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Looking bad: Female patients drawing their representation of chemotherapy-induced alopecia

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Abstract

This study explored the experienced impact of alopecia using patient's drawings. Forty patients made drawings of their feelings about appearance of their head and hair before and during chemotherapy. Patients also reported illness perceptions (B-IPQ). Twenty-four patients (60%) reported ⩾50% alopecia at enrollment. Most patients (70%) drew a negative change of feelings over time and physical changes. Many experiences related to alopecia emerged from the written texts underneath the drawings and the B-IPQ. Drawings depicted deteriorated feelings of appearance, affecting many activities throughout the day. Healthcare providers are advised to use patient-tailored questioning about alopecia.

Keywords

appearance, cancer, chemotherapy-induced alopecia, drawings, illness perceptions

Background

One of the most common side-effects of cancer treatment is chemotherapy-induced alopecia (Dua et al., 2017). It involves the loss of scalp hair, eyebrows and/or eyelashes, body hair like on the axilla, pubic area, and limbs ranging from partial to complete hair-loss. In The Netherlands, 16,500 patients were diagnosed with a solid tumor in 2018 (Netherlands Comprehensive Cancer Center, 2018) of whom an estimated 15,000 patients lost their hair due to chemotherapy.

The majority of patients with cancer report scalp hair, eyebrows and eyelashes to be essential for their appearance, facial expressions and identity (Dougherty, 2007; Smith et al., 2018). The change in appearance can therefore lead to dissatisfaction with the body, impaired self-confidence, reduced feelings of attractiveness, femininity or masculinity, reduced social interaction, and feeling uncomfortable in public areas (Brunet et al., 2013; Choi et al., 2014; Erol et al., 2012; Harcourt and Frith, 2008). Patients, as well as the social environment, usually perceive hair loss to be a visual marker of

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having cancer (Batchelor, 2001; Jayde et al., 2013; Kim et al., 2012). In addition, patients experience physical inconveniences like shedding hair, or sweating underneath their wig. All these aspects together determine the overall impact of chemotherapy-induced alopecia.

Patients often describe chemotherapy-induced alopecia as one of the most traumatic side-effects of cancer treatment (Chon et al., 2012; Kim et al., 2012; Komen et al., 2013). Meanwhile, for other patients hair loss is a logical consequence of the treatment which they perceive as "just one of the side effects" (Rosman, 2004). An important concept that affects this major difference is illness perception; the personal ideas and emotions about the disease and treatment. This perception can consist of both positive and negative illness beliefs and influences whether or not patients perceive their disease as manageable or very threatening (Bonsaksen et al., 2015). These beliefs are an important predictor of health behavior and a number of health outcomes, as more positive beliefs seem to contribute to positive health management and positive health outcomes (Weinman and Petrie, 1997).

The magnitude of the impact also depends on the importance of hair for the individual patient, the (expected) severity of hair loss, the quality of the information the patient received beforehand and the person's physical and mental skills to cope with hair loss (Batchelor, 2001).

Scalp cooling is a proven effective method to reduce hair loss by reducing the toxicity of cytotoxics in hair root cells (Grevelman and Breed, 2005). However, the results of scalp cooling vary widely, mainly depending on the type and dose of chemotherapy treatment. Conservation of scalp hair often leads to a higher well-being, whereas unsuccessful scalp cooling seems to cause additional distress (van Den Hurk et al., 2010).

Patients use a variety of strategies to cope with the hair loss (Dua et al., 2017). A frequently used strategy is concealment, in which patients try to maintain their normal appearance, reject their illness identity and regain control using a wig or hat (Rosman, 2004; Williamson et al., 2010). Concealment seems an effective strategy for some patients, however patients report the fear of losing their wig during social activities and report being more self-aware (Zannini et al., 2012). In contrast, others describe covering up as emphasizing the illness; items like wigs feel symbolic for cancer to them (Harcourt and Frith, 2008). Another frequently used strategy is social avoidance because of fear that others will see or treat them differently (Harcourt and Frith, 2008; Lemieux et al., 2008). Research shows that patients feel concerned that their changing appearance attracts attention from others, regardless whether the changes are visible for the environment (Rasmussen et al., 2010). There is no empirical information available to guide patients in coping with alopecia, suggestions go no further than "tips and tricks" for applying wigs and head covers.

Illness perceptions can be distinguished into five domains: identity (illness and symptoms), timeline, consequences, perceived control, and cause. These illness perceptions are frequently obtained using questionnaires such as the Brief-Illness Perception Questionnaire (B-IPQ) (Kaptein et al., 2017). A relatively novel method to assess this perception is the use of drawings as already done in for example, diabetes, sickle cell disease or lung cancer. Drawings show the patients' uncensored view, contribute to additional insight in the perception of the illness, and show great variety in this perception among patients (Broadbent et al., 2009; Hoogerwerf et al., 2012; Nowicka-Sauer, 2007; Ramondt et al., 2016). In addition, drawings overcome the limitation of predetermined categories in questionnaires (Kaptein et al., 2017; Nowicka-Sauer, 2007; Ramondt et al., 2016). Research shows that emotional responses are most commonly expressed in facial expressions (Broadbent et al., 2019). In the current study patients were asked to draw their head and hair, and express in writing their feelings about their hair (loss) before and during chemotherapy. The drawings could indicate changes in feelings about appearance as part of the overall impact of alopecia.

This study aimed to explore patients experienced impact of alopecia, assessed with an innovative methodology: using patient's drawings. We hypothesized to obtain a broad variety of emotion in the drawings.

Methods

In this cross-sectional study, patients were recruited from the oncological daycare unit of Máxima Medical Centre in the Netherlands between January and April 2018 (Ethics Committee number N17.148). When patients met the inclusion criteria, an oncology nurse informed the patient about this study and asked for participation. After agreeing to participate, the researcher (AV) requested the patients to complete the informed consent, before starting with the drawings and questionnaires.

Severe hair loss was defined by the healthcare provider: (1) patients were eligible to receive a prescription for wig reimbursement by the health care insurance and/or (2) patients were eligible for scalp cooling, which depends on the type of chemotherapy. After two cycles of chemotherapy the hair loss is evident and results of possible scalp cooling is visible (Komen et al., 2016).

Included were female patients over 18 years old, who had at least two cycles of chemotherapy with a chance of severe hair loss and their last treatment was at most 1 month ago. Patients who were bald before the start of this study, and patients with insufficient proficiency in Dutch to fill out the questionnaires were excluded. The demographical and clinical characteristics of the sample are presented in Table 1. This study was approved by the ethics committee of the Máxima Medical Center (Ethics Committee number N17.148). All participants provided informed consent.

Table 1. Demographic and clinical characteristics.

	Total $n = 40$
Age	
Mean (SD)	57 (14%)
Minimum	31
Maximum	83
Marital status n (%)	
Married	27 (68%)
Living with partner	5 (13%)
Widow	5 (12 %)
Divorced	2 (5%)
Not answered	1 (2%)
Ethnicity n (%)	
Caucasian	36 (90%)
East European, Chinese	2 (5%)
South European, Indian	1 (3%)
Mixed or other	1 (2%)
Cancer type n (%)	
Breast	27 (68%)
Colorectal	1 (2%)
Lung	5 (13%)
Kidney	1 (2%)
Other	6 (15%)
Alopecia due to cancer n (%)	
Previous alopecia	7 (17%)
No previous alopecia	33 (83%)
Eyebrow loss	
No	21 (53%)
Partial	10 (25%)
Complete	9 (23%)
Eyelashes loss	
No	21 (53%)
Partial	13 (32%)
Complete	6 (15%)
Degree of hair loss (%)	
Mean (SD)	59.16 (37.43)
Minimum	0
Maximum	100
Scalp cooling during chemotherapy n (%)	
Yes	22 (55%)
No	18 (45%)
Head covering n (%)	
Wig	13 (33%)
Other head covering	3 (7%)
Both wig and other	4 (10%)
No head covering yet	20 (50%)

Materials

Patients reported sociodemographic and illness characteristics through questionnaires. In addition, patients reported their severity of hair loss on a newly developed rating scale. This scale

combined pictures of hair loss with a Visual Analogue Scale (VAS), with 0 indicating no hair loss, and 100 = complete hair loss (van den Hurk et al., 2017, personal communication).

Drawings. In an earlier study a method for drawing the impact of chemotherapy-induced hair loss was developed, which was shown to be feasible for female cancer patients (van Alphen et al., 2020). This method was also used for the current study, in a slightly modified version. The validity of using drawings has been shown for several diseases, including cancer, as discussed in a recent meta-analysis and systematic review (Broadbent et al., 2019). To visualize feelings of changed appearance, patients made drawings of their head before the start of chemotherapy (I), during chemotherapy without head cover (II), and with head cover (III). The drawings were made during chemotherapy treatment, using colored pencils, on a drawing sheet containing three 10 × 10 cm boxes with dashed lines underneath. The third drawing, pertaining to during chemotherapy treatment with head covering was only made when applicable. The drawing sheet contained the following written instructions (in Dutch): *We ask you to please: 1. Make a drawing of your* ***feelings about your appearance*** *before the start of chemotherapy and during chemotherapy. We are not interested in your drawing talent, a simple sketch is fine. We want to know what your perception is of possible changes in your appearance and what your feelings are about that, only regarding your head and hair. 2. Clarify your feelings on the dashed lines underneath.*

Brief Illness Perception Questionnaire (B-IPQ). The Dutch validated translation of the B-IPQ was used to assess the cognitive and emotional representations of chemotherapy-induced alopecia. Because of the focus of this study, the word "illness" had been replaced by "baldness" throughout the questionnaire. The item about treatment control was omitted due to differences in interpretation by patients and the open-ended question about the perceived causes was adjusted, since this study focusses on the consequences of hair loss (van Alphen et al., 2020). The B-IPQ resulted in seven items on a Likert-scale (1–10) and one open ended question; namely "the three most important consequences of alopecia to me are. . .." Four items assessed cognitive illness representations: consequences, timeline, personal control, and identity. Two items assessed the emotional illness representations: concern and emotions, and one item represented the illness comprehensibility. Example questions are: "how much does your hair loss affect your life?" and "how much control do you feel you have over your hair loss?". Higher scores on consequences, timeline, identity, concern, and emotional representation indicated more negative illness perceptions, whereas higher scores on the items of personal control, treatment control, and coherence imply more positive illness perceptions (Broadbent et al., 2006).

Analysis

The drawing sheets were reviewed individually by two applied psychology students (AV, KA), a medical psychologist (AAK) and an epidemiologist (CH). During the companion study (van Alphen et al., 2020) prominent facets of the drawings were identified. It's coding framework was extended with a comparison between the two or three drawings of the patient of before and during treatment. Each drawing was assessed firstly on physical facial characteristics: the (shape and position of the) eyes and mouth, shape of the head, use of color, (presence and amount) of scalp hair, eyebrows and eyelashes. Secondly, an overall assessment of emotions in each drawing (positive, neutral, or negative) and the physical score were determined. Also, the two or three drawings per patient were compared to each other, that is, transitions in emotions and physical aspects were scored. Consensus was reached when at least three of the four researchers agreed about "positive," "neutral," or "negative" expressions or transitions between the drawings. When no consensus was reached the score was set "neutral." To determine the inter-rater reliability, an intraclass correlations analysis (ICC) was performed (Table 2). The text underneath the

Table 2. Facial expressions in the drawings n (%), including intraclass correlation coefficient (ICC) scores from four researchers.

Before chemotherapy (I)	ICC = 0.664
Positive	33 (83%)
Neutral	6 (15%)
Negative	1 (2%)
During chemotherapy (II)	ICC = 0.652
Positive	11 (28%)
Neutral	14 (35%)
Negative	15 (37%)
During chemotherapy with head covering (III)	ICC = 0.967
Positive	14 (74%)
Neutral	3 (16%)
Negative	2 (10%)
Emotional (I vs II)	ICC = 0.700
Positive	1 (2%)
Neutral	11 (28%)
Negative	28 (70%)
Emotional (I vs III)	ICC = 0.889
Positive	1 (5%)
Neutral	13 (69%)
Negative	5 (26%)
Emotional (II vs III)	ICC = 0.950
Positive	16 (84%)
Neutral	3 (16%)
Negative	0

drawings had been coded on themes by one researcher (AV) and put into categories.

For the B-IPQ items, means and standard deviations were calculated. The answers to the open-ended question on the BIPQ were divided into themes by one researcher (AV), namely identity, emotional consequences, coping/process, feelings about appearance, and the interactions in social context. The descriptive analysis were performed using IBM SPSS Statistics for Windows, version 26 (IBM Corp., Armonk, N.Y., USA).

Results

Forty patients participated in this study of whom 27 (68%) had breast cancer, 5 (13% lung cancer, 1 (2%) colorectal cancer, 1 (2%) kidney cancer, and 6 had other types of cancer (Table 1). Twenty-one patients (53%) used scalp cooling, half of the patients did not use any head covering (yet). When using head covering ($n=20$), wigs were reported most frequently ($n=13$, 65%), other patients used a combination of a wig and other head covering ($n=4$, 20%). The degree of (self-rated) chemotherapy-induced alopecia (VAS) varied from 0 to 100, with a mean score of 59 (SD = 37).

Drawings

The drawings varied from detailed to very simple, as shown in the examples in Figure 1. All patients drew their head, face and hair, one patient did not draw any facial expression. Seventeen patients (42.5%) used only one color to make the drawings, while the others used more than one. Color had been used for the background, make-up, hair color, and/or facial characteristics. Six patients (15%) did not use the dashed lines to describe what they had drawn underneath any of the drawings. Nineteen patients (48%) made only two drawings.

Physical: All patients drew a physical change when comparing the drawing of during chemotherapy (II) to before the start of chemotherapy (I). Patients drew less hair, a bald head, fewer hairs, and/or less volume of the hair. One patient drew longer hair in the second drawing, and wrote down that she had not experienced any hair loss. In the drawing during chemotherapy with head covering (III) patients drew shorter, sleek (less voluminous), and fewer hairs compared to before chemotherapy treatment (I). Eight patients drew the partial or complete loss of eyebrows/eyelashes (20%).

Emotional: Before chemotherapy treatment (I) the facial expressions shown in the drawing were positive for 33 patients (83%), neutral for six patients (15%), and negative for one patient (2%). During chemotherapy treatment (II) 15 patients (38%) drew negative facial expressions, and 11 (28%) positive. In drawing III the facial expressions of 14 patients that wore head covering were positive (74%), and two (11%) negative.

Twenty-eight patients (70%) drew a negative transition of feelings about appearance from

before (I) to during chemotherapy (II). Only one patient drew this transition as a positive change (3%). In addition, five out of 19 patients (26.3%) showed a negative transition from before (I) to during chemotherapy with head covering (III), which was positive for one patient (5%). Sixteen out of the 19 (84%) patients showed a positive change of the drawing of during the chemotherapy without head covering (II) compared to with head covering (III).

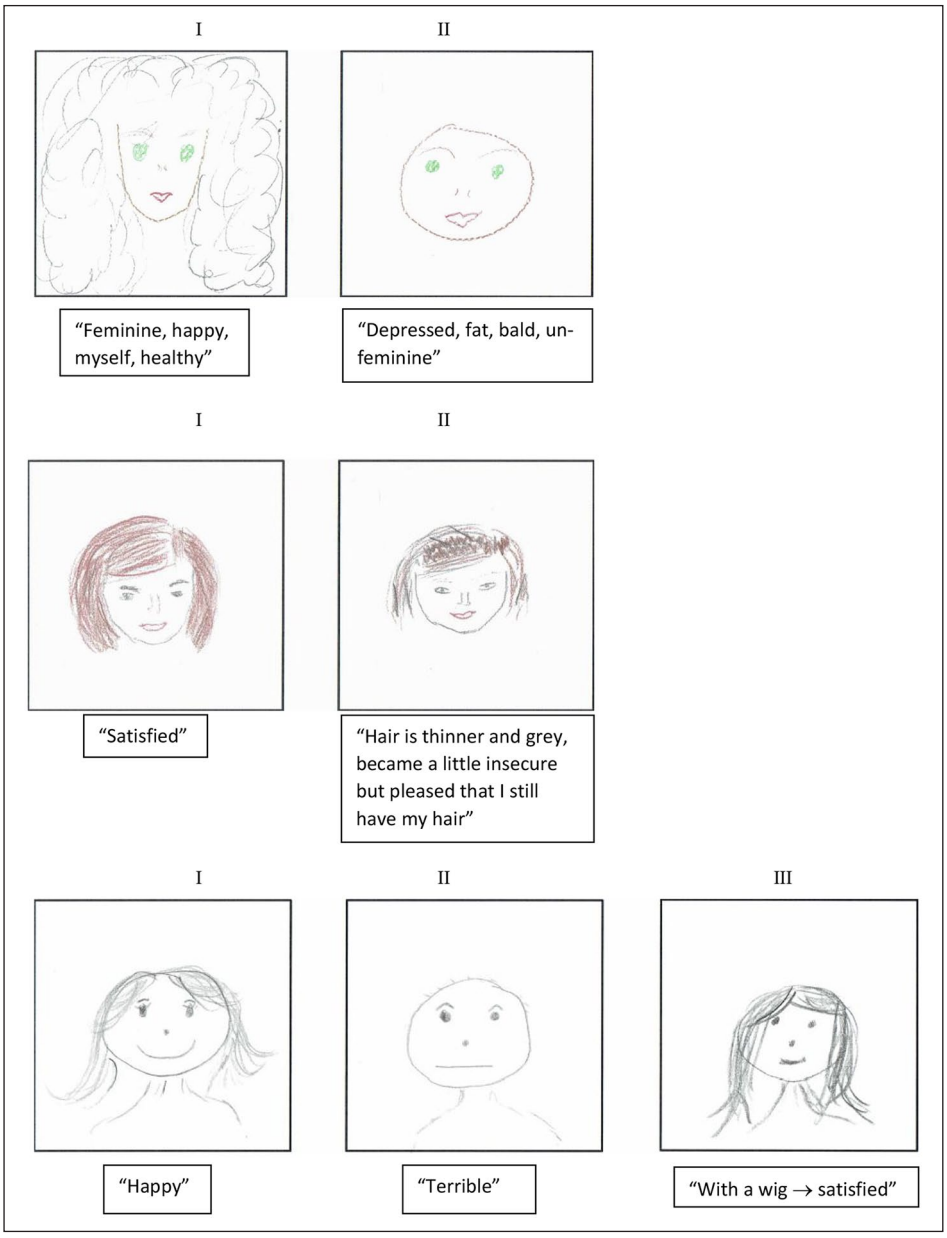

Figure 1. *(Continued)*

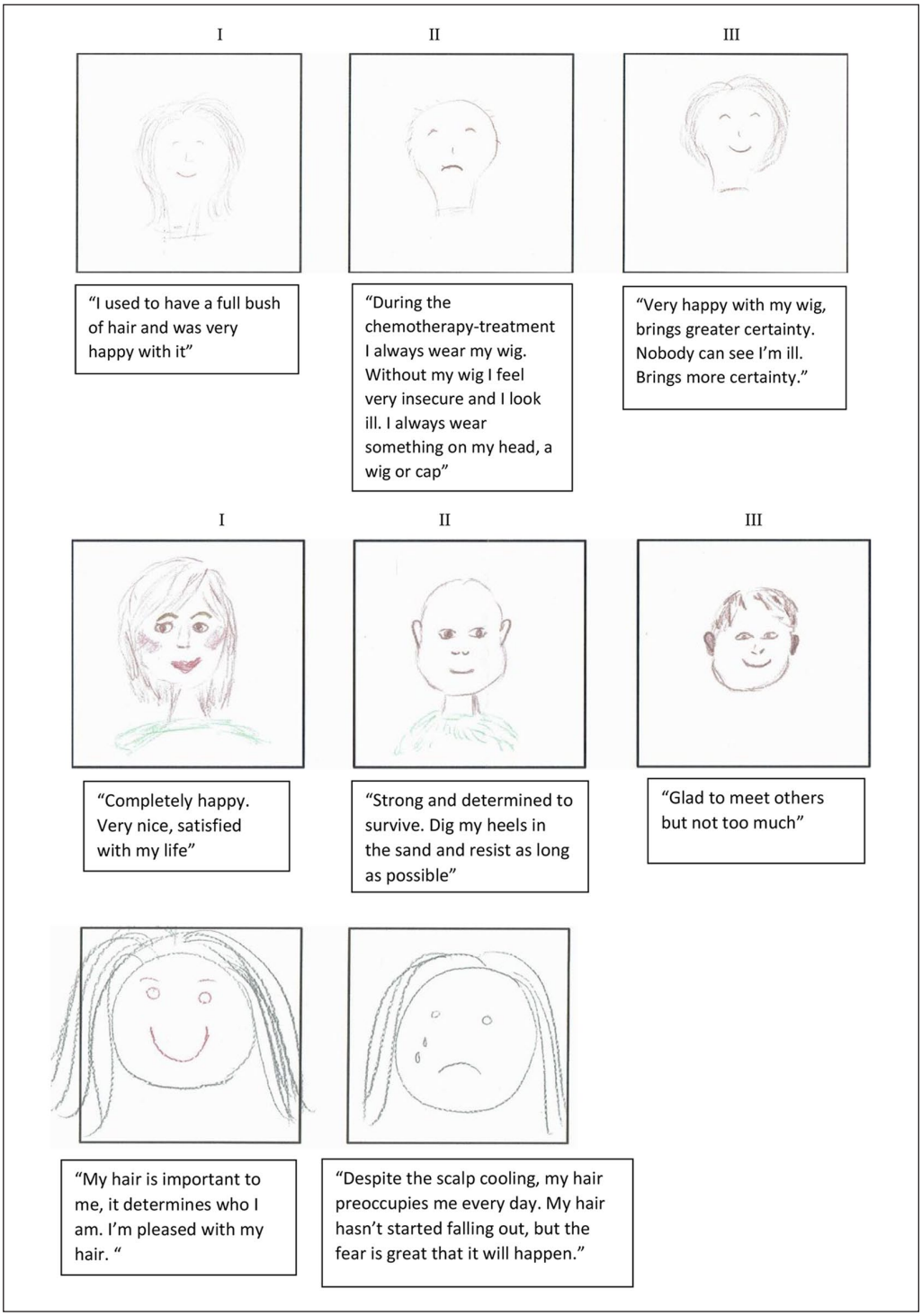

Figure 1. *(Continued)*

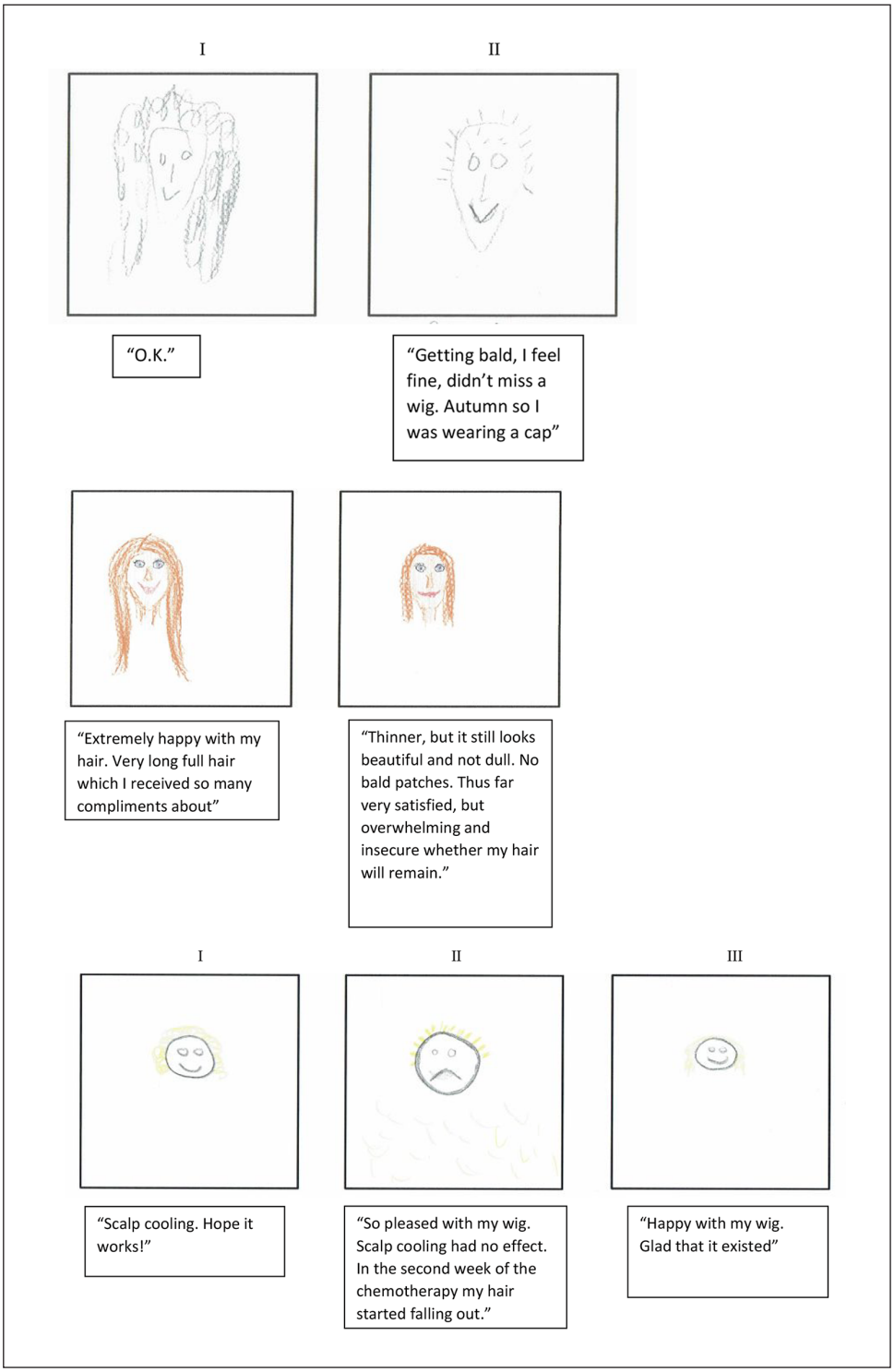

Figure 1. *(Continued)*

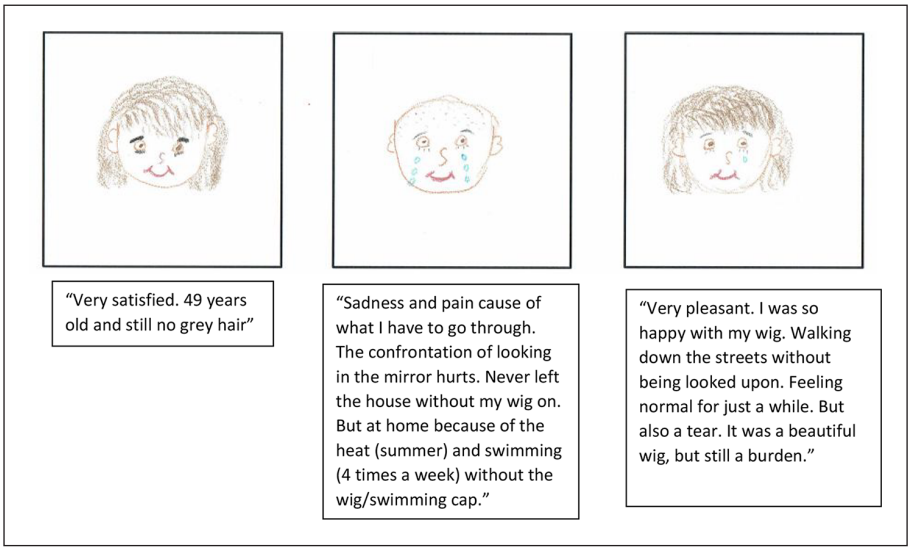

Figure 1. Examples of patients' drawings before the chemotherapy (I), during the chemotherapy without head covering (II), and with head covering (III).

Text underneath the drawings

The following key themes emerged: physical aspects, identity (personal and cancer-related), emotional consequences, coping strategies and process, feelings about appearance and interaction in social life (Table 3). Before chemotherapy (I) patients most often described feeling "feminine" and "normal," while during chemotherapy (II) patients described feeling like "a real cancer-patient" and "less feminine." For some patients a head covering felt like a temporary solution to feeling normal, while others described it as a symbol of cancer. During chemotherapy while using a head covering (III) patients described most often feeling pleased and/or satisfied with the wig. Regarding the interaction in social life, patients mostly described the use of a head covering related to their environment, for example: "It can be very confronting for others," "Using a wig for others," "Being able to walk down the street without being looked upon." For five patients the second drawing (II) and the text underneath contradicted each other, as they described alopecia as confronting and scary, while they drew a happy face.

Illness perceptions (B-IPQ)

Most mean scores showed a perception of the emotional and cognitive impact between low to moderate, that is, between 1 and 7. This is contradictory to the drawings and the open-ended question. Patients scored highest on coherence, which indicates they understood their hair loss (M =7.63, SD=2.85). Furthermore patients reported that alopecia affected their life (M=6.18, SD=3.46) and they lacked control (M=2.10, SD=2.74). Nine patients did not describe any consequences of their alopecia in the open-ended question, two of them had not experienced any hair loss (yet).

In the open-ended question for "consequences" of the B-IPQ, loss of identity was most frequently mentioned (n=10), followed by the feelings of changed appearance (n=6), and feeling upset (n=5) (Table 3).

Discussion

This study shows that feelings about appearance in the drawings changed negatively in the trajectory from before to during chemotherapy

treatment. However, contrary to our hypothesis, the emotions in the drawings varied only minimally. Furthermore, the overall impact of chemotherapy-induced alopecia is determined by multiple factors and cannot be determined solely by the drawings. However, the written texts underneath the drawings give an indication of the affected aspects. It is known that many patients suffer from chemotherapy-induced alopecia (Dua et al., 2017) and in a previous study a trend was found for deteriorated Health Related Quality of Life due to hair loss, without or despite scalp cooling (van Den Hurk et al., 2010). There were however also drawings of patients who did not yet wear a head covering, showing comparable negative change in feelings. This may be explained by thinner and less voluminous hair as shown in the drawings, but also by the impact of, for instance, facial skin changes (Hsu et al., 2017) or deteriorated general mood due to cancer diagnosis and treatment. Changes in feelings about appearance over time can also be explained by the fact that alopecia affects many daily activities throughout the day. This is comparable to former studies (Freedman, 1994; Rosman, 2004).

Patients use multiple strategies to cope with their changed appearance, as also demonstrated in earlier research (Harcourt and Frith, 2008; Lemieux et al., 2008; Rosman, 2004). A frequently used coping strategy in this study is the use of a head covering, which contributed to more positive perceptions than without a head covering; in this study patients described feeling pleased with the wig and feeling less like a cancer patient when using head covering, as seen in previous studies (Harcourt and Frith, 2008; Zannini et al., 2012). Nevertheless, this study also showed that most patients still felt a changed identity compared to before the start of the chemotherapy despite the use of a head covering.

With respect to the physical change, the researcher (AV) observed that patients' drawings depicted more extreme hair loss than expected, when seeing the amount of hair during the personal meeting with the patient. This was also observed in other drawing studies, notwithstanding the fact that hair loss is visible to the patient, rather than the invisible lung or heart damage or disturbed blood cells (sickle cell disease and thalassemia) (Broadbent et al., 2009; Hoogerwerf et al., 2012; Kaptein et al., 2017; Nowicka-Sauer, 2007; Ramondt et al., 2016). In the literature, drawing size is frequently associated with illness perceptions and therefore the experienced severity and impact. For example, for patients with lung cancer (Hoogerwerf et al., 2012), larger drawings were associated with increasing concerns, a study for lupus patients showed a bigger drawn face was associated with depression (Chen et al., 2015). So, the experienced impact for the patients is higher than outsiders, including health care providers, realize. This is in line with the literature, where also considerable discrepancies between perceptions of chemotherapy-induced alopecia are identified between patients and healthcare providers (Mulders et al., 2008; Peerbooms et al., 2015). Healthcare providers should therefore ask about the feelings about hair loss, as it cannot be interpreted from visual judgment.

In this study, patients' illness perceptions showed a low to moderate emotional and cognitive impact, which is contradictory to the drawings and the open-ended question indicating a high impact. The cognitive impact is questioned by "How well do you understand your hair loss?", which might be difficult for patients and is hardly explained by health care professionals. The emotional impact is questioned by "How much does your hair loss affect you emotionally?". This contradiction might be explained by the fact that the confrontation with hair loss are snapshots during the day and therefore it might not introduce a continuous feeling of sadness, fear or anger.

The drawings by themselves did not give much insight into the broad variety of the impact of chemotherapy-induced alopecia in patients' daily life. Predominantly the physical change and a general indication of emotions about affected appearance became clear. In comparison to other drawing studies the instruction was very strict, which might have limited creativity in the respondents in expressing feelings about hair

Table 3. Key themes: Statements underneath the drawings (I, II, and III) and the open-ended question B-IPQ.

Theme	Before chemotherapy (I)	During chemotherapy (II)	During chemotherapy with head covering (III)	Illness perceptions (B-IPQ)
	Answer (no. of patients)	Answer (no. of patients)	Answer (no. of patients)	Answer (no. of patients)
Identity	Myself/normal (3) Feminine (2) Healthy Youthful Self-confident	Cancer patient/loss of identity (3) Loss of femininity	Myself/normal (2) Cancer patient/loss of identity (2)	Cancer patient/loss of identity (10) Older appearance (2) Loss of femininity
Emotional consequences	Satisfied/good/fine (8) Happy (8) Fear (2) Proud (of my hair) Self-confident Unfortunate Difficult No feelings	Fear (6) Satisfied (4) Insecure (3) Sadness (2) Devastating (2) Not pleased (2) Difficult (2) Less difficult than expected (2) Relieved (limited hair loss) Depressed No feelings No difficulties Pain Hope (not bald) Angry Pleased (with the wig) Shedding hair is driving me nuts	Pleased (with the wig) (5) Satisfied/good/fine (5) Confronting Sadness Happy (when it grows again) Stupid	Mood changes/upset (5) Loss of self-confidence/feeling insecure (4) Confronting Self-confident

(Continued)

Table 3. (Continued)

Theme	Before chemotherapy (I)	During chemotherapy (II)	During chemotherapy with head covering (III)	Illness perceptions (B-IPQ)
	Answer (no. of patients)	Answer (no. of patients)	Answer (no. of patients)	Answer (no. of patients)
Coping/process	Scalp cooling (2) Head covering Combativeness Hope Await Developing acceptance	Head covering (7) Combativeness (2) Shaving (2) Scalp cooling Least concern and challenge Hair concerns me every day Hope (that I won't get completely bald) Developing acceptance Getting used to regrowth of the hair In process, starting a new phase	Head covering (8) I'll never forget how it used to be A solution "ok" without a wig	Head covering (2) Developing acceptance (2) Missing my own hair Another side-effect, already suffered so much Fear that my hair will regrow very thin Felt bad when it started (hair loss) Trust that my hair will regrow
Feelings about appearance	Beautiful (3) Neat	Beautiful (2) Fat	Beautiful Challenge to look good while wearing a wig	Changed appearance (6) Loss of beauty (2) Prettier hair than my natural hair Bald face without eyelashes
Interaction in social life	*Not applicable*	Don't want to attract attention Not in public without wearing a wig	Not burdening others too much (2) Nobody can see my illness (2) Using a wig for others	Rather staying home (4) Visible (ill) for everyone (4) Burdensome for the social setting Don't want to attract attention Questions from my social group

loss. Besides, one's own face appeals more to the imagination than for example, a blood disease. Principally the written text underneath the drawings, along with the open-ended question of the B-IPQ led to deeper understanding of the patient's variety of feelings associated with the hair loss. Patients described for example, the difficult confrontation of looking in the mirror and the overwhelming daily process of losing hair, often causing sadness, and insecurity.

The sequence in the study method introduced evolvement of the patient's awareness of the impact of hair loss on the several aspects of daily life. Their awareness developed toward the last questionnaire in the sequence, that is, the B-IPQ open-ended question. This is endorsed by the fact that in the first exercise that is, drawings, only eight patients drew partial or complete loss of eyebrows/eyelashes. In contrast, 19 of them reported this issue in the last exercise that is, demographic questionnaire afterward. Therefore, in future studies, the combination of both methods, that is, drawings and questionnaires, gain the most comprehensive view.

Study limitations

Limitations of this study were (1) that selection bias might have been introduced as nurses selected patients for participation (2) The majority were patients with Caucasian ethnicity, so not fully representative for the Dutch population, and (3) that the open-ended question of the B-IPQ and the text underneath the drawings were analyzed and put into categories by only one researcher, which may have caused bias. Furthermore, there was discrepancy in the scoring of the drawings by the several researchers as seen in the ICC scores, and for future studies it is advised to achieve higher consensus by discussing discrepancies with the raters.

When using drawings in future studies, instructions should be additionally standardized, as the interpretation of "before the chemotherapy (I)" was quite diverse. Some patients interpreted it as "before cancer diagnosis," others saw it as "from the start of chemotherapy treatment." We as well advice to use the drawings always in combination with other outcome measures for the impact of hair loss.

Clinical implications

The implication for daily oncological practice is that it can be challenging for healthcare providers to optimally support patients regarding chemotherapy-induced alopecia. It is experienced in a diverse manner and its impact cannot be determined by the appearance of the patient or the actual loss of hair; The real impact of hair loss is invisible to the naked eye. If one is aware of this, it introduces the use of a personalized approach and support by gathering detailed information about the experienced impact in daily life. Discussing coping with hair loss during chemotherapy, that is, in a broader spectrum than only the regular focus on head covering before the onset, will open doors to learn from the smart tips and tricks of patients learned to deal with alopecia. An example is the use of hair fiber made of the same protein as real hair; keratin. These hair fibers adhere to one's hair, creating a fuller look and hiding bald spots. Psychosocial interventions to cope with alopecia are scarce. An example is the computer-imaging intervention guided by a psychologist in which women can rehearse their hair loss before the actual experience in order to get familiar with this appearance. Also, there are several apps to depict yourself with a bald head. In addition, the program "Look Good, Feel Better" helps patients to optimize their changed appearance using makeup and jewelry.

Data sharing statement

The current article includes the complete raw dataset collected in the study including the participants' data set, syntax file and log files for analysis. These files are available in the Figshare repository and as Supplemental Material on the SAGE Journals platform.

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