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Living with advanced cancer: Rich Pictures as a means for health care providers to explore the experiences of advanced cancer patients

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Funding information
This study was funded by The Young Academy, Royal Dutch Academy of Sciences; Dutch Cancer Society (grant number 11507).

Abstract
Background: To provide holistic care to patients with advanced cancer, health care professionals need to gain insight in patients’ experiences across the different domains of health. However, describing such complex experiences verbally may be difficult for patients. The use of a visual tool, such as Rich Pictures (RPs) could be helpful. We explore the use of RPs to gain insight in the experiences of patients with advanced cancer.

Methods: Eighteen patients with advanced cancer were asked to draw a RP expressing how they experienced living with cancer, followed by a semi-structured interview. Qualitative content analysis, including the examination of all elements in the drawings and their interrelationships, was used to analyze the RPs, which was further informed by the interviews.

Results: The RPs clearly showed what was most important to an individual patient and made relations between elements visible at a glance. Themes identified included: medical aspects, the experience of loss, feelings related to loss, support from others...
1 | INTRODUCTION

The diagnosis of advanced, incurable cancer is likely to have a profound impact on people. The limited lifetime left may directly conflict with the goals people have in life, and, as such, may entail an experience of contingency. Contingency refers to the randomness of life, that everything could have been different. When life goals are jeopardized, questions like “why me” and “why now” may arise. Patients need to make meaning of their life with cancer and incorporate diagnosis and prognosis in their life story. Integrating advanced cancer in one's narrative of life, however, is challenging, and feelings of hopelessness, depression, and even the desire for a hastened death were found to be common among patients with advanced cancer. Therefore, care for patients with advanced cancer needs to address psychosocial, spiritual and existential health in addition to physical health. Despite improvements in cancer care in developed countries, these nonphysical domains remain largely unattended.

The experience of contingency can be conceptualized as an interpretation crisis, and people may not be able to find words to express what is happening to them, that is, words may be insufficient in capturing intense experiences. Thus, the use of questionnaires or in-depth interviews can only uncover part of patients' experiences. A different approach invites patients to tell their story through visuals, in addition to spoken language. Various visual tools have been used among cancer patients in developed countries to evoke these visual narratives, such as drawings, paintings, and comics. Furthermore, visual tools have been used in community work in for example Sub-Saharan countries. The combination of verbal and visual tools was found to be helpful in unravelling experiences of patients with cancer. However, previously used tools only focussed on one specific experience, such as physical pain or anxiety.

A visual tool that could provide a more comprehensive view of the experiences of patients with cancer is the Rich Picture (RP). A RP is a drawing that someone creates about their experience, including all the people, materials, processes, interactions, and feelings that contribute to the experience. RPs originate from systems engineering and were originally used to explore complexity, but RPs have recently also been used in, for example, medical education research with surgical experts and with medical trainees, inviting participants to draw a complex and challenging situation in their work. RPs were found to aid understanding, dialogue and the sharing of experiences. To the best of our knowledge, RPs have not yet been applied to capture the experiences of patients. Our aim was to explore the use of RPs and subsequent interviews as a method to gain insight in the experiences of patients with advanced cancer in an academic medical centre in the Netherlands.

2 | METHODS

2.1 | Study design and participants

We adopted an interpretive qualitative approach that was largely guided by the principles of constructivist grounded theory, such as purposive sampling and constant comparison. An iterative approach to data collection and data analysis was taken, that is, data analysis started alongside data collection to inform subsequent sampling and data collection.

Patients were recruited from the Department of Medical Oncology of the Amsterdam University Medical Centers, Location AMC, the Netherlands. We asked patients above the age of 18 with a diagnosis of advanced, incurable cancer, receiving palliative treatment and/or best supportive care, to participate. Patients with all types of solid tumors who were sufficiently fit to participate, were eligible. Patients were approached during appointments at the hospital by their attending oncologist. We aimed to include approximately 15 patients, a sufficiently large sample size to obtain meaningful findings with a grounded theory research design.

2.2 | Data collection

The first author (ZB), a PhD student with a research masters in global (mental) health, conducted all the
TABLE 1 The five themes with exemplary pieces of RPs and related quotes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Part of a RP</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical aspects and the physical experience of having cancer</td>
<td><img src="image1" alt="Image" /></td>
<td>I drew myself, here, that is me. Me in bed. [...] And very close to the toilet (WC), because now that is of course the biggest disaster, that you have to go to the toilet all the time and stomach ache and everything. – P14</td>
</tr>
<tr>
<td>The experience of loss</td>
<td><img src="image2" alt="Image" /></td>
<td>Well, that I don’t work, I am no longer able to. – P7</td>
</tr>
<tr>
<td>Feelings around the loss</td>
<td><img src="image3" alt="Image" /></td>
<td>And now I feel more like… like from all angles a dagger has been stabbed through my heart [cries]. [...] Now my tears just fill a pool you know. I don’t want to do it regularly in front of my family, but when I am alone it feels like the tears won’t stop coming. – P5</td>
</tr>
<tr>
<td>Being supported by others and through meaningful activities</td>
<td><img src="image4" alt="Image" /></td>
<td>Since I have cancer I have received an incredible amount of support from my husband and my sister and her daughters, my cousins. But also from colleagues, from friends, and from family, well incredibly much. I never expected that to be honest. [...] Besides, there are holiday and leisure activities [...] – P3</td>
</tr>
</tbody>
</table>

(Continues)
of the RP (eg about the colors, shapes, specific elements, and relationships between them). The interviewer aimed to understand each element of the RP, the meaning behind them and the reason they were drawn. In total, the RP session would take around 1 hour.

2.3 | Data analysis

Interviews were transcribed verbatim and were used to support the analysis of the RPs. To analyze the combined “Rich Picture/interview” data, 2 main strategies were used: RP viewing sessions and gallery walks. During RP viewing sessions one single RP was discussed in detail for an hour by 6-8 researchers who had experience with RP research. We analyzed the RPs using content analysis.27,28 An analytical framework, based on the work of Carney and adopted by Bell, Berg, and Morse was used to guide the analysis.24,29 The aim of these sessions was to obtain multiple perspectives on the content of the RP and explore different ways of seeing. Analysis included the examination of all elements of the drawings, such as facial expressions (eg smiling or crying) and body language (eg holding hands) of figures, use of color, arrows, thought and speech bubbles, placement and interrelatedness of elements, size of elements, and the use of metaphors and symbols.

To gain insight in patterns, differences, and similarities across the whole set of RPs, we organized 3 gallery walks in which all RPs were hung in a room in random order. All attendees would walk around the room to get a first impression of the RPs, and would then sit down to discuss the RPs together. In order to allow for multiple perspectives to enrich the interpretation, these gallery walks were held with different participants. The first 2 gallery walks included researchers with experience in RP research and members of the research team respectively, building on backgrounds as diverse as medicine, psychology, theology, arts, systems engineering and qualitative research. To validate our interpretations, we held the third gallery walk with 4 (former) patients with cancer. These patients, 2 males and 2 females, were all treated for stomach or esophageal cancer and were currently free of disease.

Finally, the first researcher combined the interpretations from the RP viewing sessions and gallery walks into a table in Word, to which we applied open coding to the RPs and the corresponding interview text to create initial codes. The first researcher subsequently clustered codes into themes. Evolving interpretations were discussed and refined in weekly meetings between ZB and EH and presented to the research team 3 times during the analysis process. To interpret the findings in the context of experiences of contingency, the analysis was further informed by a theoretical model that is based on previous research on contingency of Hartog et al.5

2.4 | Ethical considerations

The Medical Ethics Review Committee of the Academic Medical Centre stated that no ethical approval was needed for the study. Confidentiality of patients was ensured and all collected data were coded and stored in a protected database in the hospital. Prior to participation, all patients were informed about the potential risk of emotional distress and their right to withdraw from the study at any moment. We obtained written informed consent from each patient.
3 | RESULTS

In total, 18 patients were included in the study, of which 11 were female. Patients’ age ranged from 31 to 81 (mean age 62). Patients had esophageal, stomach, pancreas, colon, or ovary cancer. The sample included patients who were diagnosed with advanced cancer just 2 months before the interviews, while others had lived with advanced cancer for 1-4 years. Almost all patients had a partner. The characteristics of each patient can be found in Table 2.

For the recognition of the different elements in the RPs, the input of patients during the gallery walk was vital. Patients participating in the gallery walk recognized many elements of the RPs that were not readily identified by researchers and health professionals, such as specific physical sensations and emotions. The main findings of the gallery walks were that a great loss and many intense emotions were depicted, and that relationships between people appeared as a central theme in the RPs. Additionally, the experience of contingency and the way patients dealt with it, in order to restructure their life story, were represented in the RPs.

Based on the RPs and interviews, we identified 5 themes (Table 1), which together formed an overarching narrative around contingency and show how patients shape and transform their individual accounts of their experiences. Patients’ accounts often started with medical aspects and the physical experience of having cancer, which was followed by the experience of loss, feelings around the loss, being supported by others and through meaningful activities, and integrating the cancer in a new life story. We will illustrate how those themes interrelate by presenting 3 individual patient stories, that serve as exemplar cases representative of our main findings. Fictional names are used, but RPs and quotes are numbered according to process of anonymization.

3.1 | Frank

Frank was a 49-year-old male with stomach cancer. Two months before the interview he was diagnosed with advanced cancer and he was now receiving chemotherapy. When asked to make a drawing that represented his experience with living with advanced cancer, he drew a scale with a negative and a positive anchor, symbolizing his life (Figure 1A). The anchors were filled up with the most important elements of his life. In the interview, he explained:

“Well as you can see, it's a big scale for me, which symbolizes life and well, for me it is not in balance. He tipped a bit to... well, I have the positive and the negative side and of course because of the cancer he tipped to the negative side.” – P6

The negative anchor includes the question about what caused the cancer: work related stress (suitcase and computer), unhealthy eating habits, or a error in DNA. The positive anchor includes family, doing sports, going on holiday, eating healthy, and in general enjoying life. Chemotherapy is drawn in the middle of the scale with question marks, representing the consideration whether the therapy is negative or positive. (C) Factors that affect the negative anchor of the scale: feeling useless (empty balloon), cold weather that increases neuropathy (snowflake), and feeling sad (rain cloud). (D) Thoughts about death and worries about the financial status of the family have a negative effect on the life of the patient.
the underlying question whether the disease was his own fault (Figure 1B). These included his demanding work schedule and related stress, unhealthy eating habits, and a possible error in his DNA. The experience of loss was closely related to some of the physical aspects of having cancer, such as fatigue and neuropathy (Figure 1C), and resulted in him not being able to work, causing him to feel useless (Figure 1C). As a consequence of the experience of loss, he depicted feelings of sadness (Figure 1C), worries about his financial status (Figure 1D), and thoughts about approaching death (Figure 1D). On the positive side of the scale, he depicted his family, doing sports, going on holiday, eating healthy, and in general enjoying life (Figure 1B).

Despite the fact that he drew more elements around the positive anchor, a pointer on top of the scale indicated that his experience was more heading toward the negative side of the scale (Figure 1B). Frank explained that the cancer limited him in doing the positive things. However, the pointer was now going in the other direction, because he was trying to regain a positive life balance by focusing on the positive factors that he was still able to do, as a means of integrating the cancer in his life story.

“Yeah, you are not able to do much. That is why I indeed like to meet up with people and also to keep playing sports if I am physically able to […] So I regularly meet up with people of whom I think, yes I like to see him or her. Yes I find that important now. Something that you always used to postpone like, well I am busy, I don’t have time for this, it will come another time, I now think, no I will just do it right away.” – P6

In response to the tragic of losing his health and ultimately his life, Frank described how he shifted priorities, which can be interpreted as a transformation of his life story.

### 3.2 | Leo

Leo, was a 31-year-old male with advanced esophageal cancer. He had lived with the diagnosis for a little more than 2 years and had recently decided to stop chemotherapy. In his drawing, he did not depict any medical aspects, but focused on the experience and feelings related to loss, indicated by a big red cross through his future (Figure 2A,C). The loss of
future made him not only sad, but also angry (Figure 2D). He was angry about losing his career prospects, which made him feel useless, and about getting cancer at such a young age. Despite the central experience being one of loss, he could still feel happy when spending time with his family. Leo was clearly struggling with the integration of the cancer and approaching death into his life story, feeling sad, but on the other hand wanting to stay strong for his family (Figure 2B). The experience of loss that is central to this RP was also strongly conveyed by the large empty space that is part of the RP (Figure 1A). Only when drawing, Leo realized how small his world had become, as illustrated by the following quote:

“It’s also abrupt you know, it’s suddenly from everything to nothing. Well, yeah, you can actually see that in my drawing as well. And that shocks me to be honest. […] When you are telling someone it still seems quite something, but now that I see it on paper, the only thing I actually still have are my family and my house. The rest is just gone. […] I think that this shows that in reality it is less glamorous than when I would just tell someone.” – P2

3.3 | Rachel

Rachel, a 63-year-old female, lived with advanced esophageal cancer for a little more than 2 years. She drew no medical aspects and the loss she experienced was not directly clear from the RP (Figure 3A). Instead, she focused on her family, how they supported each other, and how she hoped to spend as much time with them as possible (Figure 3B,D). After the loss of previous life goals, her wish was now that her family would support each other and enjoy their life, even after she has gone (Figure 3C): “I am looking happily at them, at their happy faces, that they may be happy as well, not because I am gone, but because they are together, the 3 of them, that they can support each other. That is my goal actually.”

When asked to reflect on the experience of making a drawing in comparison to talking without having to draw first, Rachel said:

“Yes it is clear that this is different, because now you are talking about what you have drawn, about your feelings about what you have drawn. And otherwise this may have been a completely different conversation, well… more superficial, let’s call it that way, this is deeper, this goes deeper into your feelings. That is how I feel it at least, because you are drawing what is going on in your mind.” – P9

4 | DISCUSSION

This is the first study using RPs in advanced cancer patients. RPs helped patients to tell their story and talk about what is most important to them and what other factors, aside from the disease, play a role in their life. The most dominant themes shared through the RPs and interviews were the experience and feelings around loss, and the importance of social relationships. Social relationships provided support and comfort, but also caused sadness, because patients realized they had to leave their loved ones behind. The themes found in our study correspond with findings of previous studies that have used questionnaires and in-depth interviews. Indeed, rather than providing new themes, the added value of RPs lies in the ability to represent the themes in one single snapshot. It provides a complementary view on the experiences of
patients and gives insight into the relevant themes and how these interact. Furthermore, creating an RP can be considered an introductory step in narrative meaning making itself, as drawing one’s story might stimulate reflection and meaning making in the interpretation crisis resulting from an incurable cancer diagnosis.\(^5\,10,16\) While RPs touch upon the aspects of art-based therapy, art-based therapies target the integration of disease in their life to develop a new life story.\(^34\) Slightly countering this, RPs are about helping patients to construct and tell their current life story, not create a new one.\(^21\) RPs can lay the foundation for art-based therapy by gaining insight into the current life story of the patients before developing a new life story.

Some limitations of our study need to be acknowledged. First, engaging in a RP session of approximately an hour may be too burdensome and therefore less feasible for patients who are in a more advanced disease stage. Additionally, not all patients will feel comfortable with expressing themselves visually. Related to the study design, only one interviewer conducted all the interviews. The choice of interviewer may influence the data collection as patients are more likely to open up when they feel comfortable with the interviewer. Hence, data could have been different with another interviewer. Also, the stakeholders participating in data analysis may have shaped the interpretation of the data. We therefore included a diversity of relevant stakeholders.

These limitations are all related to the qualitative approach in the use of RPs. However, despite the disadvantages of such a qualitative measure, in our opinion, the large advantage of RPs, that is, being able to provide a visual summary of patients’ experiences, outweighs these disadvantages. Also, we acknowledge that our findings are culturally bound and relate to a Dutch way of sharing experiences. How comfortable patients are with this method depends on their cultural background. To examine whether RPs can be used in patients with different backgrounds, RP research should be conducted in other cultural groups and countries.

The clinical implications of RP interviews are noteworthy. By using RPs, it is possible to literally see what the experiences and feelings of an individual patient are. Thus, RPs may help health professionals to gain insight in the perspective of the patient. For patients, telling their story to health care professionals might be facilitated if they could refer to the visuals used in the RP. Thus, we envision a practice where patients are stimulated to make an RP at home or in a meeting with a palliative care counsellor, and then bring this RP to an appointment with their attending clinician. Alternatively, given the finding that patients attending the gallery walk easily recognized the expressed elements of the RPs, a collection of symbols and metaphors drawn in RPs could be made and used when talking to patients. Health care professionals could ask patients which symbols and metaphors they recognize from their own experiences and which they find most important, creating a low-threshold starting point for patients to talk about their concerns.

ACKNOWLEDGMENTS

This study was funded by The Young Academy, Royal Dutch Academy of Sciences and the Dutch Cancer Society. We thank the patient organization SPKS (Stichting voor Patiënten met Kanker aan het Spijzerteringskanaal) for their participation in the analysis of the data.

CONFLICT OF INTEREST

None.

AUTHOR CONTRIBUTIONS


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REFERENCES


## APPENDIX

### Table A1  The characteristics of the patients (n = 18)

<table>
<thead>
<tr>
<th>Participant number</th>
<th>Date interview</th>
<th>Sex</th>
<th>Age</th>
<th>Type of cancer</th>
<th>Months between diagnosis and interview</th>
<th>Does the patient receive palliative treatment?</th>
<th>Does the patient have other registered diagnoses?</th>
<th>WHO performance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Feb. 2018</td>
<td>Male</td>
<td>66</td>
<td>Esophagus</td>
<td>46</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
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<tr>
<td>P2</td>
<td>Mar. 2018</td>
<td>Male</td>
<td>31</td>
<td>Esophagus</td>
<td>27</td>
<td>Not anymore</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>P3</td>
<td>Mar. 2018</td>
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<td>64</td>
<td>Esophagus</td>
<td>13</td>
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<td>Yes</td>
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<td>P4</td>
<td>Mar. 2018</td>
<td>Male</td>
<td>65</td>
<td>Esophagus</td>
<td>37</td>
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<td>Yes</td>
<td>0</td>
</tr>
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<td>P5</td>
<td>Mar. 2018</td>
<td>Female</td>
<td>64</td>
<td>Esophagus</td>
<td>2</td>
<td>No</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td>P6</td>
<td>Mar. 2018</td>
<td>Male</td>
<td>49</td>
<td>Stomach</td>
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<td>Yes</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>P7</td>
<td>Mar. 2018</td>
<td>Male</td>
<td>45</td>
<td>Stomach</td>
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<tr>
<td>P8</td>
<td>Mar. 2018</td>
<td>Female</td>
<td>68</td>
<td>Esophagus</td>
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<tr>
<td>P9</td>
<td>Mar. 2018</td>
<td>Female</td>
<td>63</td>
<td>Esophagus</td>
<td>27</td>
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<tr>
<td>P10</td>
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<td>Female</td>
<td>56</td>
<td>Stomach</td>
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<td>Yes</td>
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<tr>
<td>P11</td>
<td>Apr. 2018</td>
<td>Female</td>
<td>75</td>
<td>Ovary</td>
<td>19</td>
<td>Yes</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>P12</td>
<td>Apr. 2018</td>
<td>Female</td>
<td>46</td>
<td>Stomach</td>
<td>14</td>
<td>Yes</td>
<td>Yes</td>
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</tr>
<tr>
<td>P13</td>
<td>Apr. 2018</td>
<td>Male</td>
<td>79</td>
<td>Colon</td>
<td>33</td>
<td>Yes</td>
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<td>P14</td>
<td>Apr. 2018</td>
<td>Female</td>
<td>73</td>
<td>Pancreas</td>
<td>7</td>
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<td>P15</td>
<td>Apr. 2018</td>
<td>Female</td>
<td>81</td>
<td>Esophagus</td>
<td>32</td>
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<td>P16</td>
<td>Apr. 2018</td>
<td>Male</td>
<td>71</td>
<td>Esophagus</td>
<td>40</td>
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<tr>
<td>P17</td>
<td>Apr. 2018</td>
<td>Female</td>
<td>60</td>
<td>Pancreas</td>
<td>4</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>P18</td>
<td>May 2018</td>
<td>Female</td>
<td>73</td>
<td>Pancreas</td>
<td>21</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>

*Specifically the diagnosis of advanced cancer.