

Experiences of Adolescent Daughters in Beginning to Live With Their Mothers' Cancer: A Qualitative Study

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Abstract

This study reveals the experiences of adolescent daughters who are beginning to live with their mothers' cancer diagnosis. Participants were 14 adolescent daughters who were either junior or senior high school students when their mothers were diagnosed with breast cancer. We analyzed semi-structured interviews using content analysis. Using interview data, four categories were created from 23 subcategories and 183 codes: (1) using trial and error to attempt to steady their minds against upset and anxiety; (2) minimizing the effect on their own school life and future; (3) moving forward with the help and support of those around them; and (4) advancing together with their family to protect and take care of their mother. As supporters, we must understand adolescent daughters' experiences in living with their mothers' cancer. Open communication with an important outside individual is essential in promoting adolescent daughters' ability to obtain support and live with their mothers' cancer.

Keywords

adolescent daughter, maternal breast cancer, oncology, experience, qualitative study

Introduction

Women worldwide fear developing breast cancer. According to recent data from 2018, breast cancer has the highest morbidity and mortality rate of all cancers that affect women globally (Bray et al., 2018). Furthermore, peak morbidity of breast cancer occurs at a relatively young age, as compared to other cancers, spanning the latter half of the 40s and 50s (World Health Organization, 2019). Developmental tasks at this age include work, child rearing, and parental care. Although patients can typically consult with others regarding work or parental care, and may even receive support with relative ease, it is more complicated to receive support from others during child rearing. This is important because the mutual relationship between parent and child is essential to raising a child and for the child's developmental outcomes.

Globally, the mean age at which a woman gives birth to her first child is around 30 years (Organisation for Economic Co-operation and Development, 2019), meaning that many breast cancer patients are mothers raising adolescent children. The term adolescent generally refers to children between the ages of 12 and 18 years (Benesse Corporation E-gate English-Japanese Dictionary, n.d.; Research Company New English Japanese Chinese Dictionary, n.d.); however, in Japan, it refers to those between the ages of 13 (junior high school students) and 18 (high school students) years (Cabinet Office Section 1 Population, 2013).

Adolescents are faced with the crucial developmental task of establishing their own identity (Funashima & Mochizuki, 2017a). This process of development can involve strong internal conflict and promotes abstract conceptualization, sometimes leading the adolescent to cleave too closely to logical theories (Funashima & Mochizuki, 2017b). Therefore, it can be difficult to maintain a good relationship with one's mother during adolescence. The lack of parent-child communication when adolescents enter their period of parental rebellion is a matter of concern in Japanese society, and more so with an increase in the proportion of children showing problematic behaviors and failing to attend school (Ministry of Education, Culture, Sports, Science, & Technology, n.d.).

In related research, 10 studies have particularly focused on adolescent children with parents who have cancer (Bugge et al., 2008; Chen et al., 2018; Clemmens, 2009; Huizinga et al., 2011; Lewis, 2007; Lewis & Darby, 2003; Stiffler

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et al., 2008). Studies examining adolescent children of breast cancer patients have enriched our understanding on parent–child communication and planning about the hereditary risk of breast cancer (Clemmens, 2009; Lewis, 2007; Lewis & Darby, 2003; Stiffler et al., 2008). Other studies on cancer patients with adolescent children have provided information on patients' communication with their children and decision-making regarding sharing the results of their BRCA1/2 test (Cho et al., 2015; Davey et al., 2012; Huang et al., 2017; Huang et al., 2018; Kim et al., 2012; Lewis, 2007; Lewis & Darby, 2003; Rowland et al., 2016; Seenandan-Sookdeo et al., 2016; Semple & McCance, 2010; Strickland et al., 2015). Although these studies included participants who were young children at the time of diagnosis, as well as adult participants, research focusing on adolescent daughters in particular remains scant. Much of the existing research is also becoming out of date, as many of the surveys were conducted more than 10 years ago. Thus, an accurate and in-depth study is necessary to reveal the characteristics of adolescent daughters of cancer patients.

Recently, the American actress Angelina Jolie underwent genetic testing and a subsequent mastectomy and breast reconstruction surgery. Partly due to this heavily reported event, awareness of hereditary breast cancer among women and adolescent girls is now higher than ever. However, accurate information has not been spread sufficiently, leaving mothers with breast cancer and their daughters with unmerited anxieties. Helpful information on hereditary breast cancer and psychological support systems for anxiety are not always available. However, for a mother, conveying information about breast cancer to her adolescent daughter is a major decision that is often surrounded by doubt and conflict, affirming the importance of the current study and further research in this domain.

Notably, only one study was conducted in 2008 that focused on adolescent daughters. Although this study discovered that adolescent daughters looked after their mothers, it did not examine anxiety about hereditary concerns (Stiffler et al., 2008). Thus, we decided to examine the feelings and reactions experienced by an adolescent daughter after being informed that her mother had been diagnosed with breast cancer.

Study Purpose

This study aims to reveal the experiences of adolescent daughters who are beginning to live with their mothers' cancer. Our study differs from past studies by focusing only on the experiences of adolescent daughters. Although breast cancer has a high cure rate, it is common for individuals to experience cancer recurrence after 10 years; thus, breast cancer requires treatment and observation for long periods. Therefore, it is important for the mother and daughter to support each other during the long-term recovery process, and to smoothly traverse through the early stages from diagnosis to

the start of initial treatment. Hence, clarifying the experiences of adolescent daughters and examining nursing support become essential, which this study considers.

Method

Study Design and Participants

This was a qualitative study using Krippendorff's (2012) content analysis design. Participants ($n=14$) were middle or high school adolescent daughters of mothers who were first diagnosed with breast cancer or informed about breast cancer. All the participants at the time of the interview were high school students and older, who were prepared to participate in the interview.

Procedure

The sponsor institution approved our study. A primary physician introduced the participants' mothers to the researchers, who then explained the study to the mothers. Next, the mothers explained the research to their daughters, and if a daughter wished to participate, the date, location, and time of the interview were set at their convenience considering their busy high school and university life. Interviews were conducted a few weeks after the parent explained the research to the daughter; hence, the daughter could still recall memories of those days. At the beginning of the interview, a researcher explained the purpose of the study in an easy-to-understand manner and gained the participant's trust, which made it possible to acquire enough content. During the interview, the researcher always asked if there were any questions and listened attentively to the acquired contents by focusing on the mother's illness, treatment, and the family structure. Written consent was obtained from the daughters on the day of the interview. If the participant was a minor, written consent for research participation was also obtained from her mother. All participants voluntarily joined the study and were informed that neither the participants nor their mothers would suffer any disadvantages if they chose not to participate. The data obtained from the participants were securely stored. In addition, recognizing that talking about their experience could lead to unwanted and hurt feelings, if they agreed to participate in the survey, they were allowed to stop at any time before, during, or after the interview in case they experienced anxiety and stress during the interview. If the investigators determined that they were anxious or stressed, they were advised to take a break or stop the interview and acknowledge their feelings.

Analysis

The researchers carried out semi-structured interviews with 14 adolescent daughters from July 27, 2015 to October 14, 2017. Researchers informed the daughters that they were

1. Who in your family told you about the disease of your mother (e.g., diagnosis, treatment methods, symptoms) and what would happen next? How were you told about it?
2. When you were told about your mother's disease and things related to it, how did you feel, how did you make decisions, and how did you behave?
3. Please tell me freely about what you felt and thought about your family, including your mother, as well as how you acted towards them?
4. After you came to know of your mother's disease, how did you feel, how did you make decisions and how did you behave?
5. Since you came to know of your mother's disease, has your relationship with your family changed? If so, in what way?
6. In addition to the prior questions, please tell me freely about your feelings and thoughts about your experience of being told about the disease, as well as any actions you took in relation to such an experience.

Figure 1. Interview schedule questions.

free to talk about their feelings and events from the time they first thought their mother was ill until they were hospitalized for their first treatment/surgery. The interviews were conducted based on Figure 1. The content of interest in the daughters' interview responses included expressions of words and psychological states characteristic of adolescence, so it was necessary to analyze the essential meaning of these data. A unique feature of Krippendorff's (2012) (also see Shunji et al., 2016) technique for content analysis is that it can yield inferences not only from the spoken words considering the context of the data. but also from the researcher's perspective of the spoken context. Thus, Krippendorff's (2012) technique was adopted to understand the data in a multifaceted manner.

All interview content was audio-recorded and transcribed verbatim into Microsoft Word. While Krippendorff (2012) describes the main points of the analysis method in detail, he does not provide a detailed description of the specific procedures; thus, it was left up to the respective researcher on how to extract data from the phenomenon of interest. Therefore, by utilizing the unique characteristics of Krippendorff's (2012) technique (also see Shunji et al., 2016) for content analysis, this study considered not only the spoken words of the adolescent girls, but also their experiences from the perspective of the researchers. In addition, reasoning based on spoken language, facial expressions when speaking, gestures, and adolescent-specific psychological situations were included in the analysis. In this case, from the data, we created one-sentence recording units representing experiences from the diagnosis to the start of initial treatment. We then created codes and grouped the recording units with similar semantic content. Next, the level of abstraction was increased to create subcategories. Thereafter, all subcategories with similar semantic content were grouped and the level of abstraction was increased once more to create four top-level

categories. The research team, which included cancer nurses and qualitative research professionals, continually discussed the analysis procedure throughout this process before arriving at the results.

Trustworthiness

The collaborators confirmed the accuracy of the data when creating verbatim. In addition, data consistency was constantly discussed among collaborators, and trustworthiness was assured by extracting subcategories and categories while assessing content.

Results

Demographic Characteristics

The average age of the participants was 17.1 years, and the time from the start of the first treatment to the start of the interview was less than 1 year for two participants (14.3%), less than 2 years for eight participants (57.1%), and less than 3 years for four participants (28.6%), with an average of 22.9 months. Therefore, all participants were interviewed within 3 years of their mother's first breast cancer diagnosis. The average interview time was 48.3 minutes (Table 1).

Experiences of Adolescent Daughters Beginning to Live With Their Mothers' Cancer

We extracted 183 codes, 23 subcategories, and four categories that we considered essential to the experiences of adolescent daughters who were beginning to live with their mothers' cancer. All categories, subcategories, and primary codes for experiences of adolescent daughters are shown in Table 2.

Using trial and error to attempt to steady their minds against upset and anxiety. When asked about her mother's diagnosis of breast cancer, her adolescent daughter was unexpectedly upset that she was suffering from cancer, a disease related to death:

Because I hear on the news and stuff that breast cancer is dangerous. But I was worried, (...) but first, when I was told that she had cancer, I was like, "Oh, cancer...". Plus, when I was told it was breast cancer, I was like, "Breast cancer, huh..." There's a lot about it on TV, and it gets talked about in books and stuff too. Anyway, it's dangerous... like, dangerous, I know.. I see about it on TV, and that has an effect, so I had this image grow gradually in my head of like... hair... the survival rate isn't so good... and about metastasizing and stuff too... so when I heard she had cancer, that was when I was the most shocked, (. . .) I had kept thinking it wouldn't happen to our family.. it wouldn't happen to our family.. or at least if it did, it wouldn't be my mom. (A2)

As a result, she developed physical symptoms from severe anxiety.

Table 1. Demographics of Participants.

PN ^a	Grade level at the time of diagnosis	Age	Interview time (min)	Period since the start of initial treatment (months)	Mother's age	Mother's stage	Mother's surgical procedure
1	Junior high school	18	48	35	54	I	Breast-sparing surgery
2	High school	19	43	22	52	I	Breast-sparing surgery
3	High school	18	58	34	51	IIB	Breast removal
4	Junior high school	16	56	20	47	IIA	Breast-sparing surgery
5	High school	17	45	16	46	IIA	Breast-sparing surgery
6	High school	18	45	23	48	IIA	Mastectomy
7	Junior high school	15	34	25	47	I	Mastectomy
8	High school	17	43	5	47	I	Partial mastectomy
9	Junior high school	15	49	36	42	IIA	Mastectomy
10	High school	18	42	21	47	I	Breast-sparing surgery
11	High school	19	70	21	46	IIA	Mastectomy
12	High school	18	47	5	49	I	Mastectomy
13	Junior high school	15	50	36	52	IIA	Breast removal
14	High school	16	46	22	44	IIB	Mastectomy

^aParticipant number.

The participant responded: "I did not, but my period stopped around two months. [My period] came after that anxious stage. That was the first time it stopped that long since it started coming once a month" (F9).

Some adolescent girls felt threatened for the future in terms of what hereditary breast cancer might do to them, saying, "Like, a medical examination? I have heard that I should be tested since it is hereditary. I hate things that are painful, I have always hated pain" (H13).

The daughters shielded themselves from anxiety and impatience by distraction and persuasion. Some of them were unable to express their feelings and closed themselves off:

No, I have not consulted with anyone other than my family. Maybe, I did not even talk about it with my family. Well, I do not want to think about it. (B9)

Medical care in Japan is amazing now, so I do not know if my mother would have been fine, but I am not sure. (N19)

Since I did not really feel like going to T. University, I never tried to get better grades. Additionally, my cram school [teacher] was always getting mad at me. She [my mother] did not know what I was hiding, that I really did not feel like going to T. University. I finally told her later. It was like, I was enduring it alone, and I could never say it. I was always, as if I say it, they will probably think that I am using this [my mother's cancer] as a reason to run away. (F11)

The daughters wanted the truth, even if it was negative, and they were searching for solutions.

I kind of wanted to hear what stage my mother's condition was, or the severity, not from my mother, but from the actual doctor. If I could ask the doctor, I wanted to. [. . .]. [If I had known in advance that my mother's condition was bad, I would have

wanted to] always be by her side, as much as I could. Something like that. (B12)

Minimizing the effect on their own school life and future. Adolescent girls felt that their mother's cancer was a concern and their school rhythm was disrupted.

It was the examination time, so I wondered what to do because it overlapped a lot. [. . .] I did not know what to expect from my mother. It feels like it will be hard for me to do because I am living alone. (D7)

She was also uncomfortable communicating with others about the situation, but she determined who was important in her life and maintained relationships with them.

It was helpful for the teacher at the school to say, "Is it okay," even though it cost me the examination, but I did not like it because I was told a lot about it. As expected, I did not say anything because I knew that he was also careful. It is like "OK". Like "Thank you." (O24)

Furthermore, the adolescent daughters were concerned about the stress that their mothers' medical bills and their own school fees had their families; hence, they considered their financial status when deciding about their future.

I thought that if I went to college, it would cost money for tuition and my mother's medical fees. I did not feel we had enough money for all that, not at all. Therefore, I thought I should earn what I could by working on my own. (F12)

Moving forward with the help and support of those around them. Adolescent girls felt supported by their mothers and siblings who lived normal lives. For example, one participant said:

Table 2. Categories, Subcategories, and Primary Codes From the Experiences of Adolescent Daughters in Beginning to Live With Their Mothers' Cancer.

Category	Subcategory	Primary code
Using trial and error to attempt to steady their minds against upset and anxiety	Their mother being afflicted with cancer, which is something related to death, is unexpected and upsetting	<ul style="list-style-type: none"> • They were under the impression that cancer was hereditary, so they are surprised that their mother developed cancer even though none of their relatives did • They are shocked that their mother has breast cancer because, according to the media, the survival rate is low and it is portrayed as a very scary illness
		<ul style="list-style-type: none"> • They are afraid that the surgery will fail or of changes after surgery • Their menstruation stops due to their worry about whether their mother's cancer will be cured without incident
	They have physical symptoms from severe anxiety at their mother's body being invaded by cancer	<ul style="list-style-type: none"> • They have the impression that cancer is a death sentence, so they become afraid when they hear that their mother's breast cancer is likely hereditary • They have heard that their mother's cancer is hereditary and do not want to imagine their own pain in the future as they do not do well with pain
		<ul style="list-style-type: none"> • They try to distract themselves from anxieties about their mother's cancer by going to see their favorite musical artist • When they are assaulted by anxiety, they tell themselves that their mother will survive
	They protect themselves by avoiding the topic of cancer	<ul style="list-style-type: none"> • They try to avoid thinking about topics related to their mother's cancer • They feel that they do not want to listen when they are in a class related to cancer
		<ul style="list-style-type: none"> • Their cram school teacher gets angry at them because their grades do not improve, but they do not want others to think they are using cancer as an excuse not to talk to anyone • They feel annoyed by people prying, so they hide their mother's cancer from their friends
	They cannot express their feelings and close themselves off in a shell	<ul style="list-style-type: none"> • They want to help their mother as much as possible, so they leave school early to accompany her to medical examinations and get information on treatment plans • They want to hear the truth from a medical professional, so when their mother's condition is poor they accompany her at all times, including to medical appointments
		<ul style="list-style-type: none"> • They could not adjust their school life around going to visit their mother because they only found out about her cancer the day before she was hospitalized • They are troubled because they need to focus on taking exams, but they are also worried about their mother
	They maintain their relationships with important people despite worries about communication	<ul style="list-style-type: none"> • They feel their friends have trouble reacting appropriately when they tell them about their mother's cancer • They are annoyed by their teacher speaking to them over and over, but know that their teacher is just looking out for them and as such thank them to some extent
		<ul style="list-style-type: none"> • They are concerned about the burden from medical bills and school fees so they try to decide their future based on financial needs • They feel they must work instead of going to college because their mother's medical expenses will become costly
Minimizing the effect on their own school life and future	<ul style="list-style-type: none"> • The rhythm of their school life is not being kept up due to apprehension about their mother's cancer 	
	<ul style="list-style-type: none"> • They feel their friends have trouble reacting appropriately when they tell them about their mother's cancer • They are annoyed by their teacher speaking to them over and over, but know that their teacher is just looking out for them and as such thank them to some extent • They are concerned about treatment fees and feel they must get into a public school with an inexpensive tuition, but their academic performance is insufficient and they begin thinking negatively • They feel they must work instead of going to college because their mother's medical expenses will become costly 	

(continued)

Table 2. (continued)

Category	Subcategory	Primary code
Moving forward with the help and support of those around them	<p>Their mother and siblings hide their anxiety and continue on as normal for their sake</p> <p>Their mother thinks of their exams and gives them the utmost consideration</p> <p>They are supported by a balanced perception of cancer</p> <p>Their relatives support their mother and their family</p> <p>They would like to have support in which they can open their heart to someone they trust</p> <p>They are relieved that people at school provide support while keeping a proper distance</p>	<ul style="list-style-type: none"> • They feel it is good that their siblings continue to make the family laugh as they always have • They are able to forget the cancer and relax when their mothers behave as usual for their sake • They are able to give undivided attention to studying for exams because their mothers scheduled the surgery after their exams for their sake • They did not have to worry for long because they were informed of their mother's cancer just before her hospitalization • They can accept their mother's cancer without resistance because they have many relatives who have had cancer and they do not have a grave perception of it • They are relieved that, as their mother says, even the information on the internet states that stage I is not severe • Their relatives support their mother and their family • Even if their grandmother is struck by their mother, the grandmother comforts her, which helps them feel that their mother can let out some of her anxiety and stress • They consult with their friends about wanting to cooperate, even though they may be late to club activities because of their mother's breast cancer • Although they do not want to bother the people around them, they feel that they want someone to talk to
Advancing together with their family to protect and take care of their mother	<p>They understand that the situation is physically and psychologically painful for their father and mother</p> <p>They keep a distance suited to their mother's emotional and physical condition</p> <p>They utilize the advice of those around them in changing their own behavior</p> <p>As an older sister, they take care of their younger siblings based on their personalities and how they are accepting the cancer</p> <p>They can grow through behaving in ways that meet the expectations of their family</p> <p>They talk about their mother's treatment as a family</p> <p>They deepen their familial relationships by facing the cancer together</p>	<ul style="list-style-type: none"> • Before the surgery, they feel exhausted from the physical and psychological hardships caused by their mother's cancer • They choose carefully when they will ask their father for advice because they perceive that their father is also anxious • They guess that it would be difficult if they spoke to their mother while her condition is poor, so they try not to talk to her • They strive not to show their worry on their face because their mother is trying not to worry those around her • They were advised by their friends and significant others not to cry in front of their mother or to try not to • They heard that the cancer might recur if the breasts are kept and recommend that their mother have a complete removal • They feel they must support their younger siblings as older sisters more than ever after seeing their siblings cry after being told about their mother's cancer • They try to express their appreciation for younger siblings who are actively helping their mother • Contrary to their mother's strict discipline and request to do housework during her hospitalization, they feel they also need to be independent because they are a high school student • They feel happy that they are useful when their father or mother notices and acknowledges that they are taking the initiative to do housework • They discuss their mother's treatment fees with their family, as these can influence family life • They discuss choosing a hospital with their family with consideration to accompanying their mother during hospitalization and escorting her to anticancer drug therapy • They begin to discuss things together as a family often because they have to discuss topics such as their mother's treatment fees or selecting a hospital for treatment • They begin to take family pictures and do family activities to make memories because they do not know when the illness will worsen

But like, he [my little brother] was kind of joking around. Therefore, he was always making me laugh. Doing it on purpose, well, no, he was not really doing it on purpose; it felt like nothing had changed. When asked if you thought that was good for your family, the participant said, "I think so. It was a good feeling." (P12)

Mothers also often considered their daughter's school exams:

My mother scheduled the surgery after I had finished taking my entrance exam so that it would not conflict with my exam. So I was able to concentrate on studying for the exam, but I was a little concerned about that, too, so I thought I would do my best so that my mother would be relieved. (P2)

In addition, their relatives supported their mothers and families:

My grandmother was very aware of the seriousness of my mother's condition, so when mother was feeling stressed or anxious, she took it out on grandmother, but grandmother accepted and comforted me. I thought it was good. (D16)

Adolescent daughters were also supported by pre-existing perceptions of cancer and/or the fact that they had a positive impression that their mother's cancer was not serious.

(Illness) I searched on the Internet. Yes. I wondered what it is like in a blog, and what breast cancer is in general. Yeah. That kind of feeling. (I confirmed my mother's stage) I was relieved. (N31)

Um, like, I felt in my heart that, I know, I should try not to inconvenience the people around me, but, even so, somewhere, somehow, I know, even though they were not someone I could talk to about that, I still wanted to. (K14)

Many expressed relief that they received such support from their relatives and people at school:

There was also one time before a big club meeting. I guess since it was my advisor, it somehow seemed like they knew what I was going through, and they listened to what I had to say. [. . .] Um, like, they would notice I had something I could not say to others and they would talk to me. It was as if I was not alone. (K11)

Advancing together with their family to protect and take care of their mother. Despite facing abundant anxieties, the daughters understood that the situation was physically and psychologically painful for their mothers and fathers, and they kept a distance suited to their mothers' emotional and physical condition:

Actually, she used to always spend time in the living room, but yeah, she would shut herself in her bedroom and sleep. I guess that is how you knew she was sick. [If I was able to talk to her at that time], I think it would have been nice to calm her down a little bit as a mother, or maybe reduce her anxiety, even a little. Even if I had thought of it at that time, I probably would not have

done much. More than that, I thought that talking to her would probably be painful or that talking itself would be painful, so I thought it was better to stay quiet. It was like that. (D21)

In addition, the daughters utilized the advice from those around them to change their own behavior and when giving advice to their mothers.

I was noticed by two people (friend and boyfriend). They were people who seemed okay to talk, so I said (about my mother's illness), but they said you should not cry in front of my mom I did not cry so much in front of my parents (because my boyfriend and a friend told this). (F19)

Furthermore, they took care of their younger siblings based on their perceptions of these siblings' needs and personalities, as well as how these siblings were accepting the cancer.

More than ever before, I had to think about how to provide support as an older sister. I realized I had to do that when I saw my younger brother crying. [. . .] In my heart, I realized I needed to take care of him well, more than ever before. (P8)

Daughters experienced growth by behaving in ways that met the expectations of their family, and personally felt familial relationships deepen by discussing their mothers' treatment as a family and by facing the cancer together. One participant said:

When I emphasized it, like "I helped," she [my mother] would say something like "Oh, thank you." Since I am really able to do things for my mother makes me happy. (G9)

My family's not super rich. It's going to affect my life from here on because money will be involved. It takes a while to get from my house to the hospital. Things like someone taking her to and from the hospital for anti-cancer drug treatment, visiting her if she's hospitalized, being with her on the day of the surgery... Considering I'll be there until it's over, we talked about whether the hospital would be okay despite the fact that it's far away. (C43)

We were thinking about different things. The person receiving treatment was thinking that she did not want to put a burden on us. However, we wanted her to get better and when she wanted treatment; she agreed and wanted her to get treatment. We were able to give our opinions and of course, everyone agreed, and we reduced how much we endured without saying anything. (C45)

Discussion

This research revealed four categories describing the experiences of adolescent daughters of mothers diagnosed with breast cancer. These categories were using trial and error to attempt to steady their minds against upset and anxiety, minimizing the effect on their own school life and future, moving forward with the help and support of those around them, and advancing together with their family to protect and take care of their mother. It is necessary that we as supporters commit

to providing consistent support as well as obtaining information about how best to support not only mothers and adolescent daughters, but also families and women in general. Such information can be derived from a full understanding of adolescent daughters' experiences.

In this study, several details of adolescent daughters' experiences of living with their mothers' cancer were revealed. First, we found that adolescent daughters initially experienced physical changes, such as irregular menstruation from the severe anxiety in learning that cancer was invading their mothers' bodies. Past research has also found that adolescent children were dismayed by their mothers' breast cancer diagnosis and treatment (Clemmens, 2009). In one study, regardless of whether the daughters were in school or engaging in extracurricular or other activities, participants often lost their ability to focus and concentrate, and sometimes felt exceedingly nervous (Clemmens, 2009). In addition, to deal with anxiety, they avoid topics on cancer and become reserved without expressing their feelings, but they also distract themselves by engaging in hobbies and save their mothers. He was taking actions such as telling himself. Previous studies have revealed similar behaviors, and it is clear that prayers address anxiety (Fitch & Abramson, 2007; Lally et al., 2020).

In our study, adolescent daughters felt threatened by the possible future risk of hereditary breast cancer, which was often spawned by information they obtained at school or from the media, or due to insufficient information provided by their mothers. These concerns, which have not yet been addressed in previous research, have a strong impact on daughters' lives and femininity, making them difficult topics for adolescent daughters to discuss with their families and medical staff. Previous research has attempted to understand maternal illnesses independently and how it might affect their future lives (Zahlis, 2001). It was even possible for the mothers—who might usually notice even small changes in their daughters' behavior—to fail to notice these changes due to the shock of their breast cancer diagnosis. Thus, medical staff must fill information gaps (e.g., conveying to adolescent girls that physical changes, such as irregular menstruation, might occur due to psychological pain) and that these girls should discuss those changes with the adults in their lives.

Next, we found that adolescent daughters wanted to know about medical developments in their mothers' cases as soon as possible, even if these developments were negative, because they pertained to the adolescents' beloved mothers. Although adolescent daughters protected themselves by avoiding the topic of cancer, they greatly desired factual information, including bad news. Previous studies have noted that adolescents spoke directly to doctors to improve things, and to other teenagers in the same situation (Fitch & Abramson, 2007; Kristjanson et al., 2004). In addition, adolescent daughters wondered what would happen if their mother died and this thought was responsible for enabling the daughter to take over family care (housework, parenting, finance, etc.) from her mother (Davey et al., 2012).

This broad, deep, careful contemplation is thought to be done in order to anticipate changes in their mothers's conditions in the future and family-level changes accompanying them that might occur as a result, for example, by dealing with the abstract concept of "death" and by becoming more able to perform hypothetical-deductive reasoning on likely developments and the family's needs (Funashima & Mochizuki, 2017b). Thus, family and medical personnel must know whether individual adolescent daughters want to keep a distance from the cancer or want to know the truth. They will thereby be able to adopt a communication method and provide information appropriate for adolescent daughters' psychological states. Furthermore, medical personnel need to inform the family that they can provide support when it is difficult for the family to deal with the truth.

Although adolescent daughters were children in their households, the ones we interviewed were already considering their mothers' treatment expenses and their families' economic situation. Previous research has also shown that adolescent daughters think a lot about their family's financial situation. In one study (Zahlis, 2001), the daughter made decisions that had a great impact on her own future, such as whether to attend school. Many often questioned whether there was a real need for them to continue going to college, and often decided to improve their grades and try to advance to a public school (whether high school or college) with inexpensive tuition. However, the daughters were often hesitant to consult with others about their indecision regarding continuing college, as they "did not want others to think 'She is saying that because she does not want to study.'" Given this, families and medical personnel must offer support based on a full understanding of adolescent daughters' feelings and ideas about the future, and not merely, about how these are influenced by their mothers' cancer alone.

Finally, we found that having open communication with an important outside individual was arguably the most important factor for adolescent daughters' success on obtaining necessary support and to begin living and coping with their mothers' cancer. Importantly, adolescent daughters sometimes close off their hearts to others regarding their mothers' cancer. Previous research has found that children, including adolescents, more often have a closed pattern of communication (vs an open pattern) with their mothers, and this ratio is particularly striking in parents with cancer compared to healthy parents (Cho et al., 2015). However, while some adolescent daughters in our study struggled with responses from friends and teachers that differed from their expectations, others struggled to maintain relationships with people who mattered to them. Previous research has also revealed that some children seek someone to listen to them (Fitch & Abramson, 2007; Lally et al., 2020).

By opening their hearts to trusted individuals, adolescent daughters were able to obtain support from many people, including teachers, friends, and significant others. This became a valuable source of strength and helped them move

forward with a more positive attitude. It is essential that families and medical personnel listen to what adolescent daughters have to say in their own time and to use words that are characteristic of adolescent girls. In addition, they should accept daughters' feelings about the situation. In doing so, adolescent daughters will be able to maintain open communication with outside individuals, even after their mothers are afflicted with breast cancer. This will help them grow, as those relationships continue to develop. Previous studies have shown that the needs of adolescent children could be met. However, the importance of individual intervention is needed (Kristjanson et al., 2004).

For adolescent daughters, continuing to grow while maintaining an open communication with their mothers is indispensable for putting their mothers who are suffering from breast cancer—requiring long-term treatment and observation—at ease.

Limitations

This study focused on adolescent daughters whose mothers were suffering from breast cancer, and clarified the experiences of adolescent daughters who were beginning to live with their mothers' cancer. However, the adolescent girls in this study had different family histories and experienced different types and amounts of stress, limiting the generalizability of the results. In the future, it is essential to clarify the mother's experience, develop a support model that considers the perspectives of both mothers and daughters, and conduct intervention research. Furthermore, it will be necessary to survey adolescent daughters and their mothers with hereditary breast cancer, metastasis, or recurrent breast cancer to gain a wider understanding of this topic.

Application

This study focused only on adolescent daughters who were junior or senior high school students at the time of their mothers' breast cancer diagnosis. The study provides data for medical professionals to understand how adolescent daughters feel, think, and behave after their mothers have been diagnosed with breast cancer. Nurses are now able to provide more accurate support to mothers of these daughters. Some questions arise from assessing the process of living together with breast cancer mothers and daughters: "Does the daughter have a way to protect herself from her mother's agitation and anxiety about cancer?" and "Is the daughter able to maintain relationships with others who are important to her?" The risk of these factors or the inability to identify them increases the risk that the mother's breast cancer will make the process of living difficult. It is important for nurses to obtain this information early and start helping promptly. This will help the daughter continue to grow while the mother is undergoing treatment for breast cancer, which is important for providing support to both mothers and daughters, not only in Japan but worldwide.

Conclusions

The purpose of this study was to clarify the experiences of middle or high school adolescent daughters after being informed that their mothers were diagnosed with breast cancer. We conducted semi-structured interviews and data were analyzed using content analysis.

We extracted 183 codes, 23 subcategories, and four categories using trial and error to stabilize adolescent daughters from becoming upset and anxious about living with their mother's cancer, minimizing the impact of cancer on their own school life and future, moving forward with the help and support of those around them, and advancing together with their family to protect and take care of their mother. Nurses need to be informed and committed to providing consistent support on how best to support families and women in general, not just mothers and adolescent daughters. Such information comes from fully understanding the experiences of adolescent daughters.

It is necessary that we, as supporters, provide support based on a thorough understanding of adolescent daughters' experiences when beginning to live with their mothers' cancer. Having open communication with at least one important outside individual seems to be the most essential factor in adolescent daughters' ability to obtain necessary support and to begin living with their mothers' cancer. Ensuring that adolescent daughters can continue to grow while having open communication with their mothers is indispensable for putting the mothers at ease while they continue their treatment.

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