who
 Witnessed Intimate Partner Violence as Children: Implications for Health and Social Services. Violence and Victims, 2002. 17: p. 3-17.
- 38. van Rosmalen-Nooijens, K., et al., The need for control, safety and trust in healthcare: A qualitative study among adolescents and young adults exposed to family violence. Patient Education and Counseling, 2017. 100(6): p. 1222-1229.
- 39. Eysenbach, G., et al., Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions. BMJ, 2004. 328(7449): p. 1166.

- 40. Backett-Milburn, K. and S. Wilson, Understanding peer education: insights from a process evaluation. Health Educ Res, 2000. 15(1): p. 85-96.
- 41. Melling, B. and T. Houguet-Pincham, Online peer support for individuals with depression: a summary of current research and future considerations. Psychiatr Rehabil J, 2011. 34(3): p. 252-4.
- 42. Parry, M. and J. Watt-Watson, Peer support intervention trials for individuals with heart disease: a systematic review. Eur J Cardiovasc Nurs, 2010. 9(1): p. 57-67.
- 43. Ancker, J.S., et al., Peer-to-peer communication, cancer prevention, and the internet. J Health Commun, 2009. 14 Suppl 1: p. 38-46.
- 44. Hoybye, M.T., et al., Effect of Internet peer-support groups on psychosocial adjustment to cancer: a randomised study. Br J Cancer, 2010. 102(9): p. 1348-54.
- 45. Kaplan, K., et al., Internet peer support for individuals with psychiatric disabilities: A randomized controlled trial. Soc Sci Med, 2011. 72(1): p. 54-62.
- 46. Salzer, M.S., et al., A randomized, controlled study of Internet peer-to-peer interactions among women newly diagnosed with breast cancer. Psychooncology, 2010. 19(4): p. 441-6.
- 47. Takahashi, Y., et al., Potential benefits and harms of a peer support social network service on the internet for people with depressive tendencies: qualitative content analysis and social network analysis. J Med Internet Res, 2009. 11(3): p. e29.
- 48. Coker, A.L., et al., Social support protects against the negative effects of partner violence on mental health. J Womens Health Gend Based Med, 2002. 11(5): p. 465-76.
- Levendosky, A.A., A. Huth-Bocks, and M.A. Semel, Adolescent peer relationships and mental health functioning in families with domestic violence. J Clin Child Adolesc Psychol, 2002. 31(2): p. 206-18.
- Tajima, E.A., et al., Moderating the Effects of Childhood Exposure to Intimate Partner Violence: The Roles of Parenting Characteristics and Adolescent Peer Support. J Res Adolesc, 2011. 21(2): p. 376-394.
- 51. Ritterband, L.M., et al., Directions for the International Society for Research on Internet Interventions (ISRII). J Med Internet Res, 2006. 8(3): p. e23.
- 52. Schwartz, C.E. and R.M. Sendor, Helping others helps oneself: response shift effects in peer support. Social Science & Medicine, 1999. 48(11): p. 1563-1575.
- 53. van Rosmalen-Nooijens, K.A., et al., "Young people, adult worries": RCT of an internet-based self-support method "Feel the ViBe" for children, adolescents and young adults exposed to family violence, a study protocol. BMC Public Health, 2013. 13: p. 226.
- 54. van Rosmalen-Nooijens, K., et al. Feel the ViBe. 2016 2012-06-01 [cited 2016 2016-04-18]; Available from: http://www.feel-the-vibe.nl (Archived by WebCite® at http://www.webcitation.org/6gruYSpxE).
- van Rosmalen-Nooijens, K., et al., Young People, Adult Worries: Randomized Controlled Trial and Feasibility Study of the Internet-Based Self-Support Method "Feel the ViBe" for Adolescents and Young Adults Exposed to Family Violence. J Med Internet Res, 2017. 19(6): p. e204.
- Crutzen, R., et al., Strategies to facilitate exposure to internet-delivered health behaviour change interventions aimed at adolescents or young adults: a systematic review. Health Educ Behav, 2011.
 38(1): p. 49-62.
- 57. Brouwer, W., et al., An exploration of factors related to dissemination of and exposure to internetdelivered behaviour change interventions aimed at adults: a Delphi study approach. J Med Internet Res, 2008. 10(2): p. e10.
- 58. Brouwer, W., et al., Which intervention characteristics are related to more exposure to internetdelivered healthy lifestyle promotion interventions? A systematic review. J Med Internet Res, 2011. 13(1): p. e2.
- 59. Friese, S., Qualitative Data Analysis with ATLAS.ti. 2011: SAGE Publications.

- 60. Boyatzis, R.E., Transforming qualitative information: Thematic analysis and code development. 1998: sage.
- Ayres, L., Thematic Coding and Analysis. The SAGE Encyclopedia of Qualitative Research Methods.
 SAGE Publications, Inc. 2014, Thousand Oaks, CA: SAGE Publications, Inc. 868-869.
- 62. O'Brien, B.C., et al., Standards for reporting qualitative research: a synthesis of recommendations. Academic Medicine, 2014. 89(9): p. 1245-1251.
- 63. Davidson, L., et al., Peer support among individuals with severe mental illness: A review of the evidence. Clinical psychology: Science and practice, 1999. 6(2): p. 165-187.
- 64. Dumas, T., W. Ellis, and D. Wolfe, Identity development as a buffer of adolescent risk behaviours in the context of peer group pressure and control. Journal of adolescence, 2012. 35(4): p. 917-927.
- Best, P., R. Manktelow, and B.J. Taylor, Social Work and Social Media: Online Help-Seeking and the Mental Well-Being of Adolescent Males. British Journal of Social Work, 2016. 46(1): p. 257-276.
- 66. Boothroyd, R.I. and E.B. Fisher, Peers for progress: promoting peer support for health around the world. Fam Pract, 2010. 27 Suppl 1: p. i62-8.
- 67. Tanis, M., Online social support groups: The appeal of support via the Internet. Psychologie & Gezondheid, 2007. 35(5): p. 234-242.
- 68. Bandura, A., Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall.
- Duggan, S., M. O'Brien, and J.K. Kennedy, Young adults' immediate and delayed reactions to simulated marital conflicts: implications for intergenerational patterns of violence in intimate relationships. Journal of consulting and clinical psychology, 2001. 69(1): p. 13.
- O'Connor, P.J., et al., Factors that influence young people's mental health help-seeking behaviour: a study based on the Health Belief Model. J Adv Nurs, 2014. 70(11): p. 2577-87.
- 71. Evans, M.A. and G.S. Feder, Help-seeking amongst women survivors of domestic violence: a qualitative study of pathways towards formal and informal support. Health Expectations, 2014.
- 72. Djikanović, B., et al., Help-seeking behaviour of Serbian women who experienced intimate partner violence. Family practice, 2012. 29(2): p. 189-195.
- Whitehill, J.M., L.N. Brockman, and M.A. Moreno, "Just talk to me": communicating with college students about depression disclosures on Facebook. Journal of Adolescent Health, 2013. 52(1): p. 122-127.

Chapter 7



This thesis focuses on Adolescents and Young Adults (AYAs) exposed to Family Violence (FV). AYAs show the highest past-year prevalence for any exposure to FV (13.8%) [1]. It is of the utmost importance to provide these AYAs with professional help. However, in general only 18-34% of all AYAs seek professional help for mental health problems. We do know that this group is highly active on the Internet. Therefore, the central aim of this thesis was to develop and evaluate a low-threshold eHealth intervention for AYAs exposed to FV, named 'Feel the ViBe' (Violence Beaten).

This final Chapter discusses the main findings in more detail, while also considering the methodological strengths and weaknesses as well as implications for future research and practice.

MAIN FINDINGS

PREPARING A NEW INTERVENTION FOR AYAS EXPOSED TO FV

The consequences of exposure to FV are severe and include emotional, behavioural and adjustment problems. Exposure to FV is associated with adolescent dating violence and intergenerational transmission. That is, AYAs exposed to FV themselves becoming victims or perpetrators of FV in adult life. These consequences are comparable to the consequences of being direct victims of child abuse. Although we assumed that this was also the case for sexual and reproductive health consequences, we did not find any systematic evidence for this. Therefore, we first performed a systematic review to study the influence of exposure to FV on the sexual and reproductive health of AYAs (Chapter 2). This study showed that exposure to FV appears to have an influence on sexual risk-taking and sexual violence perpetration, comparable to the influence of direct abuse. Results on sexual victimization and adolescent pregnancy remained inconclusive, while onset of puberty appears not to be associated with exposure to FV.

Next, we performed a qualitative semi-structured interview study to identify the needs for healthcare of AYAs exposed to FV, to be used as a starting-point for developing 'Feel the ViBe' (Chapter 3). We found three main healthcare needs: control, safety and trust. The anonymity of the Internet was considered as offering safeguards in seeking and receiving help. Providing easily available low-threshold information and support in an online intervention could be an important way to provide healthcare to AYAs exposed to FV.

DEVELOPING THE INTERNET-BASED SELF-SUPPORT INTERVENTION 'FEEL THE VIRF'

The results from Chapter 2 and Chapter 3 led to three goals for 'Feel the ViBe': 1) providing information on FV exposure and its consequences could help to increase feelings of control; 2) providing online (peer) support as a low-threshold way to increase trust and help AYAs exposed to FV to prepare for healthcare, which is the third goal; 3) lowering the threshold to regular professional healthcare. Having these three goals in mind, we created 'Feel the ViBe' (Chapter 4).

EVALUATING THE INTERNET-BASED SELF-SUPPORT INTERVENTION 'FEEL THE VIBE'

AYAs exposed to FV who participated in 'Feel the ViBe' showed promising results on their depression and anxiety scores after twelve weeks of participating although it was difficult to gather enough data due to attrition, which is quite common in Internet-based studies [2-4]. 'Feel the ViBe' was rated a mean 7.47 (1-10 Likert scale) with a helpfulness score of 3.16 (1-5 Likert scale), and, very importantly, all participants felt safe. Two-thirds of the intervention participants proceeded to regular healthcare (Chapter 5). Community Managers play an important role as semi-professionals to realize change.

Three major themes were found online: sharing stories and peer support; consequences of FV including normality; and professional support and healthcare. These themes all centre on help-seeking and support. Sharing stories was the most important theme, which coincides with the second goal of the intervention: providing peer support. The theme of consequences of violence and normality could well illustrate the participants' early state of change (Chapter 6).

REFLECTION ON MAIN FINDINGS

In this thesis we use 'exposure to FV' to refer to the situation of children and AYAs living in a violent family situation. This group is exposed to the violence in their homes in many possible ways, varying from direct exposure to indirect exposure, having to deal with the consequences of violence in daily life. 'Witnessing FV' is another way to describe this type of violence. To follow the international literature, and because we feel that it does more justice to the complexity and extent of this problem, we chose 'AYAs exposed to FV' to refer to our target group of AYAs between the ages of 12-25 who live, see, hear, observe and sense violence in their homes committed by one family member against another.

CONTROL, SAFETY AND TRUST

In our study, we found that control, safety and trust were important healthcare needs for AYAs exposed to FV (Chapter 3). Especially the need for control over the situation, meaning both their home situation and their own healthcare needs, emerged as a vital need. One could hypothesize that AYAs have a high need for control due to their specific characteristics, which we will explain next. Whether they have been exposed to FV or are victims of direct abuse, feelings of safety and actual safety are severely compromised in either situation. AYAs who have grown up in an unsafe environment may struggle with feelings of rejection and unattained intimacy needs due to their turbulent home situation, which is most coherent with the attachment [5] and betrayal trauma [6-8] theories: growing up in an unsafe environment can affect normal bonding between children and their parents and normal adolescent personality development. This could lead to emotional distress and psychopathology, such as anxiety, guilt, anger, depression and PTSD [9, 10]. Maintaining control is a normal coping response, as having control — over healthcare at least — ensures safety and helps them cope with the lack of control in their surroundings.

Besides, growing up in a violent environment, irrespective of the nature of this violence, could lead to wrong ideas about what behaviour is normal in a loving relationship, as captured by the social learning theory of Bandura [11]. Growing up in an environment with interparental violence exposes these individuals to aggressive role models, and, through observational learning, they will learn to think that such behaviour is normal and functional [12-15]. This changes in adolescence: growing up to be adults, they start to find their own identity and independence. Peers are of the utmost importance in this process: as they share and compare experiences, they learn about other family situations, become aware that their living situation is not normal and might want to take action to change things, not only for themselves but also for the victim (the mother, in most cases) and siblings. However, peers could also prevent them from taking action: AYAs exposed to FV might be hesitant to share experiences on FV exposure out of shame or fear of what might happen to their status in the group. This fear of FV coming out in the open might prevent them from starting to search for help, which could make them feel even more unsafe and out of control.

Trust may diminish the need for control (Chapter 2). Trust is difficult to define and refers to 'the optimistic acceptance of a vulnerable situation in which the trustor believes the trustee will care for the trustor's interests' [16]. Having a trusting bond with a healthcare provider (HCP) facilitates healthcare: if AYAs trust the HCPs to make the right judgements, they will be more willing to leave partial control to this HCP [16-20]. As one can expect AYAs exposed to FV have low levels of trust due to the consequences of

violence, acknowledging a high need for control is essential to provide adequate healthcare to AYAs exposed to FV.

In the next sections, we hypothesize that the level of control needed is connected to the transtheoretical stages-of-change (TTSC) model by Prochaska and DiClemente [21]. We used this model to identify the stage of change of AYAs exposed to FV and to decide what approach is most fitting at this stage.

STAGES OF CHANGE

The transtheoretical stages-of-change (TTSC) model by Prochaska and DiClemente [21] describes the process of intentional behaviour change, as outlined in the General Introduction, and can be used to describe the initial situation of AYAs exposed to FV (Figure 1).

In the General Introduction we hypothesized that most AYAs exposed to FV would be in a Precontemplation or Contemplation stage. In our studies, we did not encounter AYAs exposed to FV in the Precontemplation stage: unaware of the abnormality of their living situation, they will not search for information online. Although this can partly be explained by the theories as described in the Introduction and above, there is another problem: the normalization of violence, not only in their close surroundings but also in society, meaning the unequal position of women relative to men and the normative use of violence to resolve conflicts, means that AYAs exposed to FV do not learn that violence is not normal.

In adolescence, AYAs exposed to FV become aware of the abnormality of their home situation and move from Precontemplation to Contemplation. In the Contemplation stage, AYAs exposed to FV regularly think about the abnormality of this violence and reflect on it. They weigh the pros and cons of changing their behaviour and may show ambivalence about their wishes and needs. We refer to these AYAs as being in an early stage of change, in which they are getting ready for change. Their feelings and comprehension of 'safety' as well as their immediate safety are highly under pressure.

This explains why control emerged as one of the three basic needs. In this early stage of change, it is important to provide low-threshold care and information to help move AYAs exposed to FV from the Contemplation stage to the Preparation and ACTION stages. The relative anonymity of the Internet could help make this happen, as we will discuss in the next section.

THE ANONYMOUS INTERNET

Traditional programmes are often not suitable for participants in an early stage of change: they mostly target motivated individuals who want immediate change and do not target participants who are still weighing the pros and cons of accepting help. Especially for AYAs, there is a lack of adequate support. Interventions specifically targeting children and adolescents exposed to FV are mostly group therapy sessions. Parents are often involved or needed for consent and insurance and are entitled to receiving therapy content information if their children are younger than 12 years. Above that, HCPs have to comply with safety and child protection legislation. This often causes clinical practice to offer insufficient respect for adolescents' rights to information, privacy and confidentiality [22].

As almost all AYAs have access to the Internet and know how to search for information using Google, we believed this was the best way to provide AYAs exposed to FV in an early stage of change with correct information. We conclude from our results that the relative anonymity of the Internet ensures control and safety.

After we had developed 'Feel the ViBe', we made an effort to make sure that 'Feel the ViBe' was easy to find on Google and included general information on exposure to FV on a public part of the website. We targeted this information to AYAs exposed to FV in a Contemplation or Preparation stage, as we expected these AYAs to search for information online. We included information on 'Feel the ViBe' itself and encouraged visitors to complete a contact form for more information. By lowering the threshold for participation, for example, by providing the option of asking anonymous questions and by not asking any questions about violence at the beginning, we aimed to convey to eligible participants that they were completely in control about their own situation if they chose to participate.

Most AYAs exposed to FV who decided to participate in 'Feel the ViBe' were indeed in the Contemplation or early Preparation stage: they were committed to changing their home situation but were not ready to take the step to regular healthcare. They had a high level of control and low level of trust and perceived safety. In view of the potential risks in this vulnerable group of AYAs, such as self-harm and suicide, 'Feel the ViBe' has a strict safety protocol that includes full contact data. Although we expected that this might impair feelings of safety, we found that all participants felt safe online.

We need to examine why participants feel safe online but not in face-to-face contact with peers and HCPs. A very important factor, as we expected, was the familiarity of AYAs with the Internet and social media. They are used to finding an instant answer to all their questions and to expressing their thoughts online. Another factor could be the relative online safety in sharing thoughts and questions. A hypothesis is that AYAs may

feel in control regardless of their *actual* control in case of severe danger. AYAs may even feel safe because of the safety protocol, which is clear about when to breach anonymity and therefore gives clarity to the participants.

Besides, online communication has two time-based advantages, having both the option of expressing your thoughts right away without having to wait for another person being available, and the option of considering your thoughts carefully before saying something that might have consequences for your personal life. Peer pressure might be less important in online communication: nick names prevent identification, and the scope of the World Wide Web makes it easier for AYAs to find peers in similar situations who are easier to trust.

The downside of online anonymity could be the potential risk of danger. One could think of losing participants who are in danger: they might be unable to access the Internet anymore, or discontinue their participation because something happened to them. A point of criticism might be that participation in an online intervention such as 'Feel the ViBe' delays onset of professional face-to-face healthcare, not only for the AYAs exposed to FV involved, but also for their parents and siblings. We did not encounter this. We are not aware of cases lost because of a dangerous situation, although we did lose participants without knowing their reasons. Participants who indicated a potentially dangerous situation, for themselves or for their siblings, were dealt with in line with the safety protocol, and we had contact details of all participants. Therefore, we do not feel that participation in 'Feel the ViBe' or other eHealth interventions delays professional healthcare. On the contrary, we suggest that participation in 'Feel the ViBe' expedites professional healthcare, as it enables AYAs exposed to FV in an early stage of change, who generally have inadequate health literacy, to find low-threshold information and care online, which may help them to move from the Contemplation to the Action stage, in which control might be less important.

In conclusion, online interventions such as 'Feel the ViBe', with their relative anonymity, could be helpful in providing correct information [23], and the availability of peer support helps to build trust while functioning as a safety net and first port of call.

Anonymity may enhance the attraction but it does not define success. Although the relatively anonymous Internet with its low threshold to participation explains the attractiveness for AYAs exposed to FV in an early stage of change, it does not explain why 'Feel the ViBe' is successful in helping AYAs exposed to FV to enter regular healthcare. In the next sections, we will explore factors that define the effectiveness of 'Feel the ViBe'.

THE PROFESSIONAL PEER: PERSONALIZED CARE

A very interesting finding in our study is the role of the Community Manager in 'Feel the ViBe'. The Community Manager moderates 'Feel the ViBe', answers questions, assesses safety and supports participants when needed, both solicited and unsolicited, when they feel that a participant could use support or additional information. The Community Manager is a semi-professional, trained to assess participant safety and take action when needed. In practice, however, the Community Manager is at least as important as the participating peers, giving both personal and group support, and being a living link between the AYAs exposed to FV searching for help and HCPs. The case described in the General Introduction is an example of the important role of the Community Manager. Related to this finding is the opinion of Community Managers involved in the intervention that 'Feel the ViBe' works because AYAs do not see it as healthcare'.

The main online themes are sharing stories, consequences of violence and professional support. Participants in general feel supported and cared for. The Community Manager provides this care by active listening, just like peers. Knowing that someone is actively listening to your stories and watching your safety could help participants to increase their levels of trust and safety, moving from the Contemplation to the Preparation stage. In addition, they also provide personalized support and advice on possible next steps, without forcing participants into action. Doing so, they help participants to move from the Preparation to the Action stage. Community Managers are able to inform participants on care in their immediate surroundings and can function as mediators or mentors for participants, which was not intended in the Community Managers protocol. They did not actually provide treatment or therapy, which made them 'one of us' instead of 'one of them'. This might make it easier for participants to talk to.

In the participants' eyes, the Community Manager is more a 'professional peer' than a professional. This reflects the ambivalence of participants in an early stage of change and the difficulties HCPs encounter when providing care to AYAs exposed to FV: Participants are *looking* for a peer or a friend, someone they can trust and who just listens without taking action, but they *need* a professional, someone who is not only listening actively and unconditionally, but is also well informed on the subject, watches safety and can be trusted to make the right treatment choices. This makes Community Managers essentially different from other participants.

The Community Manager's role as a professional peer is a strength of 'Feel the ViBe', but could also be a weakness: The Manager could be one of the main differences between general online communities and 'Feel the ViBe'. This means that it is of utmost

importance to find Community Managers who are fully committed and capable of providing personalized care.

The Community Manager's role as a professional peer also solved one of the challenges of Feel the ViBe: whereas most participants in an early stage of change were looking help for the first time, other participants had already had help and often gave advice and information to the first-timers and took care of them. We had the impression that Community Managers gave these older participants support and protected them from caring for other participants too much without being cared for themselves, which gives 'Feel the ViBe' an additional value above monitored communities that are non-professional or unprofessional.

Lastly, the Community Manager's role as a professional peer could help participants to become more familiar with HCPs and their possibilities and limitations.

Concluding, personalized care, targeted at the participant's individual stage of change and related needs, appears to be a key characteristic of 'Feel the ViBe'. The anonymity of the Internet provides easily available and low-threshold access to care for AYAs exposed to FV in the Contemplation stage. Participation in 'Feel the ViBe' could help AYAs exposed to FV to move to the Action stage, in which they will be ready to enter regular healthcare to deal with the consequences of FV. In the meantime, the safety protocol provides a safety net in case of danger, in which ethics and law prescribe that immediate action must be taken.

REFLECTION ON METHODOLOGY

'Young People, Adult Worries' shows a diversity in research methodology used, which is a strength of our study. We started 'Feel the ViBe' with a blank page, performing a Systematic Review and our qualitative interview study first, which gave us in-depth information on the basic needs of the target group and led to the definition of the three main goals for 'Feel the ViBe'. We believe that this approach is also suitable for other researchers who want to study effects in small, hard-to-reach or less studied groups.

We made a large effort to clarify the process of preparing, developing and evaluating 'Feel the ViBe' to all, and published a study protocol providing detailed information on both the intervention itself and the process of developing and evaluating this intervention. As we decided that it was important to study all aspects of the new intervention rather than only its statistical effects, we performed a feasibility study besides an RCT to study the real-life possibilities and strengths of 'Feel the ViBe'.

The nature of 'Feel the ViBe' and its target group and the diversity and complexity of the participants made it difficult to measure effects and follow-up. Particularly as we were dealing with AYAs exposed to FV, it was medically and ethically

incorrect to withhold a possible positive intervention to the target group. Therefore, we decided to randomize the control group to a waiting-list condition, meaning that we could only compare groups for the first twelve weeks after randomization and found only small effects within these twelve weeks. However, qualitative findings on the effects of 'Feel the ViBe' are very positive.

Rapid technical advances were a problem for 'Feel the ViBe' and will be a problem for future eHealth interventions. When the development of 'Feel the ViBe' started in 2011, we were living in another digital world as we do now. After our data collection ended in 2014, we made large improvements to 'Feel the ViBe', making it accessible from mobile browsers too. In the future, we expect we have to target 'Feel the ViBe' primarily at mobile users, which could replace some of its basic features such as text messages and emails for app notifications and in-app communication.

As we will not change the content, we assume that the effects found in this study will remain the same or will even improve as 'Feel the ViBe' will be even more easily accessible. A possible downside is that lowering the participation threshold could increase attrition even further, which is the next point of discussion.

eHealth interventions have to cope with the law of attrition causing high levels of non-usage and dropout, which can be as high as 80-90% [2-4, 24]. Considering these percentages, dropout for 'Feel the ViBe' was relatively low, with one-third of participants still being active after 36 weeks. Attrition can partly be explained by the stages of change model, but it is also important to identify possible other factors influencing non-usage and dropout as these may influence the feasibility of the intervention. The threshold for participation in 'Feel the ViBe' was made as low as possible without compromising safety. However, a low threshold to participation and easy enrolment could lead to high dropout, as users fully realize the consequences of their participation only after they have started it. Stricter information, personal contact (telephone, face-to-face) and making participants pay for their participation would all lower non-usage and dropout attrition but would also raise the threshold, which would not fit with most participants' early stage of change.

Our target group, being AYAs exposed to FV, is a hard-to-reach group. Our study shows that it is possible to reach vulnerable groups for research, using innovative methods and showing flexibility in time and place. In our interview study, for example, we let participants pick a time and place of their choice. In our RCT and feasibility study, we focused on online participants: we put a lot of effort in increasing online retrievability and made the whole process of informed consent, randomization and efficacy testing an online process. During the intervention, we showed flexibility in how participants used 'Feel the ViBe': they could use the intervention as they liked without being obliged to

take certain actions or perform certain tasks, unless there was a breach of safety protocol.

A limitation is that there were no male participants. We already found in our interview study that it is difficult to find male participants, and we used purposive sampling to reach saturation on the data. Only nine male AYAs showed an interest in participation, one of whom completed his baseline questionnaire without showing any further activity. This means that the results of this thesis only apply to female AYAs exposed to FV. We could not prevent this in the study protocol as participants self-registered mainly through Google. The intervention, however, was based on the needs of both male and female AYAs exposed to FV as they showed no differences in needs in our interview study.

It is known, moreover, that young women use the Internet for health information the most [25, 26], which might help to explain why there were no male participants. For women, group support has proved to be effective with strong evidence; the literature is less conclusive for men [27]. Further research is needed to evaluate this finding.

IMPLICATIONS

RESEARCH

While qualitative findings and feasibility results are very positive, quantitative results from the RCT are inconclusive. In this perspective, future research should follow participants for a longer period of time in order to study prolonged effects. It is debatable whether a traditional RCT is the best method to investigate this group. It would be unethical to withhold participation from eligible participants, especially because they are self-registering and mostly unknown in healthcare. We argue that a cohort study would be better to study the effects because it would allow us to follow participants over prolonged periods of time, while 'Feel the ViBe' would be available online in the meantime for all AYAs exposed to FV who are willing to participate. A cohort study would also allow us to follow participants through the stages of change, which could give us more information on the Action, Maintenance and Relapse stages. For such a cohort, many data can be collected automatically, using log files of the intervention. Questionnaire data could be provided automatically through a 'Feel the ViBe' app, making it easier for participants to complete their questionnaires. The downside of performing such a cohort study is that it cannot give causal proof about 'Feel the ViBe'. However, as the consequences of exposure to FV are broadly described in the literature, we feel that a cohort study would give the best evidence on the long-term effects of participation in 'Feel the ViBe'.

Another implication for research is our concept of development and evaluation. While most researchers agree that it is important to publish study protocols and perform feasibility testing before starting large trials, we see in general that it is difficult to comply with such requirements because of time and budget restraints. Our design, combining an RCT with feasibility testing, made it possible to perform the whole process from preparing to completing all data in three years. Besides, we are able to draw conclusions on the potential of the intervention for daily clinical practice, which is often not the case. We believe, therefore, that our design may be suitable for other researchers as well.

CLINICAL PRACTICE

'Feel the ViBe' works best as a first step for AYAs in the Contemplation or early Preparation stages of change, supporting them and helping them move through the Preparation to the Action stage, filling the gap between their awareness of the abnormality of exposure to FV and their entry into regular healthcare to stop the violence and to treat the consequences. In our opinion, 'Feel the ViBe' can be easily implemented without extensive resources. Nevertheless, implementing 'Feel the ViBe' within an existing healthcare organization could raise the threshold or could cause participants who need more care not always being referred to the best healthcare option because the implementing organization lacks knowledge or strategies. Therefore, we think that 'Feel the ViBe' should be implemented in the field of public health or national governmental care, in order to provide the lowest possible threshold and long-term sustainability.

If 'Feel the ViBe' is considered a public healthcare intervention, it might be important to involve primary care professionals in the process of guiding 'Feel the ViBe' participants towards regular healthcare, especially in the view of our finding that the Community Managers are very important as professional peers. General practitioners, for example, could be of help as trusted and familiar HCPs for AYAs. As family doctors, general practitioners often know the whole family and are able to monitor the situation for acute danger; they can support and inform AYAs, while these are transiting from a Preparation to an Action stage of change. As school mentors and counsellors were identified as being the most familiar care providers to turn to when help was needed, we suggest that they are also taken into consideration when searching for regular healthcare.

Two-thirds of the participants who completed their questionnaires received regular professional healthcare within twelve weeks after their participation started. Once AYAs exposed to FV have made the step towards professional healthcare, HCPs should be alerted to address the needs of control, safety and trust to prevent early dropout or relapse. We assume that using standard shared decision-making (SDM) techniques can address these needs. SDM is defined as 'an approach where clinician and

patient share the best available evidence when faced with the task of making decisions, and where the patient is supported to consider options, to achieve informed preferences' [28-34]. SDM has been researched in AYAs in general and shown to be effective, improving patient satisfaction, treatment adherence and health status. It allows AYAs their rights to autonomy [19, 35-41]. For AYAs exposed to FV, SDM can be of extra importance as an instrument to fulfil their strong need for control and to improve their feelings of distrust [42].

We conclude that, whenever possible, HCPs should keep confidentiality, not only with regard to the reason for the encounter but also with regard to the sole fact of someone meeting HCPs. Keeping confidentiality builds trust, but it is difficult for HCPs who have to act within legal child protection boundaries and the parents' right to be informed about healthcare provided to their children. HCPs should always consider the risk of informing parents or legal guardians at an early stage of help, which might be more harmful than not informing. Breaching confidentiality can make AYAs distrust HCPs and could even lead to aggravation of FV and safety risk increases [40]. Time is a keyword, and SDM requires flexibility in ways of providing care. We believe that personalized care, first by the Community Manager as a professional peer for AYAs in an early stage of change, and subsequently by an HCP using SDM techniques, is the best way to help AYAs exposed to FV.

EDUCATION

HCPs in general do not have enough skills to recognize and acknowledge FV in their daily practice, and education, therefore, should focus on detection of FV. This could be a particularly challenging task with respect to AYAs, who do not often search for help related to FV, and who in general do not often visit HCPs for other reasons because of their age and health. HCPs should also be educated about the basic needs of these AYAs, especially regarding control issues. It is also important to educate them on the behavioural stages of change model as HCPs in general tend to take action too soon, and this model could help them to focus on the stage of change of the AYAs exposed to FV before them. In an early stage of change, active listening and watchful waiting while taking time to give information, build trust and establish a personal bond could help AYAs exposed to FV move to a higher stage of change. Basic education, furthermore, should always include SDM techniques as these are essential in discussing potential and necessary actions with AYAs exposed to FV.

From our study, we conclude that eHealth interventions can play a role in identifying AYAs exposed to FV who are in need of professional help. In the future, eHealth may also play a significant role in treating the consequences of exposure to FV.

Therefore, it is important not only to educate future HCPs on eHealth and its advantages and limitations, but also to ensure they have basic computer skills and other mobile devices skills.

FINAL REMARKS

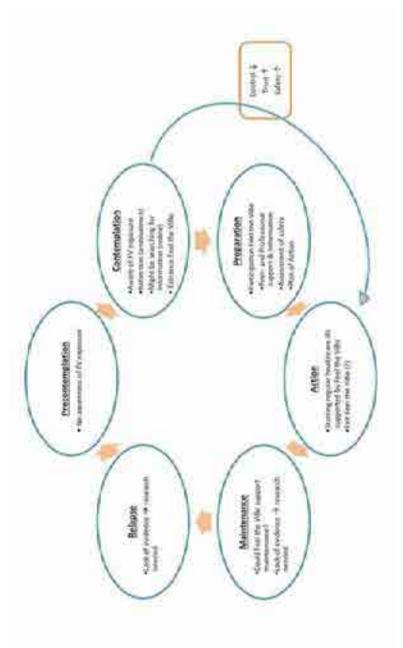
AYAs exposed to FV have three basic needs: control, safety and trust. Especially their need for control, over both their home situation and their own healthcare, emerged as a vital need.

'Feel the ViBe' is a promising intervention which can help AYAs exposed to FV in the Contemplation or early Preparation stages to proceed to the Action and potentially the Maintenance stage. Due to its relative anonymity, online interventions such as 'Feel the ViBe' can be helpful in providing correct information [23], while the availability of peer support helps to build trust. The Community Manager, as a professional peer, appears to be pivotal for 'Feel the ViBe', providing personalized care in the participant's individual stage of change and related needs.

'Feel the ViBe' can be implemented without requiring extensive resources and fits best in the field of public healthcare or national governmental care, functioning as a first port entry for AYAs exposed to FV in an early state of change.

TABLES AND FIGURES

Figure 1 The transtheoretical stages-of-change model by Prochaska and DiClemente (IRL = In Real Life)

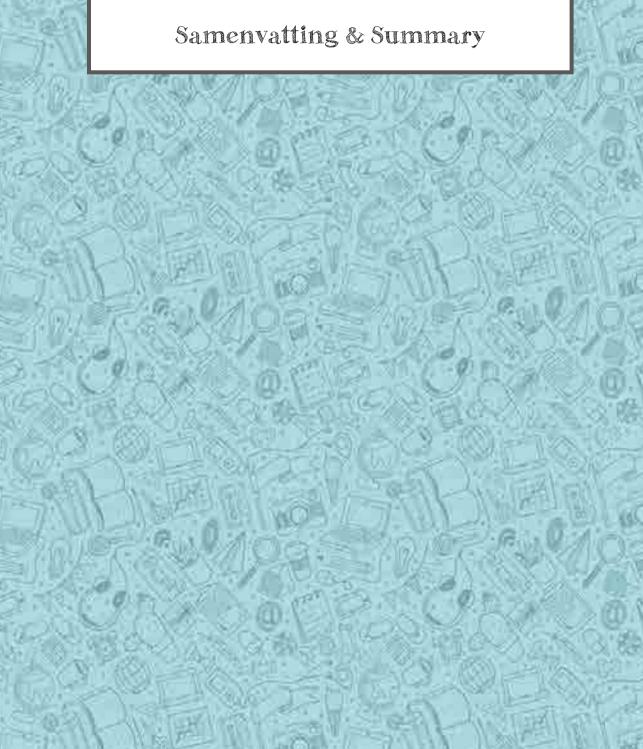


REFERENCES

- Hamby, S.L., et al. Children's exposure to intimate partner violence and other family violence. 2011; Available from: https://www.ncjrs.gov/pdffiles1/ojjdp/232272.pdf. (Archived by WebCite® at http://www.webcitation.org/6gt02RIVb).
- Bennett, G.G. and R.E. Glasgow, The Delivery of Public Health Interventions via the Internet: Actualizing Their Potential. Annual Review of Public Health, 2009. 30: p. 273-292.
- Chiu, T. and G. Eysenbach, Stages of use: consideration, initiation, utilization, and outcomes of an internet-mediated intervention. BMC Medical Informatics and Decision Making, 2010. 10(1): p. 73.
- 4. Eysenbach, G., The Law of Attrition. J Med Internet Res, 2005. 7(1): p. e11.
- Sonkin, D., Domestic violence and attachment theory: Clinical applications to treatment with perpetrators. The encyclopedia of domestic violence, 2007: p. 41-51.
- Freyd, J.J., Betrayal trauma: Traumatic amnesia as an adaptive response to childhood abuse. Ethics & Behavior, 1994. 4(4): p. 307-329.
- Kaehler, L.A. and J.J. Freyd, Borderline personality characteristics: A betrayal trauma approach.
 Psychological Trauma: Theory, Research, Practice, and Policy, 2009. 1(4): p. 261.
- 8. Freyd, J., Betrayal trauma, in Encyclopedia of Psychological Trauma, G. Reyes, J. Elhai, and J. Ford, Editors. 2008, John Wiley & Sons: New York. p. 76.
- Nebbitt, V., et al., Correlates of Age at Onset of Sexual Intercourse in African American Adolescents Living in Urban Public Housing. Journal of Health Care for the Poor and Underserved, 2010. 21(4): p. 1263-1277.
- Tschann, J.M., et al., Interparental conflict and risk behaviors among Mexican American adolescents:
 A cognitive-emotional model. Journal of Abnormal Child Psychology, 2002. 30(4): p. 373-385.
- 11. Bandura, A., Social learning theory. 1977, Englewood Cliffs (NJ): Prentice-Hall.
- Duggan, S., M. O'Brien, and J.K. Kennedy, Young adults' immediate and delayed reactions to simulated marital conflicts: implications for intergenerational patterns of violence in intimate relationships. Journal of consulting and clinical psychology, 2001. 69(1): p. 13.
- 13. Wekerle, C. and D.A. Wolfe, Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. Clinical psychology review, 1999. 19(4): p. 435-456.
- O'Leary, K.D., Physical aggression between spouses, in Handbook of family violence. 1988, Springer.
 p. 31-55.
- Margolin, G., P.H. Oliver, and A.M. Medina, Conceptual issues in understanding the relation between interparental conflict and child adjustment: Integrating developmental psychopathology and risk/resilience perspectives. 2001.
- 16. Hall, M.A., et al., Trust in physicians and medical institutions: What is it, can it be measured, and does it matter? Milbank Quarterly, 2001. 79(4): p. 613-+.
- 17. Barker, G., A. Olukoya, and P. Aggleton, Young people, social support and help-seeking. Int J Adolesc Med Health, 2005. 17(4): p. 315-35.
- 18. Battaglia, T.A., E. Finley, and J.M. Liebschutz, Survivors of intimate partner violence speak out: trust in the patient-provider relationship. J Gen Intern Med, 2003. 18(8): p. 617-23.
- Britto, M.T., et al., Health Care Preferences and Priorities of Adolescents With Chronic Illnesses.
 Pediatrics, 2004. 114(5): p. 1272-1280.
- Crisma, M., et al., Adolescents who experienced sexual abuse: fears, needs and impediments to disclosure. Child Abuse Negl, 2004. 28(10): p. 1035-48.
- Prochaska, J.O. and C.C. DiClemente, Transtheoretical therapy: Toward a more integrative model of change. Psychotherapy: theory, research & practice, 1982. 19(3): p. 276.

- 22. WHO, Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of health-care providers. 2015: World Health Organization.
- Whitehall-Smith, M., Counselling & support services for young people aged 12–16 who have experienced sexual abuse: a study of the provision in Italy, The Netherlands & the United Kingdom. Edited by Mary Baginsky, NSPCC, London, 2001. 140pp. ISBN 1-84228-020-1 (Pbk). Child Abuse Review, 2002. 11(5): p. 333-334.
- 24. Eysenbach, G., The Law of Attrition revisited Author's reply. Journal of Medical Internet Research, 2006. 8(3).
- Statline, C., Internet; toegang, gebruik en faciliteiten (Internet; Access, Use, and Facilities). 2016,
 Centraal Bureau voor de Statistiek: Den Haag/Heerlen.
- Kummervold, P.E., et al., eHealth Trends in Europe 2005-2007: A Population-Based Survey. J Med Internet Res, 2008. 10(4): p. e42.
- Gooden, R.J. and H.R. Winefield, Breast and prostate cancer online discussion boards: a thematic analysis of gender differences and similarities. Journal of Health Psychology, 2007. 12(1): p. 103-114.
- 28. Elwyn, G., et al., Implementing shared decision making in the NHS. Bmj, 2010. 341: p. c5146.
- Charles, C., A. Gafni, and T. Whelan, Shared decision-making in the medical encounter: what does it mean?(or it takes at least two to tango). Social science & medicine, 1997. 44(5): p. 681-692.
- Charles, C., A. Gafni, and T. Whelan, Decision-making in the physician-patient encounter: revisiting the shared treatment decision-making model. Social science & medicine, 1999. 49(5): p. 651-661.
- 31. Makoul, G. and M.L. Clayman, An integrative model of shared decision making in medical encounters. Patient education and counseling, 2006. 60(3): p. 301-312.
- 32. Elwyn, G., et al., Shared decision making: a model for clinical practice. Journal of general internal medicine, 2012. 27(10): p. 1361-1367.
- 33. Kasper, J., et al., MAPPIN'SDM--the multifocal approach to sharing in shared decision making. PLoS One, 2012. 7(4): p. e34849.
- 34. Edwards, A. and G. Elwyn, Inside the black box of shared decision making: distinguishing between the process of involvement and who makes the decision. Health Expectations, 2006. 9(4): p. 307-320.
- 35. Benbassat, J., D. Pilpel, and M. Tidhar, Patients' preferences for participation in clinical decision making: a review of published surveys. Behavioral medicine, 1998. 24(2): p. 81-88.
- Joosten, E., et al., Systematic review of the effects of shared decision-making on patient satisfaction, treatment adherence and health status. Psychotherapy and psychosomatics, 2008. 77(4): p. 219-226.
- Lyon, M.E., et al., What do adolescents want? An exploratory study regarding end-of-life decisionmaking. Journal of Adolescent Health, 2004. 35(6): p. 529.e1-529.e6.
- 38. Beresford, B.A. and P. Sloper, Chronically ill adolescents' experiences of communicating with doctors: a qualitative study. Journal of Adolescent Health, 2003. 33(3): p. 172-179.
- Jobe, A. and S. Gorin, 'If kids don't feel safe they don't do anything': Young people's views on seeking and receiving help from Children's Social Care Services in England. Child and Family Social Work, 2012.
- Cossar, J., M. Brandon, and P. Jordan, 'Don't make assumptions': Children's and young people's views
 of the child protection system and messages for change 2011, Office of the Children's Commissioner:
 London.
- 41. Featherstone, B. and H. Evans, Children experiencing maltreatment: who do they turn to? 2004, NSPCC London.
- 42. Battaglia, T.A., E. Finley, and J.M. Liebschutz, Survivors of Intimate Partner Violence Speak Out. Journal of General Internal Medicine, 2003. 18(8): p. 617-623

Chapter 8



SAMENVATTING

HOOFDSTUK 1: GENERAL INTRODUCTION

'Young people, Adult worries', of 'Jonge mensen, Volwassen zorgen' beschrijft de ontwikkeling en evaluatie van een internet gebaseerde zelfhulp methode, genaamd 'Feel the ViBe (Violence Beaten)'. De methode is bestemd voor adolescenten en jongvolwassenen die thuis blootgesteld worden aan familiaal geweld. In hoofdstuk 1 beschrijven we de motivatie, de doelen en de opzet van dit proefschrift.

Het proefschrift focust op adolescenten en jongvolwassenen die thuis worden blootgesteld aan familiaal geweld. De meest voorkomende vorm van dit geweld is blootstelling aan partnergeweld, tussen ouders of tussen een ouder en zijn/haar (ex)partner. Ook geweld door ouder(s) naar broers of zussen en geweld tussen broers en/of zussen onderling vallen onder de definitie. Er zijn veel verschillende manieren van blootstelling: variërend van directe blootstelling (het direct getuige zijn door geweld te zien of te horen) tot indirecte blootstelling (het zien en ervaren van de gevolgen van het geweld, zoals een blauw oog of de spanning in huis). In de literatuur wordt blootstelling aan familiaal geweld ook wel eens benoemd als het getuige zijn van familiaal geweld. Omdat in het Nederlands deze laatste term meer gangbaar is, wordt in het vervolg van deze samenvatting deze term aangehouden.

Recente studies laten zien dat 8-12% van alle kinderen in het jaar voorafgaand aan het onderzoek werd blootgesteld aan een vorm van familiaal geweld. Bij adolescenten en jongvolwassenen (adolescents and young adults, AYAs) was dit zelfs nog hoger: 13,8%. Getuige zijn van familiaal geweld wordt geassocieerd met fysieke en psychische en emotie regulerings-, gedrags- en aanpassingsproblemen. Er is ook een verband tussen getuige zijn van geweld en geweld in vroege relaties (adolescent dating violence) en intergenerationele transmissie: de kans dat iemand zelf ook dader of slachtoffer wordt van familiaal geweld in de volwassenheid is 33%. Deze gevolgen zijn vergelijkbaar met AYAs die zelf direct slachtoffer van kindermishandeling zijn.

De adolescentie is een belangrijke periode in iemands leven met grote veranderingen, zowel fysiek als mentaal. In deze periode worden leeftijdsgenoten (peers) erg belangrijk. Bij problemen zijn leeftijdsgenoten dan ook een belangrijkere hulpbron dan familie of andere volwassenen. Van de literatuur weten we dat slechts 18-34% van alle AYAs hulp zoekt bij psychische klachten en dat ze liever informele hulp hebben dan professionele hulp. We verklaren dit door het "transtheoretical stages-of-change model" van Prochaska and DiClemente: dit model beschrijft het proces van gedragsverandering

en kan professionals helpen te begrijpen door welke fases van verandering iemand moet gaan om gedrag te kunnen veranderen. Dit kan diezelfde professionals vervolgens helpen om de goede aanpak of behandeling te kiezen (figuur 1).

Het stages-of-change model kan gebruikt worden om de situatie te beschrijven van AYAs die getuige zijn van familiaal geweld. We hypothetiseren dat deze AYAs meestal in een (pre)contemplatie fase zijn. In deze fase is het belangrijk om eenvoudig toegankelijke hulp te bieden zonder drempels die deelname kunnen verhinderen.

Het internet kan een effectieve manier zijn om deze toegankelijke hulp te bieden. In 2013 had, in Nederland, 100% van alle AYAs toegang tot het internet. Daarom kan eHealth een manier zijn om de AYAs te bereiken die anders geen professionele hulp zouden hebben gezocht, en hen steun en informatie te bieden. Het is bovendien al bewezen dat eHealth effectief is bij diverse gezondheidsproblemen bij adolescenten, waaronder psychische problemen.

Al het bovenstaande in acht nemend zijn we in 2011 gestart met "Jonge mensen, Volwassen zorgen" met als centraal doel: het ontwikkelen en evalueren van een eenvoudig toegankelijke eHealth interventie voor AYAs die getuige zijn van familiaal geweld, genaamd 'Feel the ViBe' (Violence Beaten).

CHAPTER 2: DOES WITNESSING FAMILY VIOLENCE INFLUENCE SEXUAL AND REPRODUCTIVE HEALTH OF ADOLESCENTS AND YOUNG ADULTS? A SYSTEMATIC REVIEW

In hoofdstuk 2 onderzoeken we of er een verband is tussen het getuige zijn van familiaal geweld en de seksuele en reproductieve gezondheid van AYAs. Dit werd gedaan door een literatuuronderzoek uit te voeren, een zogenoemde systematic review, waarbij alle studies gepubliceerd tussen 2000 en 2015 werden geincludeerd in het onderzoek. Indicatoren van seksuele en reproductieve gezondheid van de World Health Organisation werden gebruikt om de uitkomsten te bepalen.

45 studies werden geselecteerd uit 18.668 artikelen. Het aantal deelnemers aan deze studies varieerde van 20 tot 12.308 deelnemers. We hebben alle 45 studies beoordeeld op kwaliteit, gebruik makende van de CASP criteria. Het was niet mogelijk om een meta-analyse te doen, omdat de studies teveel verschilden van opzet en uitkomsten. Ons literatuuronderzoek toonde aan dat het getuige zijn van familiaal geweld invloed lijkt te hebben op seksueel risicogedrag en daderschap van seksueel geweld, vergelijkbaar met de invloed van directe mishandeling. Resultaten over de invloed op tienerzwangerschappen en het slachtoffer zijn van seksueel geweld waren niet conclusief. Er

lijkt geen invloed te zijn van het getuige zijn van familiaal geweld op de start van de puberteit. 9 van de 11 studies die beoordeeld werden als van gemiddelde of sterke kwaliteit, vonden een positieve associatie tussen het getuige zijn van geweld en de seksuele en reproductieve gezondheid van AYAs. We concludeerden daarom dat het getuige zijn van familiaal geweld een invloed lijkt te hebben op de seksuele en reproductieve gezondheid van AYAs; en dat verder onderzoek nodig is om meer duidelijkheid te verkrijgen over de onderwerpen waarover we geen conclusies konden trekken.

CHAPTER 3: THE NEED FOR CONTROL, SAFETY AND TRUST IN HEALTHCARE: A QUALITATIVE STUDY AMONG ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE

In dit hoofdstuk wilden we de belangrijkste behoeftes voor hulpverlening onderzoeken van AYAs die getuige zijn van familiaal geweld. Er werden twaalf semigestructureerde interviews gehouden waarbij steeds deelnemers met verschillende eigenschappen werden geselecteerd om zoveel mogelijk diversiteit te verkrijgen. Een open thematische codeer techniek werd gebruikt om alle belangrijke thema's in de interviews te selecteren.

Deelnemers ervoeren diverse gevolgen van de blootstelling aan het familiaal geweld: ze hadden emotionele problemen, problemen met het vertrouwen van anderen en ze voelden zich vaak onveilig. Alle deelnemers gaven aan dat ze hulp nodig hadden, maar aangezien hulp altijd betekent dat je iemand anders moet informeren over je problemen, ervoeren ze hulp zoeken als onveilig. Vertrouwen, veiligheid en controle bleken de drie vitale behoeftes te zijn om hulp te kunnen zoeken en accepteren. De mate van belang van controle bij hulp is, voor zover wij weten, nog niet eerder gerapporteerd. De anonimiteit van het internet werd door de deelnemers beschouwd als een veilige haven bij het zoeken én ontvangen van hulp. Het hebben van een persoonlijke band met je hulpverlener kan de behoefte naar controle verminderen.

Om aan deze drie voorwaarden, of behoeftes, te voldoen, denken we dat hulpverleners AYAs zoveel controle als mogelijk moeten geven, vooral in het begin van het traject. Hierbij moeten ze wel steeds de veiligheid in het oog houden. Het internet kan met zijn relatieve anonimiteit een belangrijke bron zijn bij het bieden van eenvoudig toegankelijke informatie en steun, zowel van hulpverleners als van leeftijdsgenoten. Een online interventie kan hierin een belangrijk middel zijn om AYAs die getuige zijn van familiaal geweld hulp te bieden.

CHAPTER 4: 'YOUNG PEOPLE, ADULT WORRIES': RCT OF AN INTERNET-BASED SELF-SUPPORT METHOD 'FEEL THE VIBE' FOR CHILDREN, ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE, A STUDY PROTOCOL

De resultaten van hoofdstuk 2 en 3 hebben geleid tot de ontwikkeling van 'Feel the ViBe'. Hoofdstuk 4 beschrijft de ontwikkeling van 'Feel the ViBe': een internet gebaseerde zelfhulp interventie voor AYAs die getuige zijn van familiaal geweld, gebaseerd op de in hoofdstuk 3 geconstateerde behoeftes. Hoofdstuk 4 beschrijft daarnaast het studieprotocol voor de ontwikkeling van FtV in detail.

'Feel the ViBe' is een vrij toegankelijke zelfhulp methode met drie doelen: (1) het bieden van informatie, (2) het bieden van steun, en (3) de drempel tot reguliere hulpverlening verlagen door deelnemers te begeleiden naar een hogere fase van verandering, zoals beschreven in hoofdstuk 1, en te steunen bij het zoeken van geschikte hulp. De interventie bestaat uit een verscheidenheid van elementen, waaronder een forum, een chat functie, informatieve pagina's, en een vraag-de-expert functie. Een Community Manager (CM) monitoort de interventie, beantwoordt vragen, houdt de veiligheid in het oog en steunt deelnemers wanneer ze dat nodig hebben, zowel gevraagd als ongevraagd. De CM is een semiprofessional met een achtergrond in de gezondheidszorg en een extra training over familiaal geweld.

eHealth interventies hebben vaak te maken met 'the law of attrition', wat betekent dat deelnemers vaak stoppen zonder reden of gedurende de studie 'kwijt' raken, doordat ze niet meer reageren of niet meer bereikbaar zijn. We hebben geprobeerd dit zoveel mogelijk te voorkomen: de online informatie is samengesteld met behulp van de doelgroep, er is een optimalisatie voor Google gedaan om de website beter vindbaar te maken, en we hebben veel informatie aan de website toegevoegd in het publieke deel, zodat nieuwe potentiële deelnemers direct goede en duidelijke informatie tot hun beschikking hadden. Deelnemers konden daarnaast vanaf elke computer en vanaf elke plek, op elk tijdstip, inloggen op FtV: ze hadden alleen maar hun login naam en wachtwoord nodig. Deelnemers mochten FtV gebruiken zoals ze wilden, maar om deelnemers te stimuleren om deel te nemen zijn er chat events geïnitieerd en werden gestructureerde herinneringen per mail of sms verstuurd, naar keuze van de deelnemer.

CHAPTER 5: 'YOUNG PEOPLE', ADULT WORRIES: RCT AND FEASIBILITY STUDY OF THE INTERNET-BASED SELF-SUPPORT METHOD 'FEEL THE VIBE' FOR ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE.

Hoofdstuk 5 beschrijft de randomized controlled trial (RCT) en feasibility studie van de internetgebaseerde zelfhulp methode 'Feel the ViBe'. Het centrale doel van dit onderzoek was om niet alleen de effectiviteit, maar ook de uitvoerbaarheid in de dagelijkse praktijk te onderzoeken. Verschillende methodes werden gebruikt om een volledig beeld te krijgen van de sterke en zwakke punten van de interventie. AYAs tussen de 12 en 25 jaar die getuige zijn of waren van familiaal geweld werden verdeeld in een interventie en een controle groep, nadat ze zichzelf geregistreerd hadden voor online deelname tussen juni 2012 en juli 2014. Deelnemers vulden bij start en daarna elke zes weken vragenlijsten in over het ervaren van stress, depressie en angst. Daarnaast werden continu online gegevens verzameld, zowel kwantitatief uit website data, Google analytics en het content management system (CMS) van de website, als kwalitatief uit het forum en de chat sessies.

De resultaten lieten zien dat in totaal 31 van de 46 deelnemers in de interventiegroep en 26 van de 47 deelnemers in de controle groep daadwerkelijk met 'Feel the ViBe' gestart zijn. Er waren geen mannelijke deelnemers. 17 deelnemers (interventie: n=8, controle: n=9) hebben alle vragenlijsten ingevuld. Een mixed model analyse liet significante verschillen zien tussen beide groepen als het gaat om angst- en depressieve klachten tussen 6 en 12 weken na de start van hun deelname. Een andere analyse (UNIANOVA) liet echter geen significante verschillen zien. Daarna hebben we de deelnemers vergeleken binnen hun eigen groep. Deze pre-post test analyse liet significante verbeteringen zien in de interventie groep voor angst en depressie na 12 weken deelname. Deelnemers waren gemiddeld 2,83 keer per week online met een gemiddelde duur per sessie van 36 minuten. FtV kreeg een 7,47 (1-10 schaal) als punt en een 3,16 (1-5 schaal) als score om aan te geven hoe goed FtV de deelnemers heeft geholpen om te gaan met het geweld thuis. Alle deelnemers voelden zich veilig en 67% van de deelnemers startte tijdens hun deelname een vorm van reguliere hulpverlening.

Daarom concluderen we dat FtV een veelbelovende interventie kan zijn: AYAs die getuige zijn van familiaal geweld die deelnamen aan FtV lieten veelbelovende resultaten zien op het gebied van de mate en ernst van angst en depressie na twaalf weken deelname, hoewel het moeilijk was om genoeg data te verzamelen door uitval gedurende het traject. De feasibility studie liet zien dat FtV het beste functioneert als eerste stap voor AYAs in een vroege fase van verandering. Community Managers spelen een belangrijke rol als semiprofessionals in deze vroege fase om verandering te bewerkstellingen en deelnemers te laten groeien in een latere fase van verandering. Om

deelname in een vroege fase van verandering te stimuleren suggereren we dat FtV het beste kan worden ingebed in de openbare gezondheidszorg of nationale gezondheidszorg, waar het ook eenvoudig geïmplementeerd kan worden.

CHAPTER 6: A MULTI-METHOD QUALITATIVE STUDY INVESTIGATING THEMES DISCUSSED AMONG ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE PARTICIPATING IN AN INTERNET-BASED INTERVENTION.

In aansluiting op de RCT en feasibility studie in hoofdstuk 5, voerden we een extra kwalitatieve evaluatie uit van FtV. Het doel van deze studie was om de belangrijkste thema's, welke online bediscussieerd werden door deelnemers van FtV, te onderzoeken. Alle data die door 28 deelnemers online werd gepost tijdens chat sessies of op het forum, werd geanalyseerd door gebruik te maken van meerdere kwalitatieve methodes, inclusief het tellen van de meest voorkomende woorden. Drie belangrijke thema's werden gevonden, allen gerelateerd aan hulp en steun: als eerste het delen van verhalen en steun van lotgenoten; als tweede de gevolgen van familiaal geweld; en als derde professionele hulp en geestelijke gezondheidszorg. Het delen van verhalen is het meest belangrijke thema bediscussieerd online, wat overeenkomt met het primaire doel van FtV zoals initieel opgesteld: het bieden contact tussen lot- en leeftijdgenoten (peer support).

Het tweede thema van de gevolgen van familiaal geweld en in het bijzonder het bespreken van normaliteit - het al dan niet normaal zijn van een bepaalde situatie thuis – zou heel goed een uiting kunnen zijn van de vroege fase van verandering van veel van de deelnemers: ze zoeken steun om met de thuissituatie om te gaan, en hebben hulp nodig om zichzelf voor te bereiden op verandering. Community Managers speelden een belangrijke rol als semiprofessionals om deze verandering te begeleiden. We concludeerden dat hoofdstuk 6 hoofdstuk 5 ondersteunt: dit onderzoek laat opnieuw zien dat FtV een veelbelovende interventie is voor AYAs die getuige zijn van familiaal geweld. Het heeft de functie van een eerste veilige haven in een vroege fase van verandering, waarbij AYAs gesteund worden en tijd krijgen om zichzelf voor te bereiden op professionele (geestelijke) hulp, terwijl hun veiligheid gewaarborgd wordt door het veiligheidsprotocol en door middel van de ondersteuning van de Community Managers als semiprofessionals.

GENERAL DISCUSSION

Dit laatste hoofdstuk behandelt de belangrijkste bevindingen van dit proefschrift in meer detail. Verder worden de gebruikte methodes besproken en aanbevelingen gedaan voor de praktijk, onderwijs en onderzoek.

In onze studie vonden we dat controle, veiligheid en vertrouwen belangrijke behoeftes zijn van AYAs die getuige zijn van familiaal geweld. Vooral de behoefte aan controle over de situatie, zowel over de thuissituatie als over hun eigen hulpverlening, kwam naar voren als erg belangrijk. AYAs die opgroeien in een onveilige omgeving worstelen met gevoelens van afwijzing en een onvervulde behoefte aan intimiteit. Daarnaast leidt het opgroeien in een gewelddadige omgeving, ongeacht de soort geweld, mogelijk tot verkeerde ideeën over welk gedrag normaal is in een liefdevolle relatie, wat overeenkomt met de sociale leertheorie van Bandura. Het willen behouden van de controle over een situatie is een normale respons hierop, omdat controle – in ieder geval over hulpverlening – veiligheid waarborgt en helpt om te gaan met een gebrek aan controle in de directe omgeving. Vertrouwen kan de behoefte aan controle verminderen: het hebben van een vertrouwensband met een hulpverlener kan de hulpverlening daarom ten goede komen: als een AYA erop vertrouwt dat een hulpverlener de goede keuze maakt voor hem of haar, is hij of zij meer bereid een deel van de controle los te laten.

In het eerste hoofdstuk bespraken we het stages-of-change model. In de discussie komen we terug bij dit model. De meeste AYAs die getuige zijn van familiaal geweld die besloten om deel te nemen aan FtV zaten, zoals verwacht, in een vroege fase van verandering: ze wilden de thuissituatie veranderen, maar waren nog niet klaar om deze verandering ook daadwerkelijk uit te voeren door reguliere hulpverlening te zoeken.

In een vroege fase van verandering is het belangrijk om eenvoudig toegankelijke hulp en informatie te bieden om AYAs die getuige zijn van familiaal geweld te helpen om van een contemplatie naar een preparatie of actie fase te gaan. De relatieve anonimiteit van het internet kan hierbij helpen, aangezien het een zekere mate van veiligheid en controle biedt. Een punt van kritiek zou kunnen zijn dat deelname aan online interventies, zoals FtV, vertraging geeft in het starten van reguliere face-to-face hulpverlening voor de AYAs zelf, maar ook voor hun ouders en broers en/of zussen. We zijn dit niet tegengekomen tijdens ons onderzoek, daarom denken we niet dat er vertraging optreedt. In tegenstelling, we suggereren dat deelname aan FtV juist het starten van reguliere hulpverlening versnelt, omdat het AYAs in een vroege fase van verandering, die in het algemeen slechte kennis hebben over beschikbare hulp, helpt om laagdrempelige informatie en zorg te vinden online. In figuur 2 beschrijven we hoe we hypothetiseren dat AYAs die getuige zijn van familiaal geweld zich bewegen in het proces van hulp zoeken én vinden. Ze gebruiken hierbij FtV als een eerste veilige haven. In het algemeen denken we dat online interventies zoals FtV, met hun relatieve anonimiteit, helpend zijn in het bieden van correcte informatie en veiligheid, terwijl de beschikbaarheid van contact met lot- en leeftijdgenoten helpt om vertrouwen te bouwen.

Naast de relatieve anonimiteit en de lage drempel, welke controle garanderen, bleek de Community Manager een belangrijk kenmerk van FtV te zijn. In de ogen van deelnemers was de Community Manager meer een soort van professionele 'peer' (lotgenoot) dan een daadwerkelijke professional. Dit laat de ambivalentie zien van deelnemers in een vroege fase van verandering en de moeilijkheden die hulpverleners hebben wanneer ze hulp bieden aan AYAs die getuige zijn van familiaal geweld: deelnemers zoeken een lotgenoot of een vriend, iemand ze kunnen vertrouwen en die luistert zonder actie te nemen; ze hebben echter een professional nodig, iemand die niet alleen actief en onvoorwaardelijk luistert, maar die ook kennis bezit over het onderzoek, veiligheid waarborgt en vertrouwd kan worden om goede keuzes te maken voor behandeling. Dit maakt de Community Manager anders dan andere deelnemers. We concluderen daarom dat persoonlijke hulpverlening, gericht op de deelnemer en zijn of haar individuele fase van verandering en daaraan vasthangende behoeftes, een sleutel kenmerk is van FtV.

"Jonge mensen, Volwassen zorgen" laat een grote diversiteit zien in methodieken die we gebruikt hebben om het onderzoek in dit proefschrift uit te voeren. Dit is een sterk punt van dit proefschrift. Het design, waarbij we een RCT combineren met haalbaarheidsonderzoek, maakte het mogelijk om het hele proces van dit proefschrift, van voorbereiding tot het afronden van alle data, in drie jaar af te ronden. Bovendien zijn we hierdoor in staat om conclusies te trekken over de mogelijkheden van de interventie in de dagelijkse praktijk, wat vaak niet het geval is. Daarom denken we dat ons design ook bruikbaar is voor andere onderzoekers.

De aard van FtV en zijn doelgroep en de diversiteit en complexiteit van de deelnemers maakte het moeilijk om effecten te meten en om deelnemers te volgen in de tijd. Hoewel kwalitatieve bevindingen en het haalbaarheidsonderzoek goede resultaten lieten zien, zijn de gegevens over effectiviteit niet conclusief. Dit bezien zou toekomstig onderzoek deelnemers voor een langere periode moeten volgen om te onderzoeken wat de effectiviteit op langere termijn is. Het is maar de vraag of een RCT daarbij de beste methode is om dit te onderzoeken. We denken dat een cohort studie beter geschikt is om effectiviteit aan te tonen in een doelgroep als deze, omdat die het mogelijk maakt om deelnemers over langere tijd te volgen, terwijl FtV in de tussentijd beschikbaar blijft voor alle AYAs die willen deelnemen. Een beperking in het onderzoek is het ontbreken van mannelijke deelnemers. Dit betekent dat de resultaten van dit proefschrift alleen toepasbaar zijn op vrouwelijke AYAs die getuige zijn van familiaal geweld. De interventie is echter ontwikkeld op basis van de behoeftes van zowel mannelijke als vrouwelijke AYAs uit de doelgroep, daar zij in de interviewstudie geen verschil vertoonden in behoeften en wensen.

Op het moment dat AYAs die getuige zijn van familiaal geweld de stap hebben genomen naar professionele hulpverlening moeten hulpverleners ervoor zorgen dat ze de basis behoeftes - controle, veiligheid en vertrouwen – voldoende aandacht geven om te voorkomen dat AYAs snel afhaken. Hulpverleners in het algemeen hebben onvoldoende vaardigheden om familiaal geweld in de dagelijkse praktijk te herkennen en erkennen. Onderwijs zou zich daarom moeten richten op het signaleren van geweld. Hulpverleners moeten daarnaast onderwezen worden in de basisbehoeften van AYAs in het algemeen en AYAs die getuige zijn van familiaal geweld in het specifiek, met name over de mate van belang van controle. Actief luisteren, informatie geven, een persoonlijke band opbouwen en, waar mogelijk en veilig, afwachten totdat de AYA klaar is voor verandering zijn hierbij essentieel. Aangezien in de komende jaren eHealth zal groeien is het tenslotte ook belangrijk om toekomstige hulpverleners niet alleen vertrouwd te maken met het bestaan van eHealth met zijn voor- en nadelen, maar ook te zorgen dat zij basis computervaardigheden bezitten.

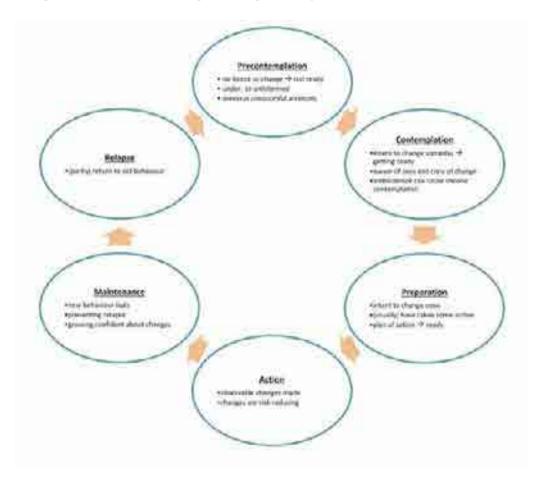
CONCLUSIE

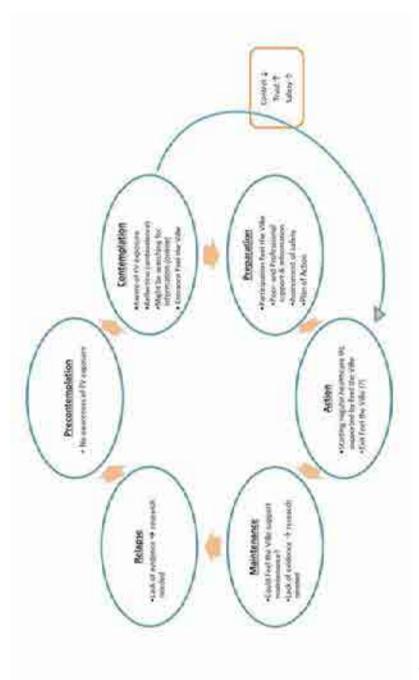
AYAs die getuige zijn van familiaal geweld hebben drie basis behoeftes: controle, veiligheid en vertrouwen. Met name de behoefte aan controle, over zowel de thuis situatie als hun eigen hulpverlening, is een essentiële behoefte.

In dit proefschrift onderzochten we de nieuw door ons ontwikkelde zelfhulp interventie 'Feel the ViBe'. We concluderen dat FtV het beste functioneert als eerste stap voor AYAs in een vroege fase van verandering: FtV liet veelbelovende resultaten zien, waarbij het AYAs in een contemplatie of vroege preparatie fase hielp om te groeien naar een actie fase en mogelijk een onderhoudsfase. Door de relatieve anonimiteit zijn online interventies zoals FtV behulpzaam bij het geven van correcte informatie, terwijl de beschikbaarheid van lot- en leeftijdgenoten contact helpt om vertrouwen te bouwen. FtV kan geïmplementeerd worden zonder grote inspanningen of veranderingen en past het beste in het gebied van de openbare gezondheidszorg of onder de nationale gezondheidszorg. De Community Manager als een professionele lotgenoot lijkt essentieel en kenmerkend te zijn voor FtV, als semiprofessional die persoonlijke hulpverlening biedt gericht op de individuele fase van verandering met bijhorende behoeften. Daarom denken we dat deze persoonsgerichte hulpverlening, eerst door een Community Manager voor AYAs in een vroege fase van verandering en later door een professionele hulpverlener als AYAs klaar zijn voor actie, de beste manier is om AYAs die getuige zijn van familiaal geweld te helpen.

FIGUREN

Figuur 1 The transtheoretical stages-of-change model by Prochaska and DiClemente





SUMMARY

CHAPTER 1: GENERAL INTRODUCTION

'Young people, Adult worries' describes the development and evaluation of an internet-based self-support method, named 'Feel the ViBe (Violence Beaten)', for Adolescents and Young Adults (AYAs) exposed to Family Violence (FV). In chapter 1, we describe the rationale, aims and outline of this thesis.

The thesis focuses on Adolescents and Young Adults exposed to Family Violence. The most common form of exposure to FV is exposure to Intimate Partner Violence (IPV), but assaults by parents on siblings or among siblings are also included. There are many possible forms of exposure, varying from direct exposure – seeing or hearing violence – to indirect exposure – having to deal with the consequences of violence in daily life. 'Witnessing FV' is another way to describe this type of violence. Recent studies show that 8-12% of all children were exposed to some form of FV in the preceding year. AYAs are a group of special interest within the total group of children exposed to FV, as they show the highest past-year prevalence for any exposure to FV (13.8%).

Literature shows that FV exposure is associated with physical health adversities; mental health disorders; and emotional, behavioural and adjustment problems. Exposure to FV is also associated with adolescent dating violence and intergenerational transmission: becoming victims or perpetrators of FV in adult life. These consequences are comparable to the consequences of being direct victims of child abuse. Limited information is available on the consequences of exposure to FV on reproductive and sexual health.

Adolescence is an important and life-altering period in human life with tremendous physical and psychological changes. In this period, peers are very important and, more than family, are considered significant others when facing problems. From the literature, we know that only 18-34% of AYAs seek professional help for mental health problems and that they prefer informal help to professional help. We explain this by means of the transtheoretical stages-of-change model by Prochaska and DiClemente: This model describes the process of intentional behaviour change and can help professionals understand the phases one has to go trough to change behaviour. This can help HCPs to choose the right approach or treatment (figure 1).

We propose to use the stages-of-change model to describe the situation of AYAs exposed to FV and we hypothesise that AYAs exposed to FV are in the (Pre)Contemplation phase. In this phase, it is important to provide low-threshold care.

The Internet could be an effective way to deliver this low-threshold care. In 2013, 100% of the AYAs between 12-25 years old in the Netherlands had access to the Internet. Therefore, eHealth could be a way to reach out to those who would not otherwise search for professional help: to provide information and support. Besides, eHealth solutions have been investigated and proven effective for different health problems, including mental health in an adolescent population.

Considering all of the above we launched the 'Young People, Adult Worries' programme in 2011. The central aim of this thesis was to develop and evaluate a low-threshold eHealth intervention for AYAs exposed to FV, named Feel the ViBe (Violence Beaten)'.

CHAPTER 2: DOES WITNESSING FAMILY VIOLENCE INFLUENCE SEXUAL AND REPRODUCTIVE HEALTH OF ADOLESCENTS AND YOUNG ADULTS? A SYSTEMATIC REVIEW

In Chapter 2, we aimed to explore the association between exposure to FV and the sexual and reproductive health of AYAs. We did this by performing a systematic review, including original studies between 2000 and 2015, both quantitative and qualitative, found in several literature search engines. Outcomes were chosen according to the WHO indicators for sexual and reproductive health.

Forty-five studies were selected out of 18.668 articles. Sample sizes ranged from 20 to 12,308 participants. We assessed all 45 articles for quality using CASP criteria. Because of a broad range of outcomes and subjects, no meta-analysis could be performed. This study showed that exposure to FV appears to have an influence on sexual risk-taking and sexual violence perpetration, comparable to the influence of direct abuse. Results on sexual victimization and adolescent pregnancy remained inconclusive, while onset of puberty appears not to be associated with exposure to FV. Nine of 11 studies appraised as strong and moderate found a positive correlation between witnessing FV and the sexual or reproductive health of AYAs. We concluded that FV exposure seems to influence the sexual health of AYAs, and that further research is necessary.

CHAPTER 3: THE NEED FOR CONTROL, SAFETY AND TRUST IN HEALTHCARE: A QUALITATIVE STUDY AMONG ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE

In this chapter, we aimed to identify healthcare needs of AYAs exposed to FV. We performed twelve semi-structured face-to-face interviews using purposive sampling to reach diversity. Open thematic coding was used to identify the most important themes.

Participants experienced emotional problems, distrusted others and felt unsafe as an important consequence of their exposure to FV. All participants expressed a need for help, but as help involved informing others, they considered it unsafe. Trust, safety and control regarding healthcare interventions emerged as vital needs. The great importance of being in control of healthcare interventions has, as far as we know, not been reported earlier. The anonymity of the Internet was considered as offering safeguard in seeking and receiving help. We also found that having a personal bond with a healthcare provider can lower the need for control.

To comply with the three basic needs, we suggested that healthcare providers should grant AYAs as much control as possible while still monitoring patient safety. The Internet can be an important resource for providing easily available low-threshold information and professional and peer support. Therefore, an online intervention could be an important way to provide healthcare to AYAs exposed to FV.

The results from Chapter 2 and Chapter 3 led to the development of 'Feel the ViBe'. Chapter 4 describes the development of 'Feel the ViBe': an internet-based self-help intervention for AYAs exposed to FV based on the needs found in chapter 3. Chapter 4 also describes the study protocol for the evaluation of FtV in detail.

'Feel the ViBe' is a freely-available, Internet-based self-support method for AYAs exposed to FV with three main goals: (1) providing information, (2) offering (peer) support, and (3) lowering the threshold to regular health care services by supporting participants to move to a higher level of change and to find health care fitting their needs. The intervention comprises a variety of elements, being among others a forum, a chat function, informational pages, and an "ask the expert" function. A community manager (CM) moderates the intervention, answers questions, assesses safety, and supports participants when needed, both on demand when asked for, and actively when they judge a participant could use support or additional information. The CM is a semi-professional with a background in health care and additional training on FV.

eHealth interventions often suffer from the law of attrition: the phenomenon of participants stopping usage or being lost to follow-up. We took several measures to prevent this as much as possible: We used expert literature and interviews with AYAs exposed to FV to compose the intervention and information on the Web, performed a search-engine optimization (SEO), and included general information about FV on the website of FtV to facilitate exposure for first-time visitors. Participants could access FtV from any computer; they needed only their login name and password. FtV is to be used ad libitum (meaning whenever and however they like) without endpoint to the intervention; however, to facilitate exposure for returning visitors we included structured events and reminders.

CHAPTER 5: 'YOUNG PEOPLE, ADULT WORRIES': RCT AND FEASIBILITY STUDY OF THE INTERNET-BASED SELF-SUPPORT METHOD 'FEEL THE VIBE' FOR ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE.

Chapter 5 describes the randomized controlled trial (RCT) and feasibility study of the Internet-based self-support method 'Feel the ViBe' to evaluate both effect and feasibility while using a mixed-methods approach to fully understand the strengths and weaknesses of a new intervention. AYAs aged 12-25 years and exposed to FV were randomized in an intervention group and a control group after they self-registered themselves between June 2012 to July 2014. Participants completed questionnaires on impact of events, depression and anxiety every 6 weeks. Quantitative usage data and qualitative data were collected using Google analytics and content management system (CMS) logs and data files.

The results showed that in total, 31 out of 46 participants in the intervention group and 26 out of 47 participants in the control group started FtV. Seventeen participants (intervention: n=8, control: n=9) completed all questionnaires. A mixed model analysis showed significant differences between groups on depression and anxiety between 6 and 12 weeks after participation started. Another analysis (UNIANOVA) however showed no significant differences. Comparison within groups by means of t tests showed significant improvements after 12 weeks for depression and anxiety. The reported mean Web-based time per week was 2.83 times during 36 min. FtV was rated a mean 7.47 (1-10 Likert scale) with a helpfulness score of 3.16 (1-5 Likert scale). All participants felt safe and two-thirds of the intervention participants started regular health care.

Therefore, we concluded that FtV seems to be a promising intervention: AYAs exposed to FV who participated in FtV showed promising results on their depression and anxiety scores after twelve weeks of participating although it was difficult to gather enough data due to attrition. The feasibility study showed that FtV seems to function best as a first step for AYAs in an early stage of change. Community Managers play an important role as semi-professionals in this phase to realize change and help AYAs move to a higher level of change. To support participation in an early stage of change, we suggest that FtV fits best in the field of public health care or national governmental care, where it can be easily implemented without extensive resources.

CHAPTER 6: A MULTI-METHOD QUALITATIVE STUDY INVESTIGATING THEMES DISCUSSED AMONG ADOLESCENTS AND YOUNG ADULTS EXPOSED TO FAMILY VIOLENCE PARTICIPATING IN AN INTERNET-BASED INTERVENTION.

In addition to the RCT and feasibility study of chapter 5, we performed an additional qualitative evaluation of 'Feel the ViBe'. This study evaluated major themes discussed by AYAs exposed to FV participating in the internet-based self-support method 'Feel the ViBe': All data posted online by 28 active users of 'Feel the ViBe' was analysed in atlas.ti, using multiple qualitative methods, including word counts, to find important topics and major themes.

We found three major themes, all focusing on help seeking and support: sharing stories and peer support; consequences of family violence including normality; and professional support and mental healthcare. Sharing stories is the most important theme in the online data of 'Feel the ViBe', which coincides with the primary goal of the intervention: providing peer support. The theme of consequences of violence and normality could well illustrate the early state of change of participants: They seek support to deal with their home situation, and need help to become ready for change. Community Managers show to play an important role as semi-professionals to realize this change.

We concluded that Chapter 6 adds to chapter 5: it shows again that 'Feel the ViBe' is a promising intervention for adolescents and young adults exposed to Family Violence, functioning as a first entry at an early state of change, giving adolescents and young adults time to be ready for professional (mental) healthcare, while maintaining safety by means of the safety protocol and with help of semi-professionals.

GENERAL DISCUSSION

This final Chapter discusses the main findings in more detail. Moreover, we review the methods used and discuss recommendations for clinical practice, education and research.

In our study, we found that control, safety and trust were important healthcare needs for AYAs exposed to FV. Especially the need for control over the situation, meaning both their home situation and their own healthcare needs, emerged as a vital need. One could hypothesize that AYAs who have grown up in an unsafe environment may struggle with feelings of rejection and unattained intimacy needs. Besides, growing up in a violent environment, irrespective of the nature of this violence, could lead to wrong ideas about what behaviour is normal in a loving relationship, as captured by the social learning theory of Bandura. Maintaining control is a normal coping response, as having control, over healthcare at least, ensures safety and helps one cope with the lack of control in their surroundings. Trust may diminish the need for control. Having a trusting bond with a

healthcare provider (HCP) facilitates healthcare: if AYAs trust the HCPs to make the right judgements, they will be more willing to leave partial control to this.

In this chapter, we draw back on the Stages of Change model, as described in the General Introduction. Most AYAs exposed to FV who decided to participate in 'Feel the ViBe' were, as expected, in the Contemplation or early Preparation stage: they were committed to changing their home situation but were not ready to take the step to regular healthcare.

In an early stage of change, it is important to provide low-threshold care and information to help move AYAs exposed to FV from the Contemplation stage to the Preparation and Action stages. The relative anonymity of the Internet could help make this happen, as it ensures control and safety. A point of criticism might be that participation in an online intervention such as 'Feel the ViBe' delays onset of professional face-to-face healthcare, not only for the AYAs exposed to FV involved, but also for their parents and siblings, but we did not encounter this at all. Therefore, we do not feel that participation in 'Feel the ViBe' or other eHealth interventions delays professional healthcare. On the contrary, we suggest that participation in 'Feel the ViBe' expedites professional healthcare, as it enables AYAs exposed to FV in an early stage of change, who generally have inadequate health literacy, to find low-threshold information and care online. In figure 2, we describe how we hypothesize that AYAs exposed to FV go through the process of searching and finding help, using FtV as a first port of call. In general, we think that online interventions such as 'Feel the ViBe', with their relative anonymity, could be helpful in providing correct information, while the availability of peer support helps to build trust and functions as a safety net.

Besides the anonymity and the low threshold, ensuring control, the Community Manager is an important feature of FtV. In the participants' eyes, the Community Manager is more a 'professional peer' than a professional. This reflects the ambivalence of participants in an early stage of change and the difficulties HCPs encounter when providing care to AYAs exposed to FV: Participants are looking for a peer or a friend, someone they can trust and who just listens without taking action, but they need a professional, someone who is not only listening actively and unconditionally, but is also well informed on the subject, watches safety and can be trusted to make the right treatment choices. This makes Community Managers essentially different from other participants. We therefore conclude that personalized care, targeted at the participant's individual stage of change and related needs, appears to be a key characteristic of 'Feel the ViBe'.

'Young People, Adult Worries' shows a diversity in research methodology used, which is a strength of our study. Our design, combining an RCT with feasibility testing,

made it possible to perform the whole process from preparing to completing all data in three years. Besides, we are able to draw conclusions on the potential of the intervention for daily clinical practice, which is often not the case. We believe, therefore, that our design may be suitable for other researchers as well. The nature of 'Feel the ViBe' and its target group and the diversity and complexity of the participants made it difficult to measure effects and follow-up due to loss to attrition. While qualitative findings and feasibility results are very positive, quantitative results from the RCT are inconclusive. In this perspective, future research should follow participants for a longer period of time in order to study prolonged effects. It is debatable whether a traditional RCT is the best method to investigate this group. We argue that a cohort study would be better to study the effects because it would allow us to follow participants over prolonged periods of time, while 'Feel the ViBe' would be available online in the meantime for all AYAs exposed to FV who are willing to participate. A limitation is that there were no male participants. This means that the results of this thesis only apply to female AYAs exposed to FV. The intervention, however, was based on the needs of both male and female AYAs exposed to FV as they showed no differences in needs in our interview study.

Once AYAs exposed to FV have made the step towards professional healthcare, HCPs should be alert to address the needs of control, safety and trust to prevent early dropout or relapse. HCPs in general do not have enough skills to recognize and acknowledge FV in their daily practice, and education, therefore, should focus on detection of FV. HCPs should also be educated about the basic needs of these AYAs, especially regarding control issues. Identical to the online situation, active listening and watchful waiting while taking time to give information, build trust and establish a personal bond could help AYAs exposed to FV move to a higher stage of change. As e Health will grow over next years, it is important not only to educate future HCPs on eHealth and its advantages and limitations, but also to ensure they have basic computer skills and other mobile devices skills.

CONCLUSION

AYAs exposed to FV have three basic needs: control, safety and trust. Especially their need for control, over both their home situation and their own healthcare, emerged as a vital need.

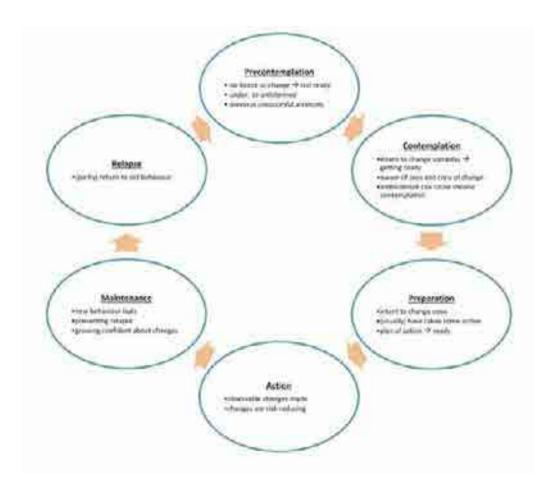
Overall, we conclude that FtV works best as a first step for AYAs in early stage of change: FtV showed promising results, helping AYAs exposed to FV in the Contemplation or early Preparation stages to proceed to the Action and potentially the Maintenance stage. Due to its relative anonymity, online interventions such as FtV can be helpful in providing correct information, while the availability of peer support helps to build trust.

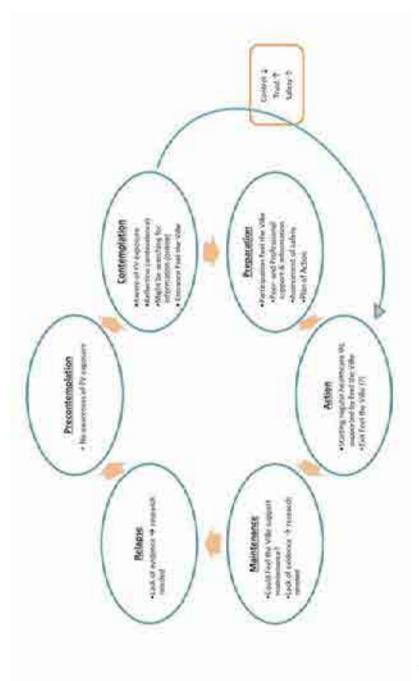
'Feel the ViBe' can be implemented without requiring extensive resources and fits best in the field of public healthcare or national governmental care.

The Community Manager, as a professional peer, appears to be pivotal for 'Feel the ViBe', providing personalized care in the participant's individual stage of change and related needs. Therefore, we believe that personalized care, first by the Community Manager as a professional peer for AYAs in an early stage of change, and subsequently by an HCP, is the best way to help AYAs exposed to FV.

FIGURES

Figure 1 The transtheoretical stages-of-change model by Prochaska and DiClemente





Chapter 9

Dankwoord (Acknowledgements)

Het dankwoord...het meest gelezen stuk van een proefschrift en het hoofdstuk dat ik tot het laatst heb uitgesteld om te schrijven. Want wat schrijf ik daar nu in? En wat als ik iemand vergeet (en die kans is bij mij toch wel significant)?

Laat ik, geheel tegen de traditie in, beginnen met jou Marco. We zijn 15 jaar samen en volgend jaar alweer 12,5 jaar getrouwd. Je hebt me altijd gesteund in mijn drukte en mijn chaos, me afgeremd als ik teveel hooi op mijn vork haalde en ontelbare kopjes koffie voor me gezet. Ik heb je vaak genoeg horen zuchten en nog veel vaker sceptisch zien kijken als ik weer eens zei dat 'het nu echt even wat rustiger zou worden'. Maar je hebt me nooit één strobreed in de weg gelegd en ik weet dan ook zeker dat ik dankzij jou een betere vrouw, mama, vriendin, huisarts, manager en onderzoeker ben. Ik hou van jou.

Toine, toen ik me in 2006 bij je meldde voor mijn wetenschappelijke stage omdat ik 'iets' met seksuele diversiteit wilde doen stond je er voor me en liet je me onder jouw deskundige begeleiding kennismaken met de onderzoekswereld. Die keuzevrijheid en ruimte gaf je me weer in 2010, toen ik me opnieuw bij je meldde. Ik wilde 'iets' doen met jongeren en seksualiteit, het werd dit proefschrift. Ik bewonder je om je altijd, eeuwigdurende en onuitputtelijke energie, kennis, maar vooral ook aandacht en mensenkennis. Je hebt me altijd vrij gelaten en ruimte gegeven, waarschijnlijk wetende dat ik slecht functioneer in een keurslijf en de druk van een deadline nodig heb om het beste uit mezelf te halen. Je weet altijd wat er gaande is, niet alleen in mijn leven als onderzoeker, maar vooral ook in mijn leven als vrouw en mama. Ik ben er trots op dat ik, als een van de laatste groep, onder jou mag promoveren.

Judith, wat ben ik blij dat je mijn andere promotor bent. Je rust, heldere blik en scherpe opmerkingen hebben me ontzettend veel gebracht en geleerd. Je bent praktisch en hebt het vermogen om het beste uit iemand naar boven te halen. Op de momenten dat ik vastliep was het ontzettend verhelderend om een uurtje met je samen te zitten en daar had je ook altijd tijd voor.

Sylvie, met jouw promotie en de latere promoties van Gert-Jan en Maartje heb je de basis gelegd voor mijn promotieonderzoek. Je kennis over familiaal geweld is haast onuitputtelijk en je correcties waren steeds waardevol. Daarnaast heb je me veel geleerd over het geven van workshops aan collega's, iets wat niet altijd even gemakkelijk is als het gaat om moeilijke onderwerpen met een scala aan vooroordelen en aannames.

Hans, zonder jouw uitleg en eindeloze geduld met mijn ongeduld was het nooit goed gekomen met al die statistiek, ik vrees de komende jaren als je er niet meer bent. Rikkert, dankjewel voor je hulp in het bijschaven van mijn Engels, je weet dat het nodig was.

Het Radboudumc bedank ik voor het persoonlijk in mij gestelde vertrouwen door me een AGIKO beurs beschikbaar te stellen. Dusjka en Carlo van Fonds Slachtofferhulp: bedankt, niet alleen voor de subsidie om 'Feel the ViBe' te kunnen bouwen, maar ook voor de vele brainstorms om 'Feel the ViBe' in de lucht te kunnen houden. Ik hoop dat we in de toekomst nog eens mogen samenwerken. Wouter en Re:Publik: je bouwde 'Feel the ViBe' voor ons met eindeloos geduld en voor een fractie van de werkelijke kosten. Nog staat 'Feel the ViBe' veilig online op jouw servers, klaar om op ieder moment weer te kunnen starten: bedankt!

Maartje, Elza en Annette, jullie zijn zo waardevol voor mij geweest. Na een paar thuiswerkdagen wilde ik altijd weer naar 'de uni' in de hoop een van jullie daar te treffen. Ritjes naar de Ikea kwamen er zelfs aan te pas om 'ons' kamertje wat op te vrolijken. Maartje: je was er vanaf het begin, samen waren we de Aiotho's op het geweldsthema, samen worstelden we met de combinatie van promoveren en de huisartsopleiding voltooien en bijna tegelijkertijd ronden we nu ook onze promotie af. De laatste jaren was je er door je verhuizing minder vaak, maar het is altijd fijn je te zien. Elza: ik ken je al vanaf de studie en het is heerlijk om een dag met je door te brengen, ik heb vaak mét je gelachten om onze chaos en manier van werken, om dan vervolgens wat vertwijfeld naar Annette te kijken die het toch écht allemaal wat beter op orde leek te hebben. Annette: stiekem ben je toch mijn voorbeeld, niet alleen als collega en onderzoeker, maar zeker ook als moeder. Met alles kan ik bij je terecht en van jouw aandacht en zorgvuldigheid kan ik nog iets leren. Bij iedere vraag heb je een antwoord, variërend van een voorbeeld van een logboek tot een advies voor een leuk spel voor Lotte of Isa. Ik vind het fijn dat we in de komende jaren blijven samenwerken én dat ik (eindelijk) weer jullie kamergenootje mag zijn. Kees: heerlijk dat je er nog bent, jouw analyses en de Pomodoro (zie Wikipedia) minuutjes zijn altijd verfrissend. Gert-Jan, Magret, Bosa en Frans: jammer dat we elkaar maar weinig zagen, maar juist dan kan een klein woord je weer voor dagen op weg helpen.

Anouk: mijn steun en toeverlaat, zonder jou zou 'Feel the ViBe' niet bestaan hebben. Je kwam binnen om te ondersteunen bij het ontwikkelen van de eHealth applicatie, maar je groeide door en werd niet alleen een fantastische onderzoeksassistent, maar ook een hele goede community manager voor onze deelnemers. Astrid, samen met Anouk hebben jullie zoveel gedaan voor mij en 'Feel the ViBe'. Jullie waren nooit te beroerd om eens extra online te gaan en de inzet en flexibiliteit, maar vooral onderverdeelde aandacht voor onze deelnemers hebben absoluut bijgedragen aan het succes. Iedereen die in de loop van de jaren heeft bijgedragen, als deskundige (Marianne, Peter, Elza, Maartje en Daniëlle), of als tester van 'Feel the ViBe': bedankt! Lieve Margriet, laat ik jou vooral niet vergeten: in mijn eerste jaren en jouw laatste jaren heb je me niet alleen flink op weg geholpen in de

onderzoekswereld, maar ook kon ik altijd even bij je komen spuien als dat even nodig was!

ledereen van het VOHA en ELG secretariaat: dankjewel! Al mijn collega's van de afdeling, onderzoekers, mede promovendi en in het bijzonder de Aiotho's: in de toch wel 7 jaar dat ik erover gedaan heb om hier te staan zijn er heel wat mensen gekomen, en ook weer veel gegaan. Het is fijn om te brainstormen over je onderzoek, maar ook om even te spuien als het allemaal niet lukt. Het is teveel om jullie allemaal op te noemen, maar ik bedank jullie allemaal.

Fleur, Renske, Katie en Adrienne, met jullie vond ik het heerlijk om onderzoek te doen en ik hoop dat jullie dat ook vonden. Als ik jullie ook maar een beetje heb kunnen interesseren voor het onderzoekswereldje dan is jullie stage wat mij betreft geslaagd.

Dick en Walter, jullie leerde me kennen als Aios met onderzoeksambities, Guus en Hugo, bij jullie kwam ik binnenlopen toen ik al een heel eind op weg was. Bedankt voor jullie flexibiliteit, geduld, aandacht, zorgzaamheid en scherpe opmerkingen: jullie hebben ervoor gezorgd dat ik het voor elkaar kreeg om mijn huisartsenopleiding, promoveren en het kersverse moederschap (bijna altijd) succesvol te combineren. Martijn, als mijn eerstejaarsopleider legde jij de basis door me te leren hoe ik beter op mezelf en mijn eigen grenzen moest letten. Theo: ik kwam kennismaken met een baby van 4 weken in mijn armen en jij knipperde niet eens. Ik wist toen dat het goed zat :). Jij stond voor alles open en met welk idee of wat voor gek opleidingsschema ik ook kwam: jij vond het allemaal prima. Fijn dat jullie nu mijn directe collega's zijn in de maatschap, samen met Monique, Lynn en Jorni: wat hebben we toch een goed team! Peter, je bent inmiddels gestopt, maar ik mis je nog in de praktijk. Jorni, voor jou een speciaal woord, want wat moest je af en toe gek worden van je duopartner in de chaos, congressen en ruildagen. Lieve assistentes: als het goed is wordt er de komende jaren minder geruild en hoeven jullie niet weer op het laatste moment patiënten te verplaatsen.

Dan nog mijn familie en vrienden...Lieve Sabine, je bent een collega, maar de laatste jaren meer nog een vriendin. Ik hou van je eerlijkheid en begin te wennen aan je directheid. Je bent lief en rechtdoorzee, ik kan altijd op je rekenen. Ik ben blij dat je mijn paranimf wil zijn.

Marlies, mijn andere paranimf: we go way back :). In de brugklas waren we al snel bevriend, en dat is altijd zo gebleven...je bent zelfs bijna mijn buurvrouw geworden! Jouw nuchterheid en droge humor houden mij in stressvolle periodes met beide benen op de grond. Thx!

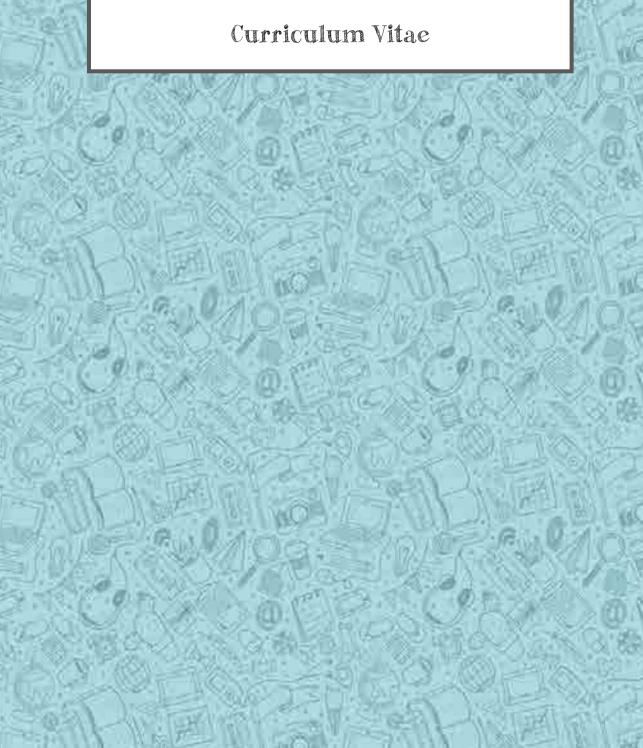
Moniek, jouw prachtige ontwerp, eerst van 'Feel the ViBe' en nu voor mijn boekje, is precies wat ik wilde: aan een half woord heb je genoeg. Als tieners konden we flink ruziën, maar misschien zijn we eindelijk volwassen geworden? Lieve mokkels, lieve Marlies, Anniek, Loes, Loesje, Saskia, Moniek, Monique en Jacqueline: wie had gedacht dat we 20 jaar nadat we elkaar leerden kennen nog steeds bevriend zouden zijn? Jullie zijn allemaal zo verschillend, maar bij ieder van jullie kan ik midden in de nacht aankloppen en jullie vriendschap is me dan ook zeer dierbaar. Al mijn andere vrienden, familie en kennissen, en in het bijzonder Rasha, Astrid & Marcel, Yuri & Marjolein, Jessica, Linsey en Tim: dankjewel dat ik jullie ken!

Mama en Papa: in de afgelopen jaren hebben jullie het allemaal van de zijlijn eens goed bekeken. Als ik het goed gezien heb met een mengeling van trots, zorgen, maar vooral veel liefde. Altijd zijn jullie er voor ons en altijd springen jullie bij. Dankjewel voor alles: Ik hou van jullie.

Lotte, mijn lieve gevoelige slimme wijsneus: wat lijk je toch op me en wat ben je al groot! Isa, mijn kleine eigenwijze dondersteen: jij bent alles wat ik in jouw papa lief heb. Thuis ben ik 'de man': ik was er in perioden vaker niet dan wel en soms heb ik wel erg veel van jullie gevraagd onder het mom van 'mama moet even werken'. Ik kan jullie niet beloven dat het nu rustiger wordt, maar weet dat ik er altijd voor jullie ben en dat jullie altijd en met alles bij mij terecht kunnen. Ik hou zielsveel van jullie.

Het allerlaatste woord is voor 'mijn' deelnemers: jullie namen kan ik niet noemen, maar ik heb dit voor jullie gedaan. Ik hoop dat het goed met jullie gaat!

Chapter 10



CURRICULUM VITAE

Karin Adriana Wilhelmina Louise van Rosmalen-Nooijens is geboren op 'Goede vrijdag' 20 april 1984 in Venlo. Het gymnasium volbracht zij aan het St Thomascollege, het latere Valuascollege.

Na haar afstuderen in 2002 startte zij haar geneeskunde studie in Utrecht, waarna ze een jaar later deze stad verruilde voor Nijmegen. Hier ontmoette zij in september 2003, tegelijkertijd met haar start aan de Radboud Universiteit, haar grote liefde Marco.

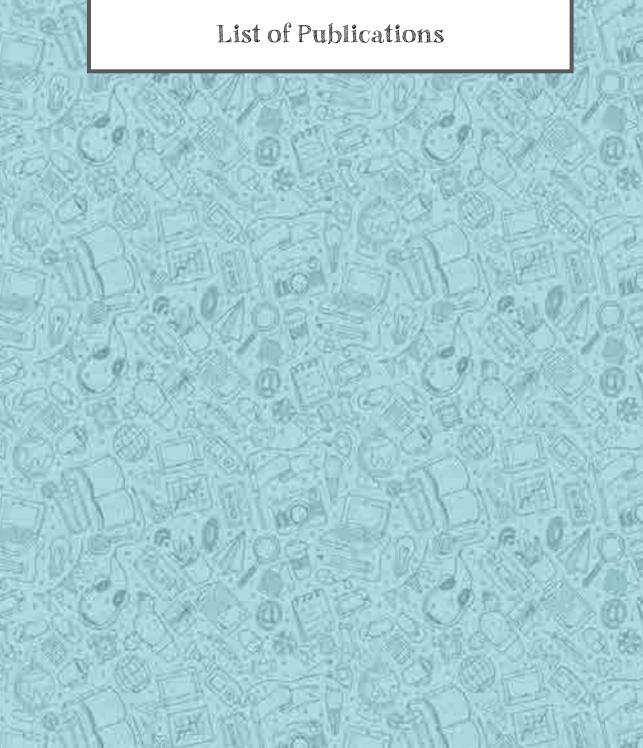
In 2006 proefde ze voor het eerst aan de onderzoekswereld met haar wetenschappelijke onderzoek naar de seksuele gezondheid van lesbische vrouwen. De jaren erna bracht zij door in Tanzania, behaalde ze haar artsexamen in 2009, en werkte zij als assistent psychiatrie bij het Vincent van Gogh te Venray op afdelingen voor jongeren, ontwikkelingsstoornissen en niet-aangeboren hersenletsel. In 2010 besloot zij te starten als AiOtHO: Arts in Opleiding tot Huisarts en Onderzoeker. Zij ontving een AGIKO beurs van het Radboudumc voor het uitvoeren van dit traject.

Haar opleiding bracht zij door in huisartsenpraktijken in Sevenum en Horst aan de Maas, en in het maasziekenhuis Pantein te Boxmeer. Tijdens haar opleiding, welke zij in de zomer van 2015 afrondde, kreeg zij twee prachtige dochters: Lotte (2011) en Isa (2013).

In januari 2016 trad zij toe tot de huisartsenmaatschap 'Nieuw Huys' te Horst, waar zij sinds die tijd met veel plezier de taak van praktijkhouder en praktijkmanager vervult. In 2017 rondde zij haar proefschrift af, getiteld: 'Young People, Adult Worries': Preparation, Development, and Evaluation of the eHealth Intervention 'Feel the ViBe' for Adolescents and Young Adults Exposed to Family Violence. Dit proefschrift beschrijft het resultaat van dit promotietraject.

Karin van Rosmalen-Nooijens woont samen met haar man Marco van Rosmalen en hun dochters Lotte en Isa in Tegelen bij hun 'stedje' Venlo.

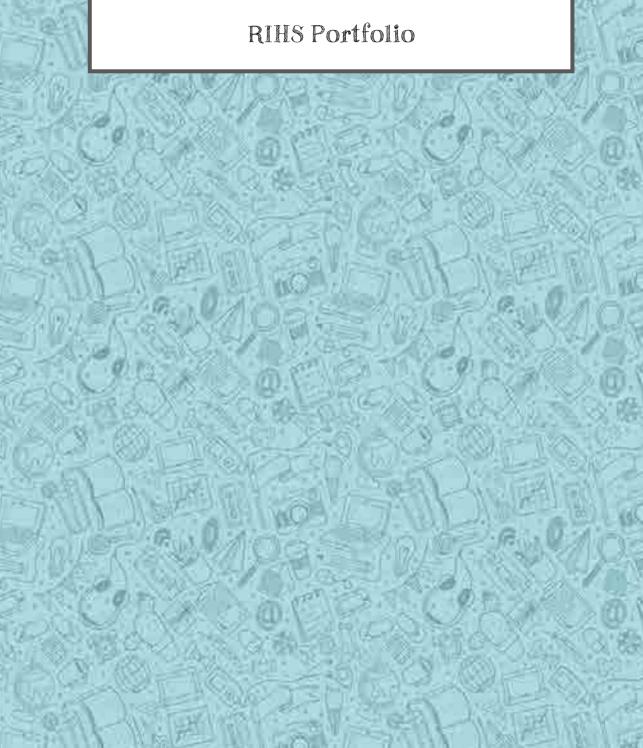
Chapter 11



LIST OF PUBLICATIONS

- 1. van Rosmalen-Nooijens, K. (2014). Adolescent als getuige van huiselijk geweld. Huisarts en wetenschap, 57(7), 363-363.
- van Rosmalen-Nooijens, K., Lo Fo Wong, S., Prins, J., & Lagro-Janssen, T. (2017).
 Young People, Adult Worries: Randomized Controlled Trial and Feasibility Study of the Internet-Based Self-Support Method "Feel the ViBe" for Adolescents and Young Adults Exposed to Family Violence. J Med Internet Res, 19(6), e204. doi:10.2196/jmir.6004
- van Rosmalen-Nooijens, K., Lo Fo Wong, S. H., Prins, J. B., & Lagro-Janssen, A. L. M. (2017). The need for control, safety and trust in healthcare: A qualitative study among adolescents and young adults exposed to family violence. Patient Educ Couns, 100(6), 1222-1229. doi:10.1016/j.pec.2017.02.008
- 4. van Rosmalen-Nooijens, K., & Wong, S. L. F. (2014). Vroegtijdige herkenning partnergeweld. Tijdschrift voor praktijkondersteuning, 9(5), 129-133.
- 5. van Rosmalen-Nooijens, K. A., Prins, J. B., Vergeer, M., Wong, S. H., & Lagro-Janssen, A. L. (2013). "Young people, adult worries": RCT of an internet-based self-support method "Feel the ViBe" for children, adolescents and young adults exposed to family violence, a study protocol. BMC Public Health, 13, 226. doi:10.1186/1471-2458-13-226
- 6. van Rosmalen-Nooijens, K. A., Vergeer, C. M., & Lagro-Janssen, A. L. (2008). Bed death and other Lesbian sexual problems unraveled: a qualitative study of the sexual health of Lesbian women involved in a relationship. Women Health, 48(3), 339-362. doi:10.1080/03630240802463343
- 7. van Rosmalen-Nooijens, K. A., Wong, S. H., & Lagro-Janssen, A. L. (2011). Gender-based violence in women and mental disorders. Jama, 306(17), 1862; author reply 1862-1863. doi:10.1001/jama.2011.1580
- 8. van Rosmalen-Nooijens, K. A. W. L., Lahaije, F. A. H., Lo Fo Wong, S. H., Prins, J. B., & Lagro-Janssen, A. L. M. (2017). Does witnessing family violence influence sexual and reproductive health of adolescents and young adults? A systematic review. Psychology of Violence, 7(3), 343-374. doi:10.1037/vio0000113
- van Rosmalen-Nooijens, K.A.W.L., Lo Fo Wong, S. H., Meijer, R., Prins, J. B., & Lagro-Janssen, A. L. M. (2017). A multi-method qualitative study investigating themes discussed among adolescents and young adults exposed to family violence participating in an internet-based intervention. Under review Journal of Interpersonal Violence.
- 10. Verhagen, L. M., Kapinga, R., & van Rosmalen-Nooijens, K. A. (2010). Factors underlying diagnostic delay in tuberculosis patients in a rural area in Tanzania: a qualitative approach. Infection, 38(6), 433-446. doi:10.1007/s15010-010-0051-y

Chapter 12



PHD PORTFOLIO

Nar	ne PhD student: KAWL van Rosmalen-Nooijens	PhD) period: 1-3-	2011	1 – 1-11-
Department: Primary and Community Care, Gender &			2017		
Women's Health		Pro	motor(s): Pro	of. A	LM Lagro-
Gra	duate School: Radboud Institute for Health Sciences		ssen, Prof. JE		
			promotor(s):	Dr.	SH Lo Fo
		Wo	ng		
		Yea	r(c)	ECT	·c
	TRAINING ACTIVITIES	1 Ca	1(3)	LCI	3
a)	Courses & Workshops				
•	Introductiecursus (NCEBP)	•	2011	•	3
•	Biometrie PAOG	•	2011-2012	•	40 (ABAN)
•	Radboud in'to Languages: academic writing	•	2012	•	3
•	CaRe cursus "kwalitatieve onderzoeksmethoden"	•	2013	•	3
•	Perfecting your academic writing	•	2016	•	1,5
•	eBROK course: Basic course legislation and organisation for clinical researchers	•	2016	•	15 (ABAN)
•	docentcursus Teach the teachers cursus over gender- sensitieve geneeskunde	•	2016	•	4 (ABAN)
b)	Seminars & lectures^				
•	EGPRN pre-Conference Workshop Qualitative Research	•	2013		
•	Afscheidscongres Sylvie + Special Interest Group Family Violence	•	2016		
c)	Symposia & congresses^				
•	WONCA Congres Malaga + SIG Family violence (oral presentation)	•	2010		
•	Little people, a lot to worry: a study protocol NCEBP symposium "Patient centered interventions" (poster)	•	2011		
•	Little people, a lot to worry: a study protocol International Symposium 'Good practices at different places' (poster)	•	2011		
•	Invitational Conference 'Gender Medicine, an international interdisciplinary conference on the practical turn in gender	•	2011		
	and medical education' (oral presentation)				
•	Invitational Conference 'Interventions on Intimate Partner	•	2011		
	Violence in Primary Care' (oral presentation)				
•	WONCA Europe, Warchau (oral presentation)		2011		
•	The European Conference on Child Abuse and Neglect (EUCCAN)	•	2011		
		•	2012		

•	Jongeren & Geweld: De rol van e-health bij het bereiken en			
	ondersteunen van deze groep. Avans Hogeschool: Children and youngsters exposed to violence. (Oral presentation)		2012	
	WONCA Europe, Vienna (oral presentation)		2012	
	EGPRN, Turkey, Kusadasi (oral presentation)		2013	
	Young people, Adult worries: a study protocol, Gender-	•	2013	
	Sensitive Medicine: From Science To Education And Care			
	(Poster)	•	2013	
•	Misbruik en geweld bij adolecenten (Abuse and Violence in		2013	
	the life of adolescents) Educational program 'Het oog op			
	misbruik en geweld bij bijzondere groepen' (Oral			
	presentation)	•	2014	
•	Wonca Europe Lisbon + Pre-conference Special Interest		2215	
	Group Family Violence (oral presentation)	•	2015	
•	Primary care and Research: e-Health, Lovah conference 'Go		2045	
	Viral' (Oral presenation)	•	2015	
•	NHG Congres "onderbelicht": "Als zwijgen niet helpt"			
	Workshop on partner violence (workshop)	•	2016	
•	Gender & Women's Health: presenting research themes,			
	Symposium: Family violence, where do we stand in			
	research & education? (oral presentation)	•	2016	
•	ELG Onderzoekssymposium: innovatieve		2047	
	onderzoeksmethoden	•	2017	
•	Wonca Europe Prague (oral presentation)			
d)	Other			
•	Aiotho/promovendi refereeravonden	•	2011-2013	
•	Researchmeeting Gender & Women's Health (every 3	•	2015	
	months)			
•	Researchers Lunch meeting (weekly)	•	2015	
	TEACHING ACTIVITIES			
e)	Lecturing			
•	EBM education medical students	•	2011-2013	
•	GP & GP trainee education on partner violence (every 6	•	2012	
	months)			
•	Electives partnergeweld (yearly)	•	2015	
•	Communication in GP Practice: pay it forward (on positive	•	2017	
	& negative feedback)			
•	Communication in GP Practice: communication while	•	2017	
	calling			
•	Communication in GP Practice: communicating with your	•	2017	
	personnel			

 Supervision of internships / other 		
 Mindfullness for GP's 	•	2010
• Organiseer je Praktijk – LHV cursus volgens GTD principe	•	2015
Supervison of students for their Research Minor	•	2012







Radboudumc

Fonds Slachtofferhulp