

Self-Transcendence of Japanese Female Breast Cancer Patients with Hereditary Breast and Ovarian Cancer Syndrome

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Received: February 01, 2021; Accepted: June 03, 2021; Published: October 04, 2021

ABSTRACT

Objective: The present study examined self-transcendence of Japanese female breast cancer patients with hereditary breast and ovarian cancer (HBOC) syndrome. **Methods:** Semi-structured interviews were conducted with 13 women with HBOC in their thirties to sixties, who consented to participate in the study. The obtained data were analyzed using a modified grounded theory approach. **Results:** The analysis yielded seven categories of self-transcendence in women with HBOC: (1) the ability to face oneself while seeking optimal strategies to continue living; (2) the ability to come to terms with blood conditions inherited from previous generations; (3) the ability to use one's own experiences as a patient with HBOC to help others; (4) the ability to share mutual support with others; (5) the ability to accept the diverse views on HBOC; (6) the ability to break free from fixed ideas and live with HBOC; and (7) the ability to live with future perspectives. **Conclusions:** The self-transcendence

of Japanese female breast cancer patients with HBOC can be described as not giving up; confronting one's lineage, which is passed down from generation to generation, even as one is haunted and emotionally affected by the lifelong risk of developing cancer or facing death; and valuing not just oneself but also others through interactions with them. These abilities formed the foundation for the self-transcendence of the women in this study. In addition, because the women with this condition started valuing not just themselves but also others, they developed the ability to accept the diverse views surrounding HBOC and to coexist with their condition while being forward-looking.

Key words: Female breast cancer patients, hereditary breast and ovarian cancer syndrome, Japan, qualitative research, self-transcendence

Introduction

In the Japanese female population, breast cancer is the most prevalent type of cancer, accounting for at least 20% of all types of cancer.^[1] Of all breast cancer cases, 5%–10% are hereditary and approximately 30% have germline mutations in the tumor-suppressor genes BRCA1 and BRCA2.^[2] This mutation is found in people with hereditary breast and ovarian cancer (HBOC) syndrome, which is a

type of hereditary tumor with a high risk of developing into breast and ovarian cancer. Genetic test results are utilized in the field of preventative medicine or when providing personalized medicine or helping patients to choose the correct treatment, such as a risk-reducing surgery.

Many previous medical research studies performed in Japan have been conducted with the goal of identifying HBOC-related genes specific to the Japanese population^[3,4]

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Cite this article as: Aoki S, Fujita S. Self-Transcendence of Japanese Female Breast Cancer Patients with Hereditary Breast and Ovarian Cancer Syndrome. *Asia Pac J Oncol Nurs* 2021;8:670-8.

Access this article online

Quick Response Code:



Website: www.apjon.org

DOI:
10.4103/apjon.apjon-218

or determining how to further develop the medical care system.^[5-7] In addition, only a few nursing studies have focused on topics such as decision-making or difficult experiences that occur in the field of medical genetics.^[8-10]

Some overseas studies have suggested that the reconstruction of cognitive functions in patients who are positive for the pathogenic variant is associated with negative emotions and concerns about the possibility that they or their family members might develop cancer, as well as that further support is needed to overcome these negative emotions.^[11] However, no research has been conducted either in Japan or abroad focusing on how to support the process by which women with HBOC overcome various difficulties.

Reed uses self-transcendence theory, based on the principle of hemodynamics, to explain one's ability to overcome one's current situation.^[12,13] Self-transcendence as "the ability to expand one's limits in various dimensions" helps people to maintain a sense of well-being and wholeness when facing difficult life events.^[12,13] Women with breast cancer who are told that they have a genetic risk often face many life-long challenges such as juvenile onset, risk of developing multicentric or multiple cancers simultaneously, and a genetic predisposition in themselves as well as in family members. In the process of overcoming these difficulties, patients may be able to acquire a "new positive sense of self" through support that promotes self-transcendence. During this long process, nurses play an important role in helping patients to view their HBOC diagnosis positively and as something that can be overcome. While self-transcendence studies in the field of cancer nursing have targeted patients with breast cancer,^[14-17] prostate cancer,^[18] and hematological cancer,^[19] we could not find any such studies on patients with hereditary cancer.

Therefore, based on the idea that self-transcendence is essential for well-being, the present study aimed to determine what self-transcendence means to Japanese female breast cancer patients with HBOC.

In this study, self-transcendence refers to "abilities to find purpose in life and develop new perspectives on life, while expanding internal and external boundaries through interactions with self and the environment in daily life or when experiencing life-threatening events and turning points in life."^[20]

Methods

Participants

We recruited 13 women with HBOC syndrome breast cancer who were either outpatients at a hospital or participated in patient associations or associations for those with HBOC syndrome breast cancer. Selection criteria

for participation were that the women (1) had been told that they have HBOC, (2) had completed their first round of treatment, and (3) were free of any diseases that may affect cognitive functions, such as mental illness, psychiatric symptoms, or speech disorders, thus enabling them to decide on participation in the study.

We approached a total of four institutions and requested them to help with participant recruitment. The institutions included a prefectural cancer treatment hospital, a cancer support center, breast cancer patient associations, and HBOC patient associations. At the hospital, attending physicians introduced us to the eligible outpatients. At the other institutions, we received help from the persons in charge in being introduced to the eligible persons.

Data collection

A semi-structured interview was conducted with each participant using an interview guide. The interviews were conducted from January 2017 to May 2019. We created the interview guide based on the results of a conceptual analysis of self-transcendence.^[20] The interview guide asked participants to freely talk about their experiences from when they found out that they had breast cancer with a genetic risk factor until present time. Topics included their most difficult experiences and how they overcame them; their meaning and goals in life; how their self-value changed after they were told about the genetic risk; how they were influenced by other people and the environment; how they perceived the feeling of an expanded awareness of themselves and others; and what having breast cancer with genetic risks meant to them. The interviews lasted from 41 to 76 min, with an average of 61 min. Each interview was tape-recorded with the participants' consent, and transcribed verbatim for analysis.

Statistical analysis

The research design is a qualitative inductive study using semi-structured interviews. For this study, we conducted the analysis the following way based on a modified grounded theory approach,^[21] adapted from the grounded theory approach devised by Glaser and Strauss.^[22] The modified grounded theory approach does not prioritize strictness for the sake of segmentation but is a method for examining the data in its context and in a way that is faithful to the questions asked by the researchers as well as for carefully considering the human perceptions and actions reflected there and other relevant factors and conditions.

1. The analytical worksheet has four columns: "Variations," "Theoretical notes," "Concept definitions," and "Concept names." One worksheet was used for once concept. We wrote analytical focus persons as "female breast cancer patients with HBOC,"

analysis theme as “What is the self-transcendence of the analytical focus person?” and read through the verbatim records many times. With regard to the analysis theme, one case with rich data content was selected and the part where it is talked about was entered into the analytical worksheet under variations. We wrote the reasons for choosing these data samples and about how to interpret the exemplified content under theoretical notes

2. After generating concepts based on the first data sample, we repeated the same analysis for the second sample and so forth. We considered other similar and contrasting cases using constant comparative analysis
3. To prevent the data extracted to variations from losing their meaning, we defined and named the concepts to be faithful to the data. We repeated analysis until we found all similar concrete cases
4. In parallel with the concept generation, we generated sub-categories that make up the relationships between concepts and relationships of multiple concepts
5. We also made a figure to illustrate how the concepts and sub-categories relate, finally generating the categories
6. Having finished our analysis of nine participants, we analyzed the last four and verified that the data had yielded all concrete cases of similar concepts and that we were not seeing any more generation of relationships between the concepts. After analyzing all 13 participants, we reached our theoretical saturation point. We summarized the results and concepts as storylines and made a results figure.

Trustworthiness

Data analysis was refined by repeating analysis until any disagreement in interpretation between the researchers was resolved. In addition, during the entire analysis process, we were supervised by an expert in qualitative research and cancer nursing.

Ethical approval

This study was conducted after obtaining consent from the Kochi Prefectural University Research Ethics Committee (Approval No. nursing research ethics 16-08), the ethics review committee of the cooperating research facility, and the persons in charge of the relevant patient associations and organizations. In addition, all research participants were informed of the research purpose as well as their right to freely participate and drop out of the study at any time and were assured that their anonymity would be protected. We also explained how the data would be stored and managed as well as how the results would be published. All this information was explained in writing before obtaining consent from the participants.

Results

Participant characteristics

The characteristics of the 13 participants included in this study are shown in Table 1.

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The results of this study were used to generate seven categories [Table 2]. The following are storylines that are textual representations of the relationships between the categories. This is also represented as a figure in a results figure [Figure 1]. Subsequently, we will explain each category with reference to some of the sub-categories.

Storylines

Female breast cancer patients with HBOC have had to make a variety of agonizing choices about HBOC testing, treatment, risk-reducing surgery, having children, and so forth. As part of this process, they discovered “the ability to face oneself while seeking optimal strategies to continue living,” including “positively affirming that one has the self-determination to keep living” and “objectively looking at oneself as someone who is impacted by HBOC and noticing any changes that occur.”

Moreover, having HBOC is not only about oneself but other persons in the family since blood relatives might also be at risk. Through this objective reality, they discovered “the ability to come to terms with blood conditions inherited from previous generations” in the form of “having an awareness of inheriting the condition, including feelings of guilt” and “feeling the lineage that has been passed down from ancestors to descendants in one’s family.”

As “the ability to face oneself while seeking optimal strategies to continue living” and “the ability to come to terms with blood conditions inherited from previous generations” influence each other, their awareness expanded from themselves to others, which promoted “the ability to use one’s own experiences as a patient with HBOC to help others.”

The foundation for “the ability to use one’s own experiences as a patient with HBOC to help others” was “being aware that one has a responsibility and mission that one needs to fulfill” and “hoping to change the social climate through one’s experiences as someone with HBOC.” This led to “using one’s own experiences to add value to the lives of relatives and other people with HBOC.”

Growth of “the ability to use one’s own experiences as a patient with HBOC to help others” was largely influenced by “the ability to share mutual support with others,” which allowed the female breast cancer patients with HBOC to understand that they are not going through the agonizing

Table 1: Participant characteristics

Age	Marital status	Presence of children	Employment status	Time since breast cancer diagnosis (year)	Years after companion diagnosis	Types of mastectomy	Postoperative treatment
30s	Married	Yes	Employed	1	1	Total mastectomy	Chemotherapy radiotherapy
50s	Married	Yes	Employed	1.5	1.5	Total mastectomy	Chemotherapy
60s	Married	Yes	Homemaker	31	2	Total mastectomy breast reconstruction	Endocrine therapy
30s	Divorced	Yes	Homemaker	1	1.5	Total mastectomy breast reconstruction	Chemotherapy endocrine therapy
40s	Married	Yes	Homemaker	13	2	Total mastectomy	Endocrine therapy
50s	Divorced	Yes	Homemaker	4	1	Total mastectomy	Chemotherapy radiotherapy
40s	Married	Yes	Homemaker	14	3	Total mastectomy	Chemotherapy
40s	Married	Yes	Employed	1.5	1.5	Total mastectomy	Chemotherapy
40s	Single	No	Employed	10	1.5	Partial mastectomy	Chemotherapy radiotherapy
40s	Married	Yes	Employed	2	2	Total mastectomy	Chemotherapy
50s	Married	Yes	Homemaker	6	4	Total mastectomy	Chemotherapy endocrine therapy
50s	Married	Yes	Homemaker	5	5	Total mastectomy	Chemotherapy
50s	Married	Yes	Employed	5	5	Total mastectomy	Chemotherapy

Table 2: Categories and sub-categories depicting self-transcendence of Japanese female breast cancer patients with hereditary breast and ovarian cancer

Categories	Sub-categories
The ability to face oneself while seeking optimal strategies to continue living	Objectively looking at oneself as someone who is impacted by HBOC and noticing any changes that occur Positively affirming that one has the self-determination to keep living Taking preventative action against cancer as well as early detection and treatment measures Resolving matters by oneself even if it tough
The ability to come to terms with blood conditions inherited from previous generations	Having an awareness of inheriting the condition, including feelings of guilt Feeling the lineage that has been passed down from ancestors to descendants in one's family
The ability to use one's own experiences as a patient with HBOC to help others	Using one's own experiences to add value to the lives of relatives and other people with HBOC Being aware that one has a responsibility and mission that one needs to fulfill Hoping to change the social climate through one's experiences as someone with HBOC
The ability to share mutual support with others	Being aware that there are those who provide support as a way to become forward-thinking Sharing one's own personal experiences with relatives or other people with HBOC, supporting one another Recognizing that one is supported by the strength of previous generations and entities that cannot be seen
The ability to accept the diverse views on HBOC	Respecting the individual decisions over social trends Understanding that views surrounding HBOC are diverse Recognizing that having HBOC is an "advantage" Recognizing that carrying a BRCA mutation is not something out of the ordinary
The ability to break free from fixed ideas and live with HBOC	Although having no choice but to live with HBOC, still being able to acknowledge that coexistence is possible Living one's life with dreams and hopes without being too caught up in the "HBOC" diagnosis
The ability to live with future perspectives	Imagining one's future and that of relatives, and using it as motivation to live in the present Despite being aware of "death" awaiting in the future, living every day like it is a gift

HBOC: Hereditary breast and ovarian cancer, BRCA: Breast cancer susceptibility gene

experience of having the rare HBOC condition on their own. Furthermore, "the ability to share mutual support with others" also enhanced "the ability to accept the diverse views on HBOC," "the ability to break free from fixed ideas and live with HBOC," and "the ability to live with future perspectives."

The female breast cancer patients with HBOC would interact with relatives, other patients, and a variety of people as "the ability to use one's own experiences as a patient with HBOC to help others" grew. They learned that having HBOC is not a social disadvantage, increasing their abilities of "recognizing that having HBOC is an

'advantage'" and "recognizing that carrying a BRCA mutation is not something out of the ordinary." On the other hand, although one may perceive the "having HBOC is an 'advantage,'" interactions with people who view HBOC negatively helped nurture the ability of "understanding that views surrounding HBOC are diverse." In this way, "the ability to use one's own experiences as a patient with HBOC to help others" changed their perception about HBOC, showing that ideas and value judgments about the condition are diverse and individualistic, promoting the ability of "understanding that views surrounding HBOC are diverse."

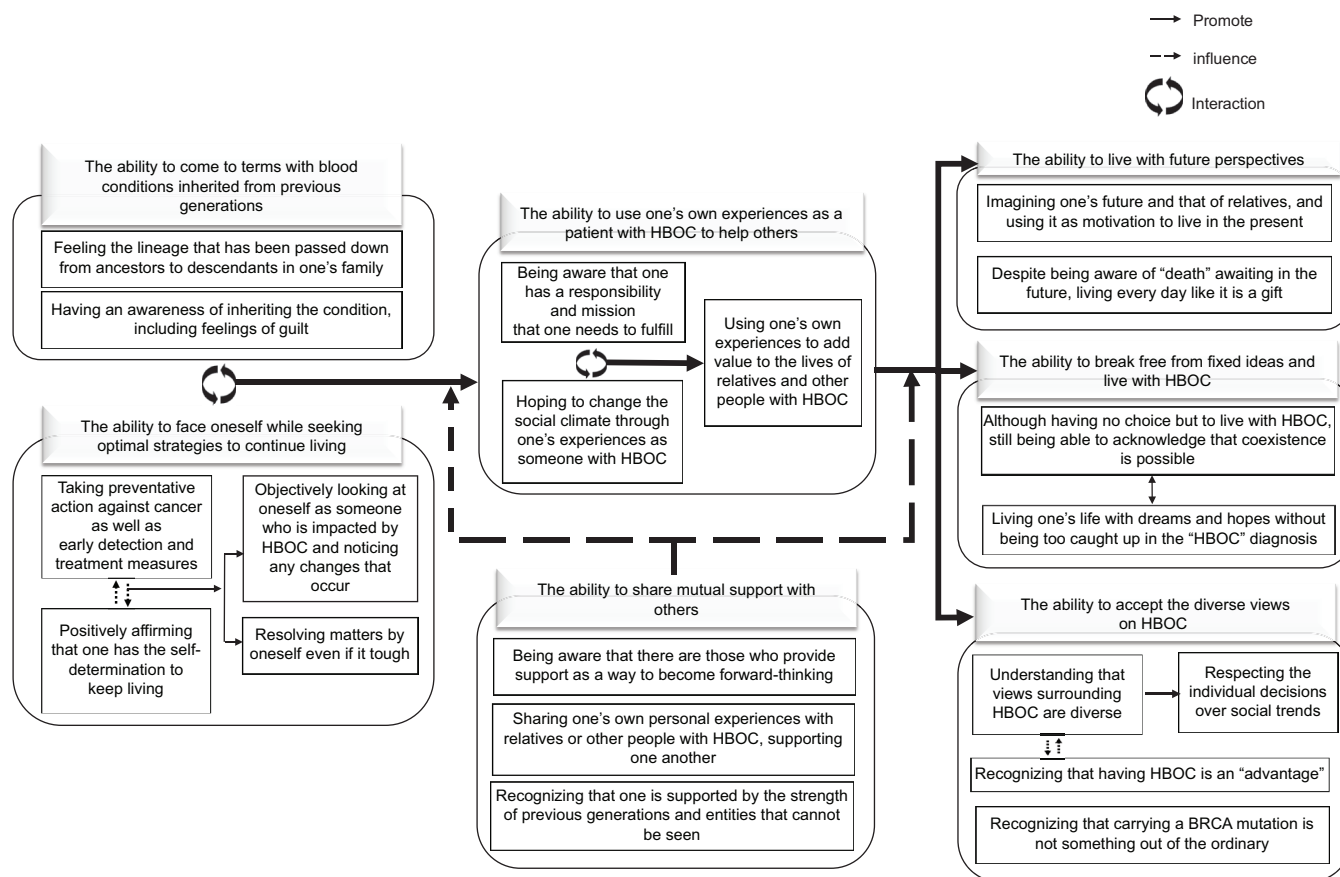


Figure 1: Relationships between the categories. HBOC: Hereditary breast and ovarian cancer, BRCA: Breast cancer susceptibility gene

Moreover, female breast cancer patients with HBOC acquired the ability of “Living one’s life with dreams and hopes without being too caught up in the “HBOC” diagnosis” as they interacted with various people. Meanwhile, they were also more aware of themselves thinking “although having no choice but to live with HBOC, still being able to acknowledge that coexistence is possible.” “The ability to use one’s own experiences as a patient with HBOC to help others” promoted “the ability to break free from fixed ideas and live with HBOC” through which they discard existing life concepts and lived their life.

Furthermore, “the ability to use one’s own experiences as a patient with HBOC to help others” helped actualize “the ability to live with future perspectives” through “imagining one’s future and that of relatives, and using it as motivation to live in the present” and “despite being aware of “death” awaiting in the future, living every day like it is a gift.”

The ability to face oneself while seeking optimal strategies to continue living

This is the ability to face various changing emotions in the process of seeking optimal strategies to continue living, and engage in activities without giving up personal fulfillment, affirming one’s own decisions even as one

notices changes in oneself. This category consists of four sub-categories.

In the sub-category “Objectively looking at oneself as someone who is impacted by HBOC and noticing any changes that occur,” one participant who chose not to have a risk-reducing sapling-oophorectomy (removal of an ovary and its fallopian tube) surgery said:

I was somehow pretending that it wasn’t familial. I realized that I was pretending to have forgotten that I was still okay. There was a part of me that thought that, as long as I don’t have children. if I just have my ovaries removed, my life would be easier. However, it is difficult to say if I would be able to live with my decision afterwards. With that in mind, there was a part of me that thought it would be better not to have my ovaries removed. (No. 9)

The ability to come to terms with blood conditions inherited from previous generations

This is the awareness that having HBOC, including its positive and negative aspects, is part of the inherited blood conditions passed down from one generation to the next. This category consists of two sub-categories.

The sub-category “Feeling the lineage that has been passed down from ancestors to descendants in one’s family”

is captured well in the following excerpt from Participant 11's interview:

I don't resent inheriting the breast cancer gene from my mother because both good and bad things are inherited. Because I perceived this as a good thing, I didn't have any negative feelings toward my parents. I hope my daughter thinks so too. (No. 11)

The ability to use one's own experiences as a patient with hereditary breast and ovarian cancer to help others

This category refers to the ability to realize one's responsibility and mission as a patient with HBOC, and redefine one's experience to adopt actions that benefit not only oneself but also blood relatives and peers. The category consists of three sub-categories.

The sub-category "Being aware that one has a responsibility and mission that one needs to fulfill" was reflected in the following comment:

I found out that I have HBOC and recently reached out to those around me. I feel I have a responsibility to keep on living. Among people with HBOC, the negative ones often say that because their parents died, they will probably end up dying too. Like they've given up. Hence, if I die, that's what my daughter will think. That's why I think I have a responsibility to live. (No. 7)

The ability to share mutual support with others

This category depicts the ability to realize that each patient with HBOC is not alone in this rare and painful experience, and to share mutual support with others. It has three sub-categories.

The sub-category "Sharing one's own personal experiences with relatives or other people with HBOC, supporting one another" was captured by one participant as:

I had the opportunity to talk to people who had a genetic mutation and was very grateful for that encounter. We started talking about various things and depending on each other. There were people who did not feel comfortable talking about their condition. Because of this, I realized that, I had been telling children and other people around me about my HBOC without really thinking about it. (No. 12)

The ability to accept the diverse views on hereditary breast and ovarian cancer

This category refers to the ability to recognize the diversity of thoughts and judgments on HBOC among different people, and to accept others' views. It has four sub-categories.

The sub-category "Recognizing that having HBOC is an "advantage" was elucidated by one participant as follows:

When I was diagnosed with HBOC, I thought that I should never. I could never tell people that I had cancer

in both breasts, let alone HBOC as well. I thought I have to live my life with this secret. But now I don't think that way at all. Having HBOC is an advantage since I can use Olaparib. Because I know where cancer is likely to occur in my body, I can take preventative measures such as having a prophylactic mastectomy (a surgery to remove the breast to reduce the risk of developing breast cancer), so in this way, having HBOC is an advantage. (No. 7)

The ability to break free from fixed ideas and live with hereditary breast and ovarian cancer

This category describes the ability to break free from fixed ideas on HBOC by adopting an objective attitude and distancing oneself from the condition, while accepting the fact that one has it and must live with it. It has two sub-categories.

One participant captured the sub-category "Although having no choice but to live with HBOC, still being able to acknowledge that coexistence is possible" in the following comment:

I have come to consider HBOC as a friend that is by my side, a friend that has always been with me, ever since I was born. I'm sorry that I didn't know it before. Now, when I ask myself, "Why me?" and I'm able to answer my own question, I feel relieved again. Earlier, I used to ask myself, "Should I be scared of HBOC?" or "Should I be annoyed?" I wondered what on earth it was. Wherever I went, I was told that I was at risk, but when I asked, it said it's a friend. There's no knowing if it's there or not. But I heard that the cancer is a friend of my friend. (No. 6)

The ability to live with future perspectives

This category refers to the ability to develop positive future perspectives, and continue to live with mindfulness, even though HBOC may show recurrence and cause death. It has two sub-categories.

One participant captured the sub-category "Imagining one's future and that of relatives, and using it as motivation to live in the present" as follows:

This is far in the future for the children, so I hope that by the time they have become adults, research has also progressed and we become able to provide more preventive treatments. Since it won't become an issue until much later on, I am not worried at all about whether my grandchildren will be okay. (No. 10)

Discussion

This section describes three characteristics of self-transcendence among Japanese women with HBOC syndrome breast cancer.

First, we will discuss the relationship between "the ability to face oneself while seeking optimal strategies

to continue living," which promotes "the ability to use one's own experiences as a patient with HBOC to help others," and "the ability to come to terms with blood conditions inherited from previous generations." Women with HBOC syndrome breast cancer are forced to make various agonizing decisions such as whether they should undergo an HBOC test or risk-reducing surgery, whether they should give up on the idea of having children, and which treatment they should use. Subsequently, as they face various emotional fluctuations that occur during this decision-making process, notice changes in themselves, and affirm their own self-determination, they discover the ability to act without giving up (the ability to face oneself while seeking optimal strategies to continue living). As Reed states, this is a state in which the boundaries of the self-expand through self-acceptance using introspection with the passage of time.^[12,13] In this study, the background for the ability to face oneself was identified as the ability to come to terms with the blood conditions inherited from previous generations. It seems that scientifically verifying one's lineage could serve as an opportunity to become more aware of one's connections with the people one holds dear. As pointed out by Ogihara,^[23] this may be a characteristic of the Japanese, who think about what is best for their families, even in modern times when Japanese family values are changing. This characteristic enhanced "being aware that one has a responsibility and mission that one needs to fulfill." In the present study, we found that breast cancer patients with HBOC promoted "the ability to use one's own experiences as a patient with HBOC to help others" by increasing their activities to give a positive "living" image without becoming depressed when reflecting on themselves as being HBOC, which prevents HBOC patients and their relative from having a "death" image.

Second, we discuss the characteristic that "the ability to use one's own experiences as a patient with HBOC to help others" promotes "the ability to accept the diverse views on HBOC." As "the ability to use one's own experiences as a patient with HBOC to help others" grows, women with HBOC syndrome breast cancer start to engage with a variety of other people. During these interactions, the female breast cancer patients with HBOC change their perception about HBOC to understand that ideas and value judgments about HBOC are diverse and differ between themselves and others, gaining the ability to accept others' views. Moreover, they recognize that their condition is associated with not only disadvantages but also many benefits, including cancer prevention, early detection and treatment, and having various treatment options; therefore, HBOC results in many advantages for both patients and relatives. This self-transcendence allows people to overcome new obstacles as they appear without being bound by preconceptions or

frameworks that promote hatred of hereditary cancer. In the conceptual analysis of self-transcendence conducted by Teixeira, they categorized "creativity" as an attribute of creative energy.^[24] There are no correct answers for the various decisions that have to be made when one has HBOC. Women with HBOC syndrome breast cancer face various problems, and as they come to terms with them, they discover new personal values and solve these problems as they arise. This clearly illustrates creativity. These women meet with many different people, and their own perception of HBOC starts to change through such interactions. They recognize that, in an era where one in two people will develop cancer, prevention, early detection, and early treatment is possible and important. This new shift in perception appears to be an important change in the mindset of the Japanese, who culturally have negative feelings towards hereditary diseases.

Third, we discuss the characteristic of "the ability to break free from fixed ideas and live with HBOC." Having HBOC means that developing cancer or dying is always at the back of one's mind. While being haunted by this fear causes anxiety, women with HBOC syndrome breast cancer come to consider their condition as an integral part of themselves. In this way, while asking existential questions such as, "Why did I get cancer?" or "Who are you?" it seems that they are able to accept the positive side of their condition through dialogue with themselves, wherein they come to terms with the fact that their cancer diagnosis was due to "something that they were born with." At the same time, they have to live with the idea of cancer onset and relapse, and they acknowledge that there is nothing they can do about this; this is an unavoidable part of living with their condition. This is similar to the philosophical concept of "letting go" as described in Masui's account of elderly transcendence.^[25,26] In elderly transcendence, the concept of letting go is described in terms of breaking away from the dualism of life and death, through which older adults accept the fact they are close to the end of their life. However, in this study, because having HBOC makes one conscious of the possibility of getting cancer, relapse, and death, people with this condition place more value on "the present" than "the future," and they live with a moderate sense of emotional distance from the disease; in this way, this concept is different from that of letting go. These may be considered the characteristics of this study.

Implications for nursing

Supporting decision-making without regret while acknowledging the wavering self

One characteristic observed in this study is acquiring "the ability to face oneself while seeking optimal strategies to continue living." This means facing oneself as a HBOC

patient without giving up appears to be an important element of the foundation of self-transcendence in female breast cancer patients with HBOC. Female breast cancer patients with HBOC are face with a variety of difficult decision-making situations, such as whether to take a genetic test, whether to use the results of the genetic testing for their own treatment, and whether to use the results of the genetic testing to monitor themselves or relatives. As indicated from the women's accounts, especially risk-reducing sapling-oophorectomy is not an easy choice since it is between staying alive and preserving one's womanhood. Haugan states that increasing positive events and stimulating positive moods is something that increases the sense of happiness that is a consequence of self-transcendence.^[27] As nurses, we have to engage with these female breast cancer patients with HBOC as they face themselves and search for optimal strategies to keep living, in ways that help them positively evaluate their own decisions. We believe an effective way to do this is to apply the basic aspects of nursing care, including presence, listening, empathy, and support. Moreover, Olaparib has also been increasingly used in Japan since 2018, as a "treatment drug for patients with a history of chemotherapy who test positive for a BRCA mutation and negative for HER2, where surgery is not an option or the breast cancer is recurring." It is important to provide information, mediate with experts when needed, and otherwise support satisfactory decision-making among female breast cancer patients with HBOC and relatives, as a way to help them positively frame HBOC as an "advantage."

Support to connect their experiences as patients with others

The female breast cancer patients with HBOC had gained the ability to use their experiences not just for their own sakes but also for relatives and other patients. The patients explained that it is difficult to open up about HBOC to others and that there are no opportunities to share their experiences with others even if they want to. Previous studies conducted overseas have described how the intervention of breast cancer support groups can promote self-transcendence.^[15,16] There are individual differences at what timing a person connects with others, but participation in patient associations and the cultivation of other opportunities to share and speak about one's experiences as an HBOC patient with others are thought to promote self-transcendence in female breast cancer patients with HBOC. However, such opportunities are currently scarce inside Japan, so that the reception of HBOC patients entirely falls on outpatient care. Since penetrance is not 100% even if one has HBOC, there is a need for environments that support female breast cancer patients with HBOC long-term, and we believe it is important to

create opportunities for open and relaxed conversation, also from a perspective of prevention for relatives.

Limitations

This study had two limitations. First, the interviews were conducted only with participants who had someone to support them, including biological relatives; therefore, the findings may not necessarily depict the experiences of patients without support. Second, because the type of test was not specified for this study, only women who were found to have HBOC syndrome breast cancer according to companion tests were included as participants. Therefore, the findings of this study do not apply to patients who have been diagnosed with HBOC as an incidental finding due to further advances in cancer genomic medicine.

Conclusions

Seven categories of self-transcendence were identified for female cancer patients with HBOC. From the results of this study, the self-transcendence of Japanese women with HBOC syndrome breast cancer can be described as standing on a foundation of not giving up and confronting oneself for the sake of one's unbroken lineage, while being haunted and emotionally affected by the lifelong risk of developing cancer and facing death, as well as starting to value not just oneself but also others through interactions with other people. In addition, because women with this condition start to value not just themselves but also others, they develop the ability to accept diverse views on HBOC and to live with their condition while looking to the future.

Financial support and sponsorship

This work was supported by JSPS KAKENHI (Grant No. 18K10273).

Conflicts of interest

There are no conflicts of interest.

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