



# “Who am I?” A qualitative meta-synthesis of Chemotherapy-induced alopecia and body image perception in breast cancer patients

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## Abstract

**Background** Since alopecia may be the first physical evidence and sign of cancer diagnosis and treatment, it may have a more serious and challenging effect on a woman than the loss of breast tissue.

**Objective** The purpose of this study was to summarize the current qualitative research which explores the body image perceptions of breast cancer patients with chemotherapy-induced alopecia.

**Material and methods** We searched three electronic databases and reviewed studies from December 2011 to December 2021 for qualitative results analysing the experiences of women with breast cancer and chemotherapy-induced alopecia. The Joanna Briggs Institute critical (JBI) appraisal tool was used to assess the quality of the targeted studies. The Meta-synthesis process developed by Sandelowski and Barroso was used to collect and analyse the data.

**Results** We discovered two main and five sub-themes from the meta-synthesis findings of 11 qualitative studies involving 225 women. The main themes were “I am not comfortable in this body” and “Who am I?”. The first main theme revealed patients’ intense reactions to their hair loss: “I’m in emotional chaos”, “I am looking for a place to hide” and “I knew it and now I’m experiencing it”. The second main theme of “Who am I?” contained two sub-themes: “What did my hair take from my femininity when it was gone?” and “Will I lose my partner after my hair?”.

**Conclusion** Meta-synthesis provided an up-to-date and integrated interpretation of scientific results about the experiences of women with breast cancer, alopecia, and their body image perceptions. This interpretation will facilitate a more comprehensive understanding of the alopecia-body image relationship. Thus, the aim of the meta-synthesis results is that these will contribute to nurses’ understanding of how alopecia, although a temporary symptom, affects women’s perceptions of body image.

**Keywords** Alopecia · Body image · Breast cancer · Meta-synthesis · Qualitative · Chemotherapy

## Introduction

Surgery, radiotherapy, chemotherapy, and hormone therapy are treatments for breast cancer which can be administered alone or together [1]. Women who undergo these treatments often experience physical changes [2, 3]. These changes may also negatively affect women’s body images and cause

psychosocial problems [4, 5]. Among the physical changes and side effects of chemotherapy treatments, the psychosocial effects of alopecia affect women most profoundly [6]. From an emotional point of view, hair is viewed as an essential component of body image. Women can easily and quickly achieve the appearance they would like to have by changing the shape and colour of hair and by using accessories. Therefore, although alopecia does not pose a health threat, the significant hair loss associated with alopecia can negatively affect a woman’s self-esteem, appearance, body image, and sexuality. Since alopecia may be the first physical evidence and sign of cancer diagnosis and treatment, it may have a more serious and challenging effect on a woman than the loss of breast tissue [7, 8].

Studies show that some women with alopecia feel shame and perceive a loss of attractiveness and femininity [9–11].

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The study by Kim et al. determined that some participants with alopecia felt demoralized and experienced a loss of self-confidence [12]. In the study of Nizamli et al., one of the participants stated that hair loss can be more devastating than breast loss [13].

Research findings on this topic indicate the importance of providing much-needed support to patients with chemotherapy-induced alopecia. Nurses should inform both patients and their relatives about the effects of alopecia on body image. By raising awareness of alopecia, teaching women how to manage negative emotions, and supporting body image perceptions, patients can be helped to cope with alopecia more effectively.

Because we were unable to locate any meta-synthesis on this subject in the literature, this study will contribute to the present available scientific evidence. The purpose of this meta-synthesis was to review the qualitative literature that described the effects of chemotherapy-induced alopecia on women's body image and to systematically analyze the findings.

**Research questions** The issues we addressed were: “*How do patients with breast cancer perceive alopecia?*” and “*How does alopecia affect the body image of patients with breast cancer?*”.

## Material and methods

This research is a meta-synthesis study. Meta-synthesis is defined as the synthesis and interpretation of research by creating themes on the same subject and evaluating these with a critical perspective [14]. In addition, meta-synthesis studies include working with qualitative research conducted in a certain field with a qualitative understanding and revealing the similarities and differences comparatively [15].

The research included studies that focused on (A) alopecia and body image in women with breast cancer, and (B) qualitative research. The number of articles scanned in metasyntheses should cover a wide enough time period to show general trends on the subject and reveal important information. Care should be taken to ensure that the number of studies selected is large enough to achieve the purpose of the research and at the same time small enough to cope with [15]. In addition to all these, we thought that current studies should also be included in metasynthesis, so we searched between 2011–2021. In the selection of databases to be searched, first of all, attention should be paid to whether it has as wide a network as possible including the publications that are likely to be included in the meta-synthesis study. For this, the first thing to do is to create certain keywords and scan them in certain databases [16]. In this context, it is also important to know the advanced scanning features

of the relevant databases. For these reasons, we searched in Google Scholar, Pubmed and EBSCO databases, and Turkish and English papers published between 2011–2021 by using the keywords "breast cancer", "alopecia", "body image" and "experience". Studies that were not fully available were excluded.

Researchers used the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analysis) review protocol for the identification and screening of the studies (Fig. 1). The first and second authors scanned the titles and abstracts in the database of 2261 articles. To assess the compliance of studies with the study inclusion criteria, they used the Sandelowski and Barroso guideline [17] and found 21 studies related to the research question. The authors eliminated studies that did not assess patients' body image experiences and perceptions of alopecia (n = 2). They also removed full texts that were not in English (n = 4) or did not include participants' statements (n = 3). Lastly, we removed the statements of breast cancer patients which were unclear or not precise (n = 1). Since there is no Turkish study on the subject, we completed the study with 11 English studies.

## Reflexivity

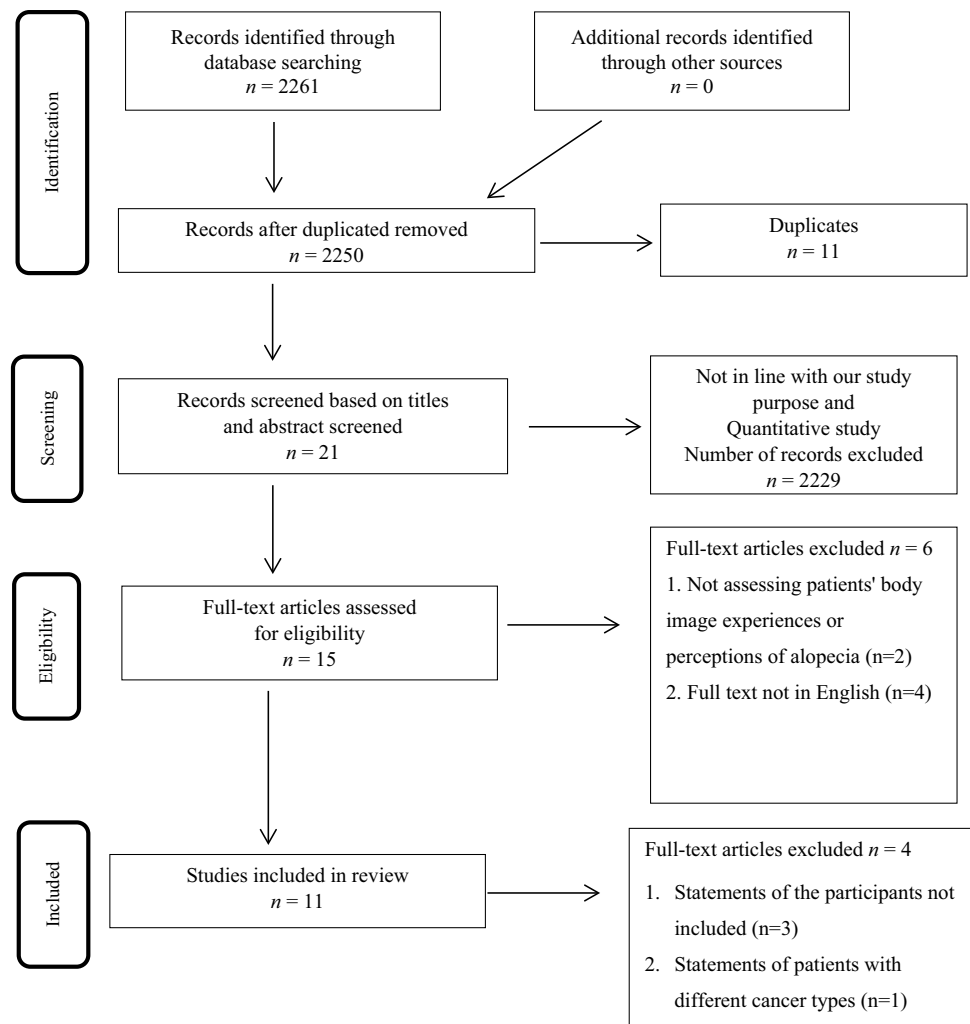
Reflexivity is the awareness that the researcher herself/himself can interact with the research process and results. The researcher's theoretical and methodological background, her/his own experiences, thoughts and socio-cultural characteristics affect her/him view of the data [18]. Beyond recognizing and accepting this effect, the researcher is expected to figure out how it affects and is influenced by qualitative research [19]. Solving this awareness and interaction is possible with training and experience on the subject. All three authors have conducted qualitative studies on the lives and experiences of women with breast cancer in the treatment process.

## Meta-Synthesis Process

In this study, we aimed to investigate the results of qualitative studies on alopecia experiences of women with breast cancer based on their personal accounts and views. For this purpose, we required that the studies selected for the document review had been conducted using inductive analysis containing sufficient data.

In our study, the following steps were completed [20]:

1. Research questions were determined.
2. The keywords appropriate to the subject of the study and a scan of the literature were determined.
3. The resources were provisioned, reviewed, identified and assessed.
4. The research's inclusion and exclusion criteria were decided and studies to be assessed were selected.

**Fig. 1** Flow diagram for study selection according to PRISMA

5. The selected studies were analyzed, common themes and sub-themes were created, revealing their similar and different aspects.
6. The findings obtained within the framework of the themes were synthesized and inferences were noted.
7. Detailed reporting of the process and findings.

Each study included in the research was initially reviewed in detail by the first and second authors (S.K. and C.A.). These two authors independently coded studies as Q1, Q2, Q3 ..... Q11 and recorded them in the computer database. Then the authors combined the reports they had created individually. Based on the related codes, they chose the themes and sub-themes. Then they identified similarities and differences, especially in the themes, conclusions and suggestions sections, and they also made suggestions. With this method, the data of the papers collected by document review were given a new meaning.

Regardless of its type, validity and reliability are important concerns in the conceptual framework of any research.

These are also required for the collection, analysis and interpretation of data, and the presentation of its findings [21]. Validity in qualitative research means that the researcher observes the researched phenomenon as it is and remains as neutral as possible. In addition, reporting the collected data in detail and explaining how the researcher reached the results are among the important criteria of validity in qualitative research [22]. To ensure the validity of this research, the first and second authors examined studies unbiasedly and reported the data in detail.

### Methodological quality assessment

Authors (SK and CA) conducted the methodological quality assessment of each study using the JBI (Joanna Briggs Institute) critical appraisal tool [23] and the third author (AG) checked these (Table 1).

**Table 1** Quality assessment of the studies subject to review

Citation	Criteria									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Al-Azri et al. 2014 [24]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Zeighami et al. 2018 [25]	Y	Y	Y	Y	Y	Y	U	N	Y	Y
Suwankhong and Liamputtong 2018 [8]	Y	Y	Y	Y	Y	Y	U	N	Y	Y
Chang et al. 2019 [26]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Medeiros et al. 2019 [27]	Y	Y	Y	Y	U	Y	Y	N	Y	Y
Alhusban 2019 [28]	Y	Y	Y	Y	Y	N	N	N	Y	Y
Iddrisu et al. 2020 [29]	Y	Y	Y	Y	Y	U	U	Y	Y	Y
Daniel et al. 2021 [30]	Y	Y	Y	Y	U	N	U	Y	Y	Y
Saeed et al. 2021 [31]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Facchin et al. 2021 [32]	Y	Y	Y	Y	Y	N	Y	Y	Y	U
Aktuğ and Gürsoy 2021 [7]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y, yes; N, no; U, unclear

(Q1. Is there congruity between the stated philosophical perspective and the research methodology? Q2. Is there congruity between the research methodology and the research question or objectives? Q3. Is there congruity between the research methodology and the methods used to collect data? Q4. Is there congruity between the research methodology and the representation and analysis of data? Q5. Is there congruity between the research methodology and the interpretation of results? Q6. Is there a statement locating the researcher culturally or theoretically? Q7. Is the influence of the researcher on the research, and vice-versa, addressed? Q8. Are participants and their voices adequately represented? Q9. Is the research ethical according to current criteria or for recent studies, and is there evidence of ethical approval by an appropriate body? Q10. Do the conclusions drawn in the research report flow from the analysis or interpretation of the data?)

## Results

### Features of the included studies

Eleven qualitative studies in the meta-synthesis included 225 women between the ages of 18 and 79. Characteristics of these studies are summarized in Table 2.

### Synthesized findings

Two main themes emerged from the meta-synthesis of the studies: (1) I am not comfortable in this body, and (2) Who am I?. Main and sub-themes are shown in Table 3.

#### I'm not comfortable in this body

This main theme describes the change in women's feelings and thoughts about their appearance due to alopecia and consists of sub-themes "I am in emotional chaos", "I am looking for a place to hide" and "I knew it and now I'm experiencing it".

#### I'm in emotional chaos

For most women their hair is identified with many attributes. These include identity, femininity, personality, freedom, beauty, youthfulness, and self-esteem. However, the

spiritual and social value given to the hair is more than the biological point of view. Hair is a physical characteristic that shows personality and is central to the feeling of attractiveness and admiration. Women with breast cancer stated that when they started losing hair, it made them very sad, they wanted to cry and described their hair loss as a big "loss" [7, 8, 24, 28, 30]. A woman expressed her feelings, "I lost a lot of hair, I had long and thick hair, so I was very sad when I lost my hair..." [30]. In another study, a woman revealed with emotion, "I have lost all my hair when I combed it two days after the chemotherapy, my hair came off so I shouted..." [29]. Another woman described the situation as "embarrassing": She complained, "About 10 days after undergoing chemotherapy, hair was falling till bald... It is an embarrassment..." [8]. Another woman described what she experienced when she learned that her hair would fall out: "One day I came to the hospital for chemotherapy and I was told that my hairs were going to be removed. At that time, I wanted to run away from the hospital..." [31].

#### I'm looking for a place to hide

For many breast cancer patients, alopecia resulting from chemotherapy may signify several things. It could bring unwanted attention from others that the person is receiving chemotherapy, thus highlighting the loss of privacy. For most women, when their alopecia becomes undeniably

**Table 2** Features of the studies

Authors/year	Aim/goal of study	Theoretical orientation	Methodological orientation	Main results	Sampling frame	Age range (mean)	Sample size	Time frame: from diagnosis	Treatment	Ethnic origin
Al-Azri et al. (2014) [24]	To explore different psychosocial impacts on Omani women diagnosed with breast cancer	Not specified	Semi-structured focus group interview Content analysis	Factors related to psychological distress of the disease and uncertainty Reactions of family members Views of society Worries and threats about the future	Purposive	24–54 ages	19	2–36 months	Varied	Omani
Zeighami et al. (2018) [25]	To explore Iranian women's strategies for coping with altered body image due to breast cancer	Not specified	Semi-structured in-depth interview Content analysis	Physical appearance improvement, active information seeking Self-care for managing limits, psychological self-empowerment Maintaining maternal role Maintaining wife role	Maximum variation	24–64 ages	36	N/S	Varied	Iranian
Chang et al. (2018) [26]	To better understand the changes in sexual life and related care strategies for breast cancer survivors	Not specified	Semi-structured in-depth interview Constant comparative analysis	The causes of changes in sexual life Internal response strategies External response strategies	Theoretical	36–64 ages	20	from 2 months to 5.7 years	Varied	Taiwanese

Table 2 (continued)

Authors/year	Aim/goal of study	Theoretical orientation	Methodological orientation	Main results	Sampling frame	Age range (mean)	Sample size	Time frame: from diagnosis	Treatment	Ethnic origin
Medeiros et al. (2019) [27]	To comprehensively analyze the perception of women with breast cancer regarding the experience of undergoing chemotherapy	Not specified	Semi-structured in-depth interview The phenomenological analysis	Alopecia: considerations about one's own body Fatigue: Merleau-Pontian considerations on the current and habitual body Spirituality: considerations on transcendence from imminence	Not specified	32–74 ages	20	N/S	Chemotherapy	Brazilian
Alhusban (2019) [28]	To generate an understanding of women's perceptions of changes to their body image due to breast cancer treatment	Not specified	Semi-structured in-depth interview Content analysis	Broken things cannot be repaired	Purposive	20–60 ages	20	1–48 months	Varied	Jordanian
Suwankhong and Liamputtong (2018) [8]	To describe the experiences of chemotherapy treatment among Thai women with breast cancer	Social stigma	Semi-structured in-depth interview Thematic analysis	'I feel so weak': Lack of physical energy Experiencing physical and emotional burdens Managing health and life	Purposive	40–79 ages	20	N/S	Chemotherapy	Thais
Idrissu et al. (2020) [29]	To explore psychological and physical effects of breast cancer diagnosis and treatment on young Ghanaian women	Not specified	Semi-structured in-depth interview Thematic content analysis	Physical effects of breast cancer Effects on body image Emotional effects of breast cancer diagnosis and treatment	Snowball	28–45 ages	12	from 7 months to 4 years	Varied	Ghanaian

Table 2 (continued)

Authors/year	Aim/goal of study	Theoretical orientation	Methodological orientation	Main results	Sampling frame	Age range (mean)	Sample size	Time frame: from diagnosis	Treatment	Ethnic origin
Daniel et al. (2021) [30]	To explore the psychological distresses experienced by Indian women with breast cancer during and after treatment and to understand better what helped to relieve or increase these distresses	Cultural distress	Semi-structured in-depth interview Thematic analysis	Far-reaching psychological distress Getting on with life Influence of their support system	Purposive	42–74 ages	20	N/S	Varied	Indian
Saeed et al. (2021) [31]	To explore the potential barriers to diagnosis and medical treatment of breast cancer	Not specified	Semi-structured in-depth interview Inductive approach	Individual Barriers Socio-Cultural Barriers Structural Barriers	Purposive	18–50 ages	45	1.5 years post diagnosis	Varied	Pakistani

Table 2 (continued)

Authors/year	Aim/goal of study	Theoretical orientation	Methodological orientation	Main results	Sampling frame	Age range (mean)	Sample size	Time frame: from diagnosis	Treatment	Ethnic origin
Facchin et al. (2021) [32]	To describe and understand women's subjective experience of being diagnosed with breast cancer during pregnancy	Not specified	Semi-structured in-depth interview Interpretative Phenomenological Analysis	The emotional storm experienced after cancer diagnosis, and the importance of receiving appropriate information and being focused on treatment decisions Physical changes and comparisons with healthy women, associated with feelings of sadness and inadequacy Being positive, feeling free to express all kinds of emotions, religion and spirituality as sources of strength	Purposive	31–45 ages	5	N/S	About to start or have recently started chemotherapy	Italian
Aktuğ and Gürsoy (2021) [7]	To determine how women with breast cancer perceive chemotherapy-induced alopecia	Not specified	Semi-structured in-depth interview Phenomenological analysis	Facing alopecia Perceiving alopecia Hiding alopecia Changes in life after alopecia Keeping hope alive Managing the difficulties experienced	Purposive	33–61 ages	20	2–6 months	Chemotherapy	Turkish

**Table 3** Emerging themes/ subthemes and studies

Theme	Study
I'm not comfortable in this body <i>I'm in emotional chaos</i>	Al-Azri et al. 2014 [24] Suwankhong and Liamputtong 2018 [8] Iddrisu et al. 2020 [29] Daniel et al. 2021 [30] Saeed et al. 2021 [31] Aktuğ and Gürsoy 2021 [7]
<i>I'm looking for a place to hide</i>	Suwankhong and Liamputtong, 2018 [8] Zeighami et al. 2018 [25] Alhusban 2019 [28] Medeiros et al. 2019 [27] Iddrisu et al. 2020 [29] Facchin et al. 2021 [32] Aktuğ and Gürsoy 2021 [7]
<i>I knew it and now I'm experiencing it</i>	Daniel et al. 2021 [30] Aktuğ and Gürsoy 2021 [7]
Who am I? <i>What did my hair take from my femininity when it was gone?</i>	Suwankhong and Liamputtong 2018 [8] Chang et al. 2019 [26] Facchin et al. 2021 [32]
<i>Will I lose my partner after my hair?</i>	Alhusban 2019 [28] Iddrisu et al. 2020 [29] Saeed et al. 2021 [31] Aktuğ and Gürsoy 2021 [7]

visible to them and to others, it becomes an obvious sign of their cancer and their health status [8]. A woman described this condition as "...I have *rok rai* (a severe disease)...". Women with breast cancer often want to hide their situation and stated that they used hats, veils, shawls or wigs to do so [7, 25, 27, 28, 32]. A woman stated, "...Previously, I frequently colored my hair with different dyes and used different clothing styles. But, since hair loss, I started to use an Islamic veil..." [25]. Another woman stated "...I have already visited several wig stores because I want to buy the perfect wig. I don't want to look too different; I want it to look natural on me..." [32].

Some women choose to cut their hair shorter or shave it completely before it starts falling out in order to avoid facing hair loss [7, 8, 28, 32]. A woman described her situation as "When my hair first started to fall out, they came to my hand, piece by piece, clumps of hair fell out, so I had my hair cut like a male. Not to be affected badly in case my hair would fall out suddenly, I had number 3 hair cut (like a male)" [7]. Another woman stated that "...I have already cut my hair a bit shorter..." [32].

### I knew it and now I'm experiencing it

On the other hand, some women expected their hair to fall out and described this as a natural or expected result of the treatment [7, 30]. Another woman stated that "I also know that there are new methods to cover that. But I don't need

any of that, I am now old and I was not upset by that." Yet another woman stated that "...We already knew the situation and saw people in our environment, we had family members with this disease...When I started chemotherapy, not nurses but friends and patients there helped me. They told me not to worry, and they had also lost their hair but grew again later. No problem".

### Who am I?

This main theme consists of the sub-themes "What did my hair take from my femininity when it was gone?" and "Will I lose my partner after my hair?".

### What did my hair take from my femininity when it was gone?

Hair plays an important role in the appearance of women and is accepted as a symbol of female identity. Many women with alopecia believe that they have lost their femininity, attractiveness and even something of their identity [8, 26, 32]. One breast cancer patient stated, "Well, I'm feeling useless now..." [7]. Another stated "Then, I felt so lost when I lost my hair...Because hair was a very important thing to me, because I thought it was very beautiful, I always liked my hair" [27]. One woman stated that "...My hair was falling out, leaving me with a relatively male appearance..." [26]. Another study participant stated that "... The lack of

hair is not looking good for women. Baldness itself is not good for our feelings..." [8]. Another woman stated that "... if you look at the mirror and see yourself without your hair, you lose some of your identity..." [27].

### Will I lose my partner after my hair?

Hair is also important for social and sexual communication. Conditions that can affect body image, such as alopecia, may cause or contribute to social isolation and social behavior changes in women. Women experience fear and anxiety that their emotional relationships with their partners will change [7, 28, 29, 31]. A woman expressed her husband's reaction to alopecia with these words: "...now my husband has been complaining about the loss of my long beautiful hair" [29]. One woman shared that she was worried her husband would leave her: "...I wear a scarf day and night because I'm afraid that my husband will be upset seeing me without hair, so I fear that he will leave me for another woman" [28]. Another woman stated that "My husband seemed unable to accept that I do not have hair; he felt that I do not have all the qualities of a woman and no longer attractive" [26].

## Discussion

Chemotherapy seems to be the inevitable gateway to a cancer-free life for women with breast cancer. However, based on their new appearance after undergoing chemotherapy, women who have undergone breast surgery and then lost their hair will likely face changes in their "woman" and "female partner" identities. This study created a framework to explain how women perceive alopecia.

Women in the studies perceived hair loss as a new "loss" after breast surgery. Although there are differences in the treatment process of breast cancer, the time between surgical treatment and chemotherapy is usually short. Not all patients experience breast loss due to breast cancer surgery. In studies, we see that the loss of female identity is mostly experienced by patients with mastectomy. For this reason, each patient is faced with a new appearance change that she needs to adapt to, before she can even adjust to the loss of her breast. Hair and breast symbolize female identity and femininity in many societies. During treatment for breast cancer, the woman loses the symbols of her female identity consecutively. In the studies carried out, alopecia was identified as the most troublesome, distressing side effect that negatively affects body image. Furthermore, it was emphasized that women experience many psychological problems related to alopecia, and these include sadness, depression, embarrassment, loss of confidence and negative body image [33–35]. However, it should not be forgotten that patients

with breast conserving surgery may also experience psychological problems related to hair loss.

Synthesized results show that women choose to camouflage alopecia with a variety of methods (hats, bandanas, wigs, veils or shawls). The reason for some women was to hide their uncomfortable, unhappy and sad appearance. For others, it was about removing the reminder of their illness, appearing "normal" in public, and not revealing their illness. Some of the women even cut their hair shorter or shaved it completely before it started to fall out in order not to witness the falling out process. In the studies, women revealed that although they knew that their hair would fall out during chemotherapy, they realized that they were not ready at all when it actually happened [36, 37].

On the other hand, some women recognized alopecia as the natural or expected result of treatment. However, while these women stated that they perceived the situation as normal, they tried to find a reason for this perception. For example, "I'm old" or "I'm covering it already". These statements suggested that women who say "If I am going to receive chemotherapy, my hair will fall out; I know and accept this" are actually trying to find reasons to support their thinking.

The results show that hair is a factor which influences not only a woman's body image related to physical appearance, but also her perception of self. Some of the women believed they had lost their female identities when their hair fell out. This feeling can also be influenced by the meaning that their society attributes to female hair, just as to the breast. In a meta-synthesis, it was revealed that during the treatment period, women experienced stigma and avoided social environments because alopecia negatively affected their body image and made their illness more evident [38].

Women who think they are not as feminine as they used to be because they are bald worry that their partner will feel the same way. This situation causes women to ask, "Does my partner like me?" and also causes anxiety. Though the end goal of chemotherapy for breast cancer patients is to conquer the disease, the side effects, to include alopecia, can be devastating for many women. The inevitable hair loss may increase and accelerate the emotional burden felt by these patients, and it may also create distance between themselves and their partner.

In line with the results we have obtained, in order to provide supportive care, patients should be provided with adequate information about alopecia and appropriate support. The experience of alopecia should be discussed with the patient, and they should be encouraged to express their feelings such as anger and sadness. Along with emotional support and active listening, the patient's physical, psychological and social adaptation to alopecia should be supported. It is important to help patients make a decision about taking precautions for hair loss during the chemotherapy period. [7, 39]. The needs of patients should be met by taking into

account their individual preferences. Some patients may prefer to use the camouflage method suitable for them (such as hat, wig, scarf) to hide their hair loss. It is important to support and improve one's coping mechanisms to instill hope in patients. In order to develop a support system for patients, the level of family support should be determined first. It should be ensured that women participate in social activities with their spouses, family members and friends. An environment should be created for family members to express their fears, concerns and thoughts, and information should be given to family members about how they might be able to support the patient [40–42].

## Limitations

These results included only women with breast cancer. We cannot generalize the results for women with alopecia from other types of cancer or from non-chemotherapy reasons. The results are limited to the results of the studies published in the three databases scanned within the scope of this study. Another limitation was that the databases were scanned only in English and Turkish languages. Therefore, our results are based on studies published in English. We could include publications in different languages by translating them into English. This method can be used for quantitative studies. However, we did not use this method in qualitative studies due to our concerns about translation reliability.

## Conclusion

This meta-synthesis combined the findings of the symptom experience of women with breast cancer chemotherapy-induced alopecia. Synthesized findings support the fact that women's hair loss is not just a hair loss. Alopecia negatively affects body image and self-perception. In addition to other symptoms experienced due to chemotherapy, the sudden loss of hair resulting in alopecia creates a very heavy emotional burden for women. This information shows that the body images and self-perceptions of women with breast cancer should be assessed and supported at every stage of treatment. Thus, women can be helped to cope with negative body image, and their quality of life can be maintained or improved. In order to differentiate the effect of a breast cancer diagnosis on the perception of alopecia, the perception of alopecia in other cancer types can also be investigated. In addition, studies for women with non-chemotherapy-related alopecia can only help us understand how hair loss affects women, regardless of the cancer diagnosis.

**Authors' contributions** Conceptualization-S.K., C.A., A.G; Data curation-S.K., C.A.; Formal analysis- S.K., C.A.; Investigation- S.K., C.A.;

Methodology- S.K., C.A.; Resources- S.K., C.A.; Supervision- S.K., C.A., A.G; Validation- S.K., C.A., A.G; Visualization- S.K., C.A., A.G; Roles/Writing- original draft- S.K., C.A.; Writing—review & editing- S.K., A.G.

## Declarations

**Competing interests** The authors declare no competing interests.

**Ethical approval** Not applicable

**Conflict of interest** There is no conflict of interest between the authors.

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