

Original

Research on grief and belief of infertile women through narratives

Kyoko AWAI

Lecturer, Independent Administrative Agency National Hospitals Mechanism, Zentsuji Hospital Attachment, Zentsuji Nurses' School

Naoko NAITOH

*Professor, School of Nursing, Graduate School of Nursing University of Human Environments
Visiting Researcher, The University of Tokyo*

Abstract

In this study, we conducted qualitative research with an inductive and descriptive approach, with the aim of understanding women's experience of, what it means to them, as well as their beliefs in life. We interviewed seven married women who had never had a child and had points in vitro fertilization. Word-for-word transcripts of the narratives of the participants were created and important stories were extracted. We read the transcripts carefully and thoroughly to understand the narratives by putting ourselves in the infertile position. Furthermore, we extracted their "life stories" and clarified their 'beliefs' from them. We found that the participants benefitted from their experience of pushing themselves to the limit in terms of treatment, felt the limitations of the treatments, and faced the reality of being unable to become pregnant no matter how strong their desire is. The factors underlying their feelings and emotions were the support of their husbands and others around them, their perception of possibility of the pregnancy, and uncertainty of successful treatment. The participants had a strong belief that they could get pregnant and had high expectations for the treatment, while they suffered the same level of disappointment every time their efforts failed. The participants typically described a cycle consisting of positive and negative emotional states. Some experienced extreme positive and negative emotional levels in a large wave pattern, and others experienced emotional cycles with small amplitudes in a small wave pattern, as if they were trying to suppress their hopes for the treatment in order to avoid greater disappointment later. Some women had a belief that they would bear a child someday to make their husband a father, and shared their stressful experience with them. Others believed that they would fulfil their purpose as a woman by having a child. By talking about their experiences, infertile women may be able to discover values in their stressful experience and find it worthwhile to think about their marital relationship. In addition, encouraging infertile women to talk about their experience is a useful form of care as it helps lessen their grief and lead to emotional healing.

Key words : grief and belief, infertile women, emotional, womens' narratives

Introduction

As technology in reproductive medicine has made marked progress, knowledge of infertility treatment has widely spread among people. In the past, women having trouble conceiving needed to either pray to the gods or make different life choices.

However, infertility is now regarded as a medical condition that can be treated. To both

fertility doctors and women who seek their treatment, pregnancy is naturally the first priority, and every time their efforts toward pregnancy fail, the women relive feelings of loss. As this happens repeatedly, they become hurt, depressed, and worn out by emotional and physical stress. Women under fertility treatment experience emotional and physical pain when they cannot achieve their goal, and their suffering is further aggravated by invisible pressures from

people around them. As Ohinata (2000) stated: "technically, women in modern society can freely chose to work, marry and bear a child, but in reality they are torn between their own decisions and expectations or pressures, both tangible and intangible, from society." In a society that considers it only natural for a woman to bear a child after they get married, infertility is a crisis that threatens a women's social status.

To understand what infertile women go through during treatment, "narratives" seems to be the best way. When a woman is diagnosed with infertility, she needs to adapt to the new reality quickly. Therefore, it is extremely important that doctors and other medical staff provide emotional support that such a woman needs to "rewrite her own life story". However, the author's clinical experience suggests that it is not easy for a woman who has just discovered their infertility to talk about the sudden personal crisis. In order to provide effective care for such a woman, understanding what kind of life theme she has and how she is trying to cope with the situation is critical. Morioka (2005) stated that: "one could discover hidden themes and problems in individual women's lives through their symptoms by placing their narratives in the context of their personal life stories". In other words, we can truly understand their struggles by listening carefully to their life stories; we can find individual women's "beliefs (faith or intrinsic way of thinking)" somewhere in the depth of the stories, and fundamental care is only possible when we fully understand them. Lorraine M. Wright (1996) stated that: "there is always 'beliefs' that motivate people's actions and causes their emotions." Sugishita (2005) translated a "belief" as "faith" or "way of thinking". We hoped to discover hidden life stories, themes in life, and beliefs of each participant in this study, by listening to them as they talked about their life freely in a way they felt most comfortable.

This study aimed to understand infertility experiences of women, the value of such experiences, and their beliefs on the basis of which they persevered to live their lives, through the examination of their narratives, in order to improve medical as well as emotional care available to them in the future.

Methods

1. Definitions of Terms:

Narratives: Stories or descriptions of events that are linked to one another by some common idea

(Saito, 2004)

End of treatment: The time described by a woman in her narrative when she decided to discontinue her treatment.

Finding a value (meaning) in infertility experience: How women acknowledge, value, and internalize feelings and thoughts that may arise during infertility.

"Belief": "Faith, creed, and way of thinking" (Sugishita) that underlie a woman's way of living and actions; belief plays a central role in their sentiment.

In vitro fertilization: A type of infertility treatment in which after an egg is artificially fertilized with sperm cells and cultured, the embryo (fertilized egg) is transplanted inside the mother's womb (Araki, 2002)

2. Selection of Participants

- (1) Criteria for selecting participants: We have chosen married women with no psychological disorder who had never had a child and started in vitro fertilization treatment. Public General Hospital A, which owns a fertility clinic in Kagawa Prefecture, cooperated in the research.
- (2) Subjects of analysis: Seven females receiving repeated in vitro fertilization treatment and who agreed to cooperate with the research.

3. Research Design

We adopted an inductive and descriptive approach in this qualitative research.

- (1) Data collection method: Semi-Structured interview
 - 1) Each participant was asked to freely talk for 60 minutes about: the feelings and emotions they experienced between the time they became aware of their infertility until the day of the interview; personal changes and events they had gone through, since the start of treatment; how they perceived their infertility experience and what it meant at the time they decided to discontinue the treatment.
 - 2) The interviews were conducted at a place where privacy could be protected and the interviewees could talk calmly. All the interviews were recorded on tape.
 - 3) After the interviews were completed, the contents were thoroughly reviewed. To measure variations in emotional states of the participants over time, we asked each participant to record the level of pain on a Visual Analog Scale (VAS, Melzack &

Wall's). We extended the normal range of pain scores of 0–10 to include negative scores down to –10 (Figure 1)

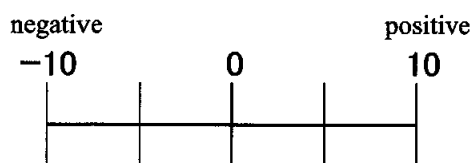


Figure 1 The levels of emotional states on the Visual Analog Scale

4. Analysis Method

- (1) After the interviews, the recorded contents were transcribed word for word, and we reviewed the transcript carefully and thoroughly while putting ourselves in their position. Important stories were extracted from each participant's narratives and classified into negative and positive ones. Furthermore, narratives indicating the timing at which changes and awareness occurred were extracted.
- (2) We also identified factors that triggered the feelings and emotions at each stage of treatment and extracted the narratives regarding measures they took in order to continue their treatment.

Processes (1) and (2) were repeated to assure the accuracy of classification of the narratives as well as the transcripts.

- (3) We summarized the narratives and checked if the summary gave an accurate account of the emotions and experience of the participants. We applied Melzack & Wall's Gate Control Theory of Pain. From the narratives of each participant, the maximum hope for pregnancy was recorded as 10, a calm emotional state as 0, and maximum disappointment as –10 (Figure 1) on the VAS).

5. Reliability and Validity of the Study

We established the reliability and validity of this study referring to the qualitative research methods of Holloway and Wheeler (Holloway et al., 2008).

(1) Reliability

- 1) The author has experience in infertility treatment as well as post-childbirth care at the research facility, and had also received infertility treatment herself, and was therefore deemed qualified to understand the women suffering from infertility

- 2) Peer examination: The data analysis methods and results were evaluated by peers and graduate students with over 10 years of clinical experience in maternity, and analysis and interpretation of the narratives were performed under the supervision of a qualitative researcher.

- 3) Participants' confirmation: Five participants were asked at the second interview to confirm the contents of the word-for-word transcripts of their first interviews.

(2) Transferability

The participant selection method is indicated as detailed as possible in accordance with the "Selection and Criteria" explained under "Methods".

- 1) Clarity: We made an utmost effort to describe the research process as detailed as possible and to explain the steps we took to reach the conclusion in a logical and methodological as well as analytical manner.
- 2) Confirmability: We made efforts to describe the conclusions and interpretations in such a way that readers could easily deduce they are emerged from the participants' narratives during the interviews.

Ethical Considerations

After we obtained the approval of the ethics committee of the hospital where the participants were being treated, we acquired the consent of the persons in charge of the relevant departments within the hospital. The participants were assured that any information they provide would remain confidential and not be used for purposes other than academic, and that no personally identifiable information would be released in handling the data for analyses as well as in presenting the research results.

Results

1. Participants' Profiles

General Background

Analysis was performed of the narratives of the seven participants. The average age of the participants was 31.3 years old, and the average number of years of marriage was 3.5. Three of them were receiving their first treatments, and the other four participants had experienced two to seven in vitro fertilizations (Table 1).

Table 1 Participants' General Backgrounds

| No | years old | IVF-ET (in vitro fertilizations): experience | years of marriage | occupation | interview (m inute) |
|----|-----------|--|-------------------|------------|---------------------|
| A | 28 | 1 | 2 | yes | 25 |
| B | 28 | 1 | 3 | yes | 30 |
| C | 34 | 1 | 18 | yes | 29 |
| D | 31 | 8 | 3 | yes | 126 |
| E | 32 | 7 | 4 | no | 30 |
| F | 32 | 3 | 6 | yes | 37 |
| G | 34 | 6 | 5 | yes | 41 |

2. Interviews

The length of the interviews: The total length of interviews was 318 minutes, and the average interview time was 45.5 minutes.

Facial expressions, wording, and behavior in the interview: The participants' facial expressions, wording and behavior were recorded and used in the analysis (Table 2).

3. Analysis of Narratives

For each participant, important narratives were extracted from the word-for-word transcripts. Then, the stories were classified into positive and negative narratives, and extracted descriptions indicating a common timing at which the emotions and awareness of the participants changed, as well as actions taken to address problems. In addition, after the interviews, we called the participants to confirm the contents and review temporal changes in their feelings (Table 3).

(1) Stories of Infertile women's Experiences

We extracted the narratives that support emotions and awareness, as well as their transitions.

- 1) Benefit from challenging the limit, and the limitation of treatment

An infertile woman experienced a positive change

in emotions when she benefitted from pushing herself to the limit (in terms of treatment). She was able to switch her state of mind. In addition, some participants were able to reflect on what it means for them to have a child together with their husband. In contrast, the participants often experienced negative emotional changes when they were forced to face the reality of being unable to conceive.

[Positive Narratives]

- (a) Some participants were able to snap out of negative feelings because they pushed themselves to the limit.

- *Participant D: "Before I decided to try in vitro fertilization, I had tried absolutely everything I could, including artificial insemination, insufflations, and laparoscopy. After all these, I am trying in vitro fertilization, an ultimate fertility treatment. Nothing scares me anymore."*

- *Participant E: "I couldn't have said this in the beginning of the treatment, but I gradually became accustomed to it as I tried everything I could."*

- (b) Some participants appreciated the fact that they were able to think about what it means to them to bear a child together with their husband, during the long treatment period.

- *Participant D: "Our three-year treatment was worthwhile because both my husband and I came to understand what it means to have a child. Also, I would never have known how kind and supportive my husband could be without going through this period."*

- *Participant F: "If I had been able to conceive earlier, I wouldn't have understood the meaning of and my need for having a child. The time I've spent in fertility*

Table 2 Facial Expressions, Wording, and Behavior

| Name | Facial Expressions | Wording | Actions |
|------|---|--|---|
| A | Slightly nervous facial expression | She does not talk much about expectations for pregnancy. She talks about infertility as if it were someone else's problem. | Talking with her husband, smiling together. |
| E | Slightly nervous facial expression | She does not talk much about hope for pregnancy. She talks about infertility as if it were someone else's problem. | |
| G | Her facial expression shows she is answering the questions while thinking. She does not seem nervous. Occasional smiles are observed. | She answers concisely. She doesn't express grief, and she talks objectively. | Throughout the 40-minute interview, she kept her composure. |

Table 3 Extraction of the events and their timing from the narratives of Participants D, E, and G

[Participant E]

| Positive Narratives | Negative Narratives |
|--|--|
| · I tried absolutely everything I could, including artificial insemination, insufflations, and laparoscopy. After all these, I am trying in vitro fertilization, an ultimate fertility treatment. Nothing scares me anymore. | · When the second external insemination failed, I experienced an emotional shift from positive to negative, rather than keeping my hopes up for the next round of treatment. |
| · After I had an ectopic pregnancy, I became able to talk about infertility” (after telling people that I can conceive naturally) | · My friend got pregnant. She cannot access the infertile women’s website anymore, and I felt left behind. |
| · I feel that something has changed in me since I had an ectopic pregnancy. | · My ovulation is successful, but my egg does not develop. I was forced to face the reality that the doctor cannot find the cause. |
| · My doctor told me there is nothing wrong with me physically, and I should be able to get pregnant. | |
| · Changing hospitals was a very good idea. | |

[Participant D]

| Positive Narratives | Negative Narratives |
|--|--|
| · I couldn’t have said this in the beginning, but almost giving up after trying so hard helped me become more objective or accustomed to the situation. However, getting menstruation is harder than before. | · When my sister bore a child six months ago. I couldn’t bring myself to see her when she was still pregnant. I was struggling with my emotions. I felt that I was a bad person for not seeing her. However, I have not been able to see her baby yet. |
| · Since I’m doing this much, maybe I can get pregnant. Maybe, if I gave up, it would happen. I heard a woman tends to conceive when she doesn’t think about it too much. I’m adopting that strategy. | · My mother was the only person I could rely on, but she is not free to see me because she is helping my sister, who recently gave birth. |

[Participant G]

| Positive Narratives | Negative Narratives |
|---|---|
| · My husband joked to me, ”Top everyone else in the number of treatments. I can’t say I’m not stressed, but I’ll just keep going. | · I feel devastated when I menstruate 10 to 14 days after the fertilized egg is transplanted back into my womb. |

treatment was worthwhile because of this alone.”

[Negative Narratives]

(a) Facing the reality of infertility

- *Participant G: “The first three times was hard, but, good or bad, I think I got used to it.”; “I was told the probability of success was 30%. I thought I had a chance, so when for the fourth time and then the fifth time, I was overwhelmed by disappointment.”*
- *Participant F: “Several times, the medicine didn’t help me ovulate.”*

(b) Support of husband, family, and friends, and uncertainty about the outcomes

The factors that supported participants’ positive emotional transition, described by a participant as “switching to a positive state of mind as a result of pushing oneself to the limit”, were confidence in their body to conceive, words of other women going through infertility treatment, and the doctors’ words, actions, and attitude toward treatment. The factors that contributed to “the satisfaction gained from thinking

what it means to bear a child as a couple, during a long period of treatment”, were support and encouragement from the husband and mother, and the participant’s own beliefs.

In contrast, the factors exacerbating the negative emotional change, described by a participant as “facing the reality of infertility”, included causes not identified, uncertainty about their body, and feelings of regret.

[Positive Narratives]

(a) Confidence in one’s own body

- *Participant D: “After oocyte collection, I was always relieved to know the number of fertilized eggs, feeling happy that I tried.”*

(b) Self awareness

- *Participant D: “Before, when there was any kind of difficulty, I was passive and only hoped that things would get better naturally. However, I started to cope with them.”*

(c) Words of other patients receiving the same infertility treatment

- *Participant B: “A person older than me became pregnant, which gave me a lot of*

- hope.”; *“It is easier to talk to women who have experienced infertility treatment, and also learning about their experience gives me peace of mind.”*
- (d) Doctor’s words, actions, and attitude toward treatment
- Participant D: *“The doctor said, ‘I have a good chance of getting pregnant because I had an ectopic pregnancy.’; ‘He also told me that my hormone levels and womb are normal.’”*
 - Participant G: *“I was taking the whole thing lightly because both my attending physician as well as other doctors said that I may be able to get pregnant after two or three tries.”*
 - Participant G: *“Not only my doctor but other doctors said I could get pregnant after a couple of treatments. So, I was very optimistic.”*
- (e) Words and attitude of husband, in-laws, and mother
- Participant D: *“My husband and father-in-law are supportive. My father-in-law is really looking forward to a grandchild, but he refrains from saying it out loud.”*
 - Participant G: *“My husband jokingly said to me that I should go for a record in the number of treatments.”*
- (f) Feasibility in terms of age
- Participant G: *“I don’t feel too much stress because I know even women at the age of 41 or 42 still have a good chance of conceiving.”*
- (g) What the participants believe
- Participant D: *“I always picture myself in a happy family where my husband and I are with our baby. I’m sure I’ll realize it someday.”*
 - Participant G: *“My family owns a business and we already have a successor. My husband and parents-in-law do not pressure me or make a big deal out of it. I’m doing this to fulfill my duty or mission. I think I can realize my value as a wife when I become pregnant.”*

[Negative Narratives]

- (a) Not knowing the cause of infertility
- Participant B: *“Not knowing the cause of infertility as well as what to do about it, I tried whatever was suggested by others, for example, eating food which is supposed to increase the chance of pregnancy.”* Participant F: *“Several times, the medicine*

didn’t help me ovulate.”

- (b) Differences between those who became pregnant and those who did not
- Participant D: *“I wanted to open a book about infertility, but didn’t have the courage. I feel like I’m being watched.”*
 - Participant E: *“I’ve lost touch with my friends who have children.”*
- (c) Feeling of being alone without any one to rely on
- Participant E: *“I have no one to turn to.”*
- (d) Not knowing about own body
- Participant F: *“Only one egg was successfully fertilized at best.”*
- (e) Regrets
- Participant E: *“I might have become pregnant if I had not taken the six-month break from treatment.”*
 - Participant F: *“I feel sorry for my husband, and I think if I had been more careful, this wouldn’t have happened.”*

(2) Changes between positive and negative feelings about pregnancy

- 1) Emotional changes since the start of treatment

The narratives showed that the participants’ emotions were affected by events and the results of treatment as well as things other people said. The accuracy of the narratives was confirmed by phone or interview, and temporal changes in emotions were reviewed. Using the VAS with 10 positive levels and 10 negative levels for emotions, such as hope for pregnancy, as described above, we analyzed emotional variations of the participants. The results are presented in the figure.

- Participant A: *I had higher hopes for the second artificial insemination than the first one, but I menstruated, which helped me switch my brain to get ready for the next treatment.*
- Participant B: *Because I had such high expectations for my second artificial insemination, I became depressed. I had higher hopes for external than artificial insemination, but I was overwhelmed by my negative feelings when I discontinued my treatment.*
- Participant C: *I had higher expectations for the second artificial insemination than the first one. I suffer from negative feelings whenever a friend of mine gets pregnant or becomes a mother.*
- Participant D: *Although I wasn’t expecting successful in vitro fertilization the first time,*

when I got my period, I was very depressed. When I could not get pregnant after successful transplantation, I was overwhelmed by negative emotions. During ovulation, I feel optimistic about getting pregnant. Although I felt down because of menstruation, I regained my positive feelings when I thought I might get pregnant with the treatment that would start in a week or so.

- Participant E: At the beginning of each treatment cycle, my emotion surges with a renewed hope for pregnancy, but when I menstruate, it plummets. When I start a new treatment method, I feel certain that I will get pregnant, and then I menstruate, and get depressed again. No matter how many times I repeat, I experience the same levels of hope and disappointment, reliving the most positive and most negative emotions.
- Participant F: I have difficulty ovulating. It took a long time for me to ovulate with the help of medicine, so when I menstruate, it is very depressing. When my doctor asks me if I want to continue the treatment, I become optimistic. When my egg is growing, I feel positive. When I start a new treatment cycle, I feel positive too.
- Participant G: My doctor mentioned a 30% chance of success, and I thought I could get pregnant once in two or three times. It didn't happen that time, and negative emotions took over me.

All the infertile women were experiencing an emotional rollercoaster from a positive to negative state, and vice versa, with the cycle length corresponding to that of the treatment cycle. We matched the participants' narratives to

the scores from -10 to 10. This VAS analysis indicated that seven participants had a common wave pattern, as shown in Figure 2.

(i) Large Wave Pattern

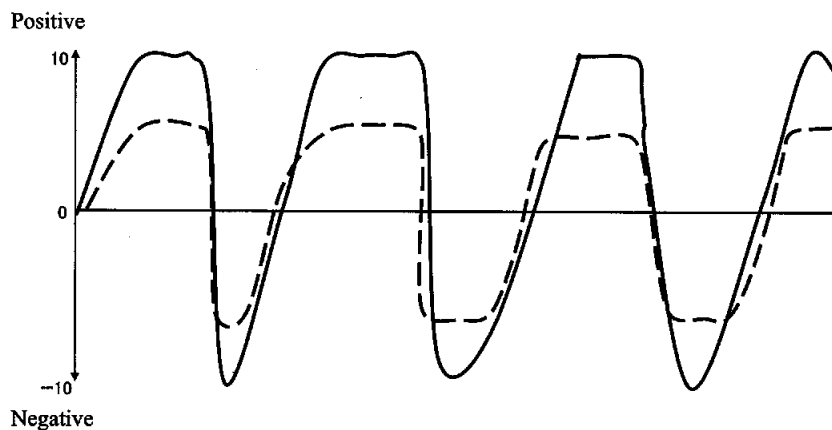
The solid line in Figure 2 shows repeated occurrences of positive and negative emotions like a large wave, with the maximum amplitudes occurring from the start of treatment on the VAS. Emotions repeatedly swing between the upper limit of 10 and the lower limit of -10 regardless of the number of treatment cycles. While hope is marked, disappointment is equally marked.

Only E experienced this pattern (Figure 3).

- Participant E: "My expectations and emotions peak on the day of treatment, and bottom out when I get my period." Even if I'm convinced that I will get pregnant with the new method, I get very disappointed when I get my period. Taking a break from treatment and traveling helps me switch the state of my mind to positive. I felt positive when my doctor told me that he found the cause of my infertility and that I could become pregnant. Even after repeated treatment, I still get disappointed and still have hopes for pregnancy, and the emotional ups and down repeat.

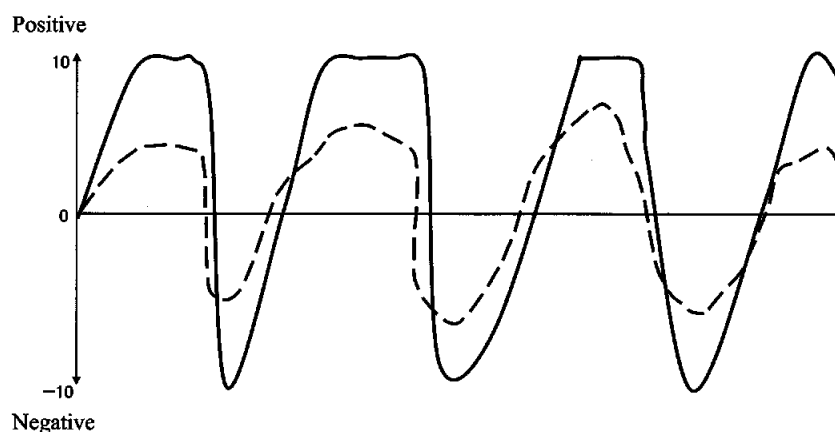
(ii) Small Wave Pattern

As shown by the dotted line in Figure 2, a cycle consisting of positive and negative emotions repeats, with smaller amplitudes. The scores for positive emotions never reach the maximum, and those of negative emotions never reach the minimum. The small wave patterns were observed in six participants (A, B, C, D, F, and G). The pattern of Participant G is illustrated in Figure 3.



(solid line : large wave pattern, dotted line : small wave pattern)

Figure 2 Occurrences of positive and negative emotions with a two wave pattern



(solid line : large wave pattern, dotted line : small wave pattern)

Figure 3 Temporal changes in emotions of Participants G and E

(2) Common patterns in emotional changes

1) Repetition of positive and negative periods

Corresponding to the infertility treatment cycle, participants generally have positive feelings until oocyte collection, and “feel depressed” when they menstruate, switching to a negative emotional state.

2) Emotional transitions to a negative state occur quickly, while transitions to a positive state take about one week. The start of menstruation confirms the failure of treatment, and participants are hit by depression. The participants’ negative thoughts continue with the news of other women’s pregnancy and childbirth, but a transition to positive thoughts occurs when the next treatment cycle starts.

(3) Beliefs of infertile women

An infertile woman in general has a firm belief that they can have a family with a husband and child, and factors supporting the belief were their faith in the possibility that their body is healthy enough to get pregnant, and their strong desire to have a baby for their husband.

In contrast, some participants had beliefs influenced by socio-cultural viewpoints that, for example, they need to bear a child “to realize their value as a wife”.

Participant D said “my husband desperately wants a child, and so do I.” She was concerned about the financial implications and had some doubts about the likelihood of becoming pregnant, but said, “I can picture myself and my husband raising a child.” She has faith in her ability to bear a child, and has not thought of discontinuing the treatment.

She is continuing treatment toward the final purpose of pregnancy and childbirth.

Participant F: She “doesn’t like children very much”, but believes that she “needs to give birth to a child to prove her value as a wife.” She said that “if she does not bear a child, she cannot be considered as a member of the family”, and “having a child is the only way she can find the meaning of her being in the family.”

5. Discussion

(1) Stories of women with infertility experience

The participants were going through treatment hoping for pregnancy but, at the same time, were aware of the limitations of the treatment. Their emotional cycle coincided with the treatment cycle, in which they experienced hope and grief repeatedly like a rollercoaster ride. They coped with the situation by finding something to believe in that can ease their pain. Their narratives suggest that they were coping with the agonizing situations by themselves by following their individual beliefs.

Some of the participants shared the same feeling that, even if they cannot get pregnant, they have no regret because they pushed themselves to the limit and tried everything they could. They seem to have developed self-confidence from enduring numerous treatments and tests, and were determined to go through external insemination, the final treatment method. Mori (1996) reported that “some women attached positive meaning to infertility experience rather than responding to it negatively”. This study also found that some women were coping with the situation by shifting the focus of their attention

from negative feelings that repeat during treatment to something other than infertility.

(2) Changes between positive and negative feelings about pregnancy

All of the participants repeatedly experienced an emotional cycle in which positive and negative emotions occur, with the cycle coinciding with the treatment cycle. There were common characteristics in the emotional cycle among participants; there are two emotional states, and the amplitude of this emotional cycle was common among most of the participants.

The wave patterns of the emotional cycle vary among the participants. A participant reached the highest positive feelings and lowest negative feelings from the beginning. Some reached the maximum levels gradually during treatment, with different emotions occurring in small steps as they compared the results of their oocyte collection to past results. Participant E experienced a large wave pattern, and the other six participants experienced small wave patterns. The six participants experienced small-wave patterns partly because their jobs might have distracted them from overly focusing on treatment. A common factor among all the participants was alternately repeated emotional ups and downs that correspond to their treatment cycles. In addition, they stated that their negative feelings grew when they were about to find out the results of the treatment. This is similar to the report that "it is before the pregnancy test that fertile women feel most anxious and need emotional support". The participants become depressed when they menstruate, and they experience a positive emotional transition over a week after they were informed about the plan for the next treatment, reflecting their desire to become pregnant. The negative emotional state tends to be prolonged due to the pregnancy or childbirth of other women.

It is, therefore, important to provide care during not only the treatment period but also the period following menstruation to the next treatment by assessing if the patient is exposed to any negative influence.

(3) Beliefs of infertile women and future care

Aside from the original treatment objective, some participants have come to realize what it means to them to bear a child or not to bear one, while some repeatedly experienced feelings of grief. The difference may depend on the belief that women have nurtured over the course of

their lives. Therefore, it is necessary to provide a place where infertile women can talk to each other freely so that they can make life choices without social interference.

Kato (2005) stated that, to an infertile woman, "repeating treatment with conviction to fulfill her role is a way of self-approval in which she tries to live a life worthwhile to her". The study also concluded that women find a meaning in their infertile experience.

The purpose of care for infertile women is not necessarily pregnancy per se. Instead, the process of going through infertility experience should be considered valuable. By aiming to attach a positive meaning to stressful infertile experience, medical practitioners could derive new beliefs from infertility experience. Looking back at their own infertile experience, some participants came to accept the realization that they might not be able to become pregnant, and others believed that in vitro fertilization would be successful and be able to help them achieve a family with a child. In the latter, the supporting factors were their belief that they are physically capable of becoming pregnant, and their strong desire to have a child for their husband. They also had a belief that a true family must include a child, and were determined to continue treatment no matter how much physical or emotional pain they suffer.

Lorraine M. W. stated that "healing begins when patients discuss their experience of their diseases as witnesses to each other, recognizing and reducing pain and grief." Yoshimura (2004) stated that "narratives are a type of nursing care which improve patients' quality of life, change stories with negative thoughts to those with positive ones, and promote self-determination." Since some participants do not have an opportunity to talk about their experience and express their feelings, this type of care offers the patients opportunities to look at themselves objectively and think from different viewpoints about the meaning of infertility and the reason for their desire to have a child.

The narratives suggested that some participants have come to understand the meaning of their marriage by having a child, consider it a mission to bear a child for their husbands, and place their last glimmer of hope on treatment. They were undergoing repeated treatment for infertility in a desperate situation; they constantly worried about the cost of treatment and time left for them to still get pregnant. However, some made remarks that suggest their expectation for

pregnancy. For example, after eight cycles of in vitro fertilization, one participant said that “the doctor is trying various methods, so I’m thinking of doing whatever he suggests. When their efforts toward becoming pregnant failed, they could not find an outlet for their grief. Throughout each treatment cycle, they experienced emotional ups and downs. Despite such difficulties, they managed to find ways to recover from grief and distress.

To help women undergoing infertility treatment find values even in their agonizing experience, caretakers need to understand the sources of their suffering and provide appropriate care.

6. Limitation and Outlook of the Research

The results of this study have limitations regarding generality as we interviewed only seven females in K Prefecture. We plan to continue our efforts to improve the study. Tsuruwaka (2013) stated that “from narratives, caregivers can clarify stories and senses of values of people involved, while the subliminal consciousness of the caregivers themselves also becomes exposed in the process”, and Yamanak (2014) stated in her recent paper that “when nursing experiences are seen from the viewpoints of relevance such as thematic relevance, analytical relevance, and motivational relevance, the standpoint of the caregiver becomes clear”. We will continue to investigate the meaning of nursing care in the future.

7. Conclusions

(1) Stories of infertile women

Infertile women experienced positive changes in emotions and awareness when they benefitted from pushing themselves to the limit (in terms of treatment), and realized the limitation of treatments. On the other hand, women experienced negative emotional changes when they were forced to face the reality of not being able to conceive. The factors leading to causing positive emotions were support from the husband, other family members, and friends as well as the perceived possibility of pregnancy. The factor causing negative emotions was uncertainty of whether they would ever become pregnant.

(2) Temporal changes in emotions

Common characteristics of emotional changes among infertile women are: (1) repetition of a cycle comprising a period of positive thinking and that of negative thinking; (2) the timing of positive

and negative emotions coinciding with the treatment cycle. Positive emotions and feelings arise during the period preceding ovulation, and negative emotions, such as “depression”, sets in when they menstruate. There were two patterns in cycles of positive and negative feelings. An infertile woman experienced a full-range cycle (large wave pattern) with maximum positive and negative emotional states from the start, and others had cycles with small amplitudes (small wave pattern).

(3) Beliefs of infertile women

The women undergoing successful in vitro fertilization had a strong belief that they will have a child some day. Their beliefs are based on their confidence that they are physically equipped to become pregnant, and their conviction that they want to give birth to a baby for her husband. Some of them have blindly accepted the social norm that women have to bear a child after getting married. Others had the belief that a family is completed by having a child, and no matter how hard it may be, a woman should continue infertility treatment.

Proposals

Caretakers should understand the emotional variations of infertile women and listen to their stories, sympathize with their painful experiences, and help them discover wisdoms from the experiences, in order to lead them forward positive thinking.

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