



Psychological Adaptation to Transplanted Organ: A Hermeneutic Phenomenological Study

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Received 2021 January 22; Revised 2021 March 30; Accepted 2021 May 15.

Abstract

Background: While organ transplantation is a common surgical procedure worldwide, it is yet well-examined how the recipients of newly-transplanted organs adapt and accept a new organ from another body. Adaptation and acceptance of a vital organ from another person is a complex phenomenon, and medical staff needs to delve into this issue to provide appropriate care.

Objectives: The present study aimed to explore the transplant recipients' experiences of adaptation to the transplanted organ.

Method: A qualitative research design with a hermeneutic phenomenological approach was adopted in this study. In-depth unstructured interviews were conducted by one of the authors (Z.S.) in different locations across Iran. The purposive sampling method was used to select 20 transplant recipients (n = 4 kidney transplantation; n = 10 heart transplantation; n = 4 liver transplantations; and n = 2 blood transfusion).

Results: The constitutive pattern emerged from the data was 'Psychological adaptation to transplanted organ', with three themes (namely 'Alien organ,' 'Ensure of being the patch of togetherness,' and 'Durability of new organ in body') and several sub-themes.

Conclusions: According to the organ recipients' experiences, it takes time for the recipients to accept another person's organ as their own. The transplant team members need to openly and proactively discuss the many psychological and spiritual issues to which the newly-transplanted organ recipients are exposed to facilitate the adaptation and acceptance of the new organs.

Keywords: Adaptation, Hermeneutic, Organ Transplantation, Phenomenology, Psychology

1. Background

Nowadays, more than one million persons worldwide benefit from organ transplantation treatment, the survival rate for some of whom is over 25 years. In this regard, the 5-year survival rate for most transplanted organs exceeds 70% (1). A review of the relevant literature indicates that patients acquire different experiences during the post-transplantation period. The transplantation process challenges survival, thus making individuals accept the changes and live with them. Before transplantation, they struggle to survive as long as a new organ is found. After transplantation, the recipients keep struggling to save the transplanted organ (2).

In the organ transplantation process, the organ of a person who has irrecoverable organ failure is replaced by another person's organ, thereby making the recipient to take immunosuppressive drugs (3). In other words, there

is a challenge between donor organs and the recipient (4-7).

Living with the donated organ increases clinical complications, including surgical issues and rejection episodes (7-9). Organ recipients need to adapt to the concept of transplantation. Meanwhile, factors such as the type of the received organ, the status of the donor (alive or dead), relationship with the donor, organ donation procedure, medical condition, emotional problems, and threats to integrity would affect their adaptation (5, 6). Transplant specialists believe that transplant rejection is partly associated with the physiological rejection of the transplanted organ (5, 6).

Some studies have revealed that the psychological issues affect individuals' recovery process (10-12). According to some evidence of clinical research and experiences, the transplanted organ as an external object may cause inter-

nal psychological conflicts (13, 14).

2. Objectives

A review of the literature also indicated few studies addressing how patients come up with the transplanted organ. The issue is less researched in most countries, including Iran, with its different culture dealing with life and death. To the best knowledge of the researchers, no study in Iran has addressed psychological adaptation to the new organ. Accordingly, this phenomenological study was to explore the Iranian organ recipients' experiences about the presence of the transplanted organ in their bodies.

3. Methods

3.1. Participants

This study adopted a hermeneutic phenomenological approach to gain a deep insight into post-transplant experiences to answer the following research question: "What is your experience of transplantation and your new organ?". After obtaining approval from the Ethics Committee, the participants were provided with the required information individually in a face-to-face meeting. The purposive sampling method was used to select the participants. Table 1 shows the participants' demographic characteristics.

3.2. Data Collection and Analysis

In this study, 20 deep and unstructured interviews were conducted from 2018 to 2019. The interviews stopped when data saturation was reached, and a detailed description of the common meaning of transplantation was obtained. The duration of interviews remarkably varied, with 15 and 120 minutes as the minimum and maximum durations for the participants with rich experiences about organ transplantation and those being less enthusiastic about the operation outcomes, respectively. The transcription of the interviews made the extraction of otherwise hidden thoughts and feelings possible.

The interviews were conducted in Turkish and Persian by one of the researchers, who was competent in both languages. The Turkish interviews were translated to Persian during the transcription procedure. Since hermeneutic phenomenology is concerned with how people express themselves, meanings can be extracted from individuals' expressions and words. During the verbatim transcription of the interviews, the focus was on the content. Each participant was identified by a number. It is worth noting that, the interviewers' mood and emotions, including sadness, happiness, or silence, were also recorded to reflect the depth of the participant's senses.

3.3. Data Analysis

Diekelmann and Ironside (15) outlined a seven-step data analysis process for the phenomenological studies. Regarding the individualistic nature of hermeneutic phenomenology, each interview was read separately, and the meaning(s) were then extracted (16). To this end, after transcribing each interview, a hard copy of the transcript was provided and then read several times to reach an appropriate overall impression. Then, those parts, which seemed to be important and reflect the participants' experiences, were underlined, and the researchers' comments on their experiences were written down in the margins. After reaching a comprehensive understanding of the interview data, the underlined parts were coded, and the themes were extracted. At this stage, the themes represented the participants' words and thoughts and the researchers' interpretations. Following the paper analysis, the interview texts were imported into the computer, and the codes were written as comments in the margin of the text. When the preliminary codes were detected, a four-column table was drawn. Starting on the far left, there were the participants' experiences, extracted codes, sub-themes, and the main themes in the first, second, third, and fourth columns, respectively. Next, similar codes were written together in one column, and a sub-theme reflecting the contents of the text and the corresponding codes was then developed for each column. Finally, the similar sub-themes were merged, and a theme was introduced. After detecting the extracted themes, an interpretive summary, which reflected the extracted themes, was written down for each interview to be used in this study. Descriptive statistics (i.e., frequency, percentage, mean, median, standard deviation, minimum, and maximum) were used to describe the data by using SPSS software version 22.

3.4. Ethical Approval and Consent to Participate

The study was approved by the Ethics Committee of the Tabriz University of Medical Sciences, Tabriz, Iran (Code: TBZMED.REC.167.2018). The participants were informed of the study's objective and the voluntary nature of their participation. They were also ensured that they could withdraw from the study at any time they wished. Verbal and written information about the study was provided to each participant before obtaining their informed consent and permission to tape-record the interviews.

4. Results

4.1. Constitutive Pattern: 'Psychological Adaptation to Transplanted Organ'

The constitutive pattern was derived from the three themes (namely 'Alien organ,' 'Ensure of being the patch

Table 1. Demographic Characteristics of Participants (n = 20)

NO.	Age (y)	Gender	Level of Education	Occupation	Marital Status	Location	Type of Transplant	Time Elapsed After Transplantation
1	49	Female	Associate degree	Housewife	Married	Tabriz	Liver	8 years
2	57	Female	Diploma	Housewife	Married	Tabriz	Liver	2 years and 6 months
3	46	Male	Master degree	Employee	Married	Tabriz	Liver	1 year
4	42	Male	Fifth grade	Self-employed	Married	Osku	Heart	3 years and 6 months
5	63	Female	Illiterate	Housewife	Married	Tabriz	Blood transfusion	1 year
6	57	Male	Third grade	Self-employed	Married	Tehran	Heart	1 year and 4 months
7	57	Male	Diploma	Self-employed (market)	Married	Karaj	Heart	5 years
8	53	Male	Fifth grade	Self-employed (driver)	Married	Tehran	Heart	5 years and 6 months
9	55	Female	Diploma	Housewife	Married	Azarshahr	Kidney	5 years and 3 months
10	34	Female	Illiterate	Housewife	Single	Kaleybar	Kidney	9 months
11	34	Female	Diploma	Housewife	Married	Tabriz	Kidney	The first one is 12 years and the second one is 4 months
12	27	Female	Diploma	Housewife	Married	Bojnord	Heart	1 year
13	68	Male	Sixth grade	Industrial	Married	Sari	Heart	3 years and 6 months
14	29	Female	Diploma	Housewife	Married	Tehran	Heart	2 years and 3 months
15	40	Male	Fifth grade	Self-employed	Married	Gilan	Heart	2 years and 6 months
16	32	Male	Associate degree	Self-employed	Married	Gilan	Heart	3 years and 10 months
17	28	Male	Diploma	Self-employed	Married	Tabriz	Kidney	2 years and 3 months
18	30	Male	Diploma	Self-employed	Married	Tabriz	Liver	6 years
19	55	Male	Diploma	Self-employed	Married	Tabriz	Heart	3 years
20	51	Female	Elementary	Housewife	Married	Tabriz	Blood transfusion	3 years
Total	Mean \pm SD: 45.35 \pm 12.85; Median (min-max): 47.50 (27 - 68)	Male: 11 (55%); Female: 9 (45%)	Under-diploma: 8 (40%); Diploma: 9 (45%); Upper-diploma: 3 (5%)	Housewife: 9 (45%); Self-employed: 10 (50%); Employee: 1 (5%)	Married: 19 (95%); Single: 1 (5%)	-	Heart: 10 (50%); Kidney: 4 (20%); Liver: 4 (20%); Blood transfusion: 2 (10%)	Mean \pm SD: 44.10 \pm 33.71 (mo); Median (min-max): 36 (9-148) (mo)

of togetherness,' and 'Durability of new organ in body') and their sub-themes. The findings revealed that the organ transplant recipients go through a multi-step process to adapt to the new organ.

4.1.1. Theme 1: 'Alien Organ'

The semantic units derived from this theme were as follows: A sense of alienation from the organ, temporary

organ, feeling the organ as an outsider, a sense of non-ownership to the organ, mental rejection of the organ, and so on.

4.1.1.1. Sub-theme 1: Organ as Stepchild in Body

The recipients of the transplanted organ assumed that the organ was alien to their body, that the new organ was stitched and patched to their bodies by force, and that the

new organ belonged to another person. The organ donated by an opposite gender aroused the sense of non-ownership among the organ recipients.

- "It seems as if one pear was transplanted to one apple." (Interviewer No. 8)

One of the participants who strongly had the sense of alienation stated,

- "You know there's a stranger in your body, when you keep moving, the site of the stitches starts burning. When it is started, I think that it is something stitched to my body by force....., and every time I breathe and feel burning in my body, I feel it's not mine." (Interviewer No. 1)

Another participant described the transplanted organ as a patch sewn to his/her body:

- "I think that a stranger's organ is patched to my body. The patch sewn to my body by stitches." (Interviewer No. 3)

Meanwhile, for the participants influenced by culture and religion, the transplanted organ from an opposite gender or an addicted/alcoholic person further intensified the sense of non-ownership.

A participant with the kidney transplantation for the second time noted,

- "I also said in my first transplantation that the donor should be a woman, and I don't want a kidney from a man, I had a creepy feeling in my whole body. For the second time, I was thinking the same way. I said again that the organ was also from an opposing gender and that the kidney is was an opposing gender as well. This made me feel bad..." (Interviewer No. 11)

4.1.1.2. Sub-theme 2: Unaccepted Organ

The participants stated that they need to take immunosuppressive drugs to prevent organ transplant rejection. They also have many restrictions imposed on their lives following the transplantation process. Accordingly, this issue made the transplanted organ not to be accepted as a member of his/her body.

- "In my opinion, since my body doesn't accept the organ, my mind doesn't accept it either, or it may be because of the drugs I use. I think if the body had accepted it, the doctors wouldn't prescribe the drugs anymore. They weaken the immune system to prevent its attack on the new organ. Or it's because of such thoughts that I consider it as a temporary organ." (Interviewer No.1)

Some other participants referred to limitations as a reason for the non-acceptance of the organ as their own organ:

- "...Sometimes when they remind me at home not to jump up and down since it may be detached, or when they tell me not to dive too much into the water since the organ may be suddenly detached, then I remember that the organ belongs to someone else." (Interviewer No. 3)

Furthermore, the participants cannot accept the organ in their body due to the death of the donor:

- "But at first, I couldn't cope with the organ. I thought that a person died to give me another life." (Interviewer No. 1)

Another participant said,

- "They give me another person's heart, it influenced my spirit ..." (Interviewer No. 6)

4.1.1.3. Sub-theme 3: Likelihood of Organ Rejection at any Time

One of the main concerns among the participants in the post-transplant period was transplant rejection. Since the participants did not consider the organ as if it belonged to them and were alien, transplant rejection was also more likely.

- "When they wanted to pull me out of the bed, I felt that the organ would be detached from my body and fall down on the floor." (Interviewer No. 2)

4.1.2. Theme 2: 'Ensure of Matching His/Her Characteristics with Donor's Ones'

Regarding the second theme, the semantic units were as follows: Attempts to know the donor; attempts to recognize the donor and his/her family's characteristics to match with their characteristics, a sense of closeness of thoughts and behaviors to that of the donor, the significance of the donor's personality and religious belief, the donor's gender, and the donor's age, etc.

4.1.2.1. Sub-theme 1: Identification of the Donor

After receiving the organ, the participants felt that the organ was alien and like a sewn patch in their body. To eliminate such a feeling and spare efforts to accept the organ in their body, they sought to know the donor. Meanwhile, the donor's family was the first source, from whom they could get information about the donor. This had made them communicate with the donor's family and inquire about the donor's characteristics.

- "It was very important to me to know who the donor was, whether he was a man or a woman, and how old he/she was. So I told my husband to go and ask and see who the donor was. Upon our several requests, they told us about him." (Interviewer No. 2)

- "..... I have said that it is alien and finally will fail." (Interviewer No. 11)

Other participants believed that adverse events (e.g., infection) were likely to affect the new organ at any moment.

- "Every time I go to the doctor, I'm afraid of organ rejection, I am always afraid of infection, or something else that would happen." (Interviewer No. 1)

- "My mind is always obsessed with kidney. When I have diarrhea or vomit, I soon get stressed out, and my hands start shaking. When I think of the new organ, I think of the kidney being still alive or not. When one of the organs of my body hurts, I worry soon because the donor entrusted his organ to me and it's not mine. To me, it seems as if my neighbor entrusted something to me and reminded me to take care of it and be cautious. It is like the situation in which someone tells you I'm going to go somewhere, please keep this thing, and I'll come and get it back." (Interviewer No. 10)

4.1.2.2. Sub-theme 2: Reflection of One's Beliefs in the Donor's Characteristics

If the recipients were aware of the donors' characteristics after transplantation, they tended to adopt and adapt their characteristics to those of the donors to ensure they had the same characteristics. The participants often looked for a donor with the same religion. If the received organ were from such a person, they were remarkably delighted. In this way, if there were a possibility for transferring the donor's characteristics to the recipient, they would ensure the transfer of good characteristics.

- "I really wanted the donor to have been a faithful and loyal person because I would become the same person as he/she was and I could benefit from his/her good behaviors..." (Interviewer No. 20)

4.1.2.3. Sub-theme 3: Feeling the Donor as a Doppelganger

After knowing the donor, the participants matched their characteristics with those of the donors, exploring how similar they might be together. If the participants had the same characteristics, including religious and moral values, they would feel satisfied. It appears that matching the recipient and the donor's characteristics is beneficial in accepting the organ and adapting to post-transplant disorders. If their characteristics were not the same, the organ would seem to suffer from acute rejection.

- "When I found it, I was thankful to God, and that day, I said in my lecture that F (the donor) and I were similar to each other. Our souls were connected." (Interviewer No. 3)

4.1.3. Theme 3: 'Durability of New Organ in Body.'

This theme consisted of the following semantic units: A sense of non-alienation to the organ after knowing the donor, feeling the organ as a part of one's body, a sense of liking the donor after knowing him/her, and thus a sense of absolute ownership of the organ, getting accustomed to the organ, and a sense of familiarity with the organ over time.

4.1.3.1. Sub-theme 1: Donor's Identity as the Guarantee of Survival

Recognizing and accepting the donor's characteristics would play a significant role in accepting the organ if the donor characteristics were acceptable to the recipient.

"When the donor is someone whose characteristics you like, you can like the donated organ as well and could accept it in your body easily. Now I have this feeling about F (donor). Before the liver transplantation, I thought when an organ is detached from a body, it's a corpse, it's unclean and impure, it's a dead organ, and it becomes fetid over time. I asked myself how my blood will circulate inside that organ. I feel as if the donor were someone else, I couldn't accept it, and my body would reject it over time since he is not satisfied with the deal anymore!" (Interviewer No. 3)

Another participant also stated that after knowing the donor, the organ was not alien to my body anymore: "You know there's an alien organ in your body. But after knowing that person, I didn't feel alienated. I felt as it was part of my body. Now I'm spiritually relaxed." (Interviewer No. 1)

4.1.3.2. Sub-theme 2: Adaptation to New Organ

After knowing the donors and recognizing and accepting their characteristics, the participants gradually accepted the organs and considered them as parts of their own body; hence, they got accustomed to the new condition. Moreover, the participants considered the passage of time to normalize the presence of the organ in their body.

"You know, I, as a muslim should observe a series of restraints against men, especially a stranger man. I said it came from his body and transplanted to my body, but after a while, I am telling myself that no, now it's mixed up with my blood vessels, and it clings to my veins." (Interviewer No. 11)

"But the new organ becomes normal anymore, and it's mine now, and I just think of its not being rejected by my body ... Now, thanks to God, everything is in the right place, as though it was not transplanted at all ..." (Interviewer No. 9)

Another participant said, "Now I feel it's mine, and I don't feel as it was transplanted." (Interviewer No. 19)

5. Discussion

5.1. Constitutive Pattern: 'Psychological Adaptation to Transplanted Organ'

Participants' transplantation experiences revealed that they were involved in the complex process of accepting the organ in their bodies. According to their

experiences, they sometimes considered the transplanted organ to be an insider organ in their body, and they had a sense of ownership for the organ. On the other hand, they sometimes considered it as an alien to their body, not in their possession, and assumed that it was likely to be rejected at any moment. So, they were mainly obsessed with the transplanted organ. Their experiences were discussed in the form of three themes: 'Alien organ,' 'Ensure of matching his/her characteristics with donor's ones,' and 'Durability of new organ in body.'

5.1.1. Theme 1: 'Alien Organ'

The participants stated that the transplanted organ was alone in their body and was an unfamiliar organ among their familiar organs; hence, it was difficult to be accepted. It seemed that participants' perceptions of the organ were influenced by their culture and religion, and these factors would consequently influence the sense of ownership of the organ. Regarding religion, for example, touching an opposing gender is not permitted in Islam.

In their study, Oliver et al. documented that religious beliefs are a major barrier to organ donation and even organ acceptance in the body (17). According to the findings of the other studies, the recipients preferred that the donor was a person from their gender, as it looked more natural in their view (11). In another study, Kaba et al. found out that the participants need to resolve the conflict between losing their organ and accepting the new organ from another dead person into the body (18). Stolf et al. also stated that organ recipients have difficulty coping with the transplanted organ and considered themselves to be impotent (19).

The organ recipients state that since the organ is not theirs and is borrowed from another body, it was being kept in trust within their bodies. Accordingly, they were constantly worried about any detachment or damage to the transplanted organ.

In contrast, the findings of Sanner's study showed that the recipients, when describing their experience of the transplanted organ, stated that they felt as if the organ was laughing in their body (11). The findings of other studies suggest that the participants have always been concerned with losing the organ (20-23). Tong et al. also indicated that worrying about organ rejection arouses a sense of uncertainty, anxiety, hopelessness, and depression in patients, and that they are worried about how long the organ is alive in their body. They also feel guilty about losing the donor's organ. These concerns have led some patients to think of committing suicide (24).

5.1.2. Theme 2: 'Ensure of Matching His/Her Characteristics with Donor's Ones'

After receiving the organ, the participants seek to know the donor to accept the organ in their body as such, they communicate with the donor's family to better know their donor. They appear to be looking for the donor's characteristics to adapt to their own beliefs. For example, they like a young (faithful) and religious donor, who observes ethical principles, is a well-born person and has no alcohol and drug use history. From their religious and cultural perspective, those who are religious are more likely to believe that the donor's organ affects their bodies and becomes divine. Moreover, since the likelihood of using drugs and alcohol in these individuals is low, the recipients ensure that the transplanted organ is healthy from different respects.

According to Almasi Hashiani et al., although the donors' gender does not have a significant relationship with the survival of the organ, the donor's age has a significant effect on organ maintenance (25). Therefore, the organ recipients express their concerns about the survival of the organ when knowing the donor and ensuring that he/she is young. Forsberg et al. also suggested that although the participants do not know the donor, they think about the gender and age of the donor, and this would significantly affect the outcomes (26). In a study, the participants also stated that they were happy to have relationship with the donor's family and would like to know the donor, and that they wanted to know whether the donor was a woman or a man (27). In Sanner's study, the recipients were reluctant to know the donor during the first six months because they thought that knowing the donor would cause the body to reject the transplanted organ. However, after six months and in the subsequent years, they tended to know the donor, even though there were still concerns about the rejection of the transplanted organ (11).

5.1.3. Theme 3: 'Durability of New Organ in Body'

The participants recognized the donor's characteristics, adapted them to their own, and ensured that they had the accepted characteristics. They accepted the presence of the organ in their body over time and became accustomed to the organ. However, it should be noted that this does not imply the unconditional acceptance of the organ. In a study by Tayebi and Abedi (28), the findings also revealed that the organ recipients get used to the organ and get accustomed to it over time as such, they accept it in their bodies.

5.2. Conclusions

Most of the studies on organ transplantation have examined the physical problems of the recipients; however,

the psychological problems have been ignored by medical staff. This study's novelty is that the participants' psychological adaptation to the new organ depended on how they felt the new organ. This study concluded that organ recipients struggle with a new organ in their bodies. The finding showed that, after physical recovery, it lasted one year after transplantation to accept the organ in their bodies. The acceptance of the organ in their bodies was associated with a better sense of well-being and improved quality of life. The present study indicated that these patients need help after transplantation to better adapt to the new organ. This is currently ignored in our post-transplantation caring. Health care team members should be aware of these feelings and plan to help patients cope with a new organ in their bodies.

5.3. Limitations

This study has the following limitations: (1) All patients were Muslim and Shia, (2) Most of the participants were Turkish- Azari, and (3) The interviewer was a woman.

Acknowledgments

The authors would like to express their sincere gratitude to the participants for their participation in the research process.

Footnotes

Authors' Contribution: Selection of title: S. Z., Z. V., and B. L.; Design of the study: S. Z., Z. V., and B. L.; Obtaining ethical code: S. Z., and Z. V.; Designing the interview questions: S. Z., Z. V., and B. L.; Conducting interviews and transcribing them: S. Z.; Reviewing the interview text: Z. V., B. L., and V. L.; Interpreting the data: S. Z., Z. V., B. L., and V. L.; Statistical analysis: V. L. Drafting the study: S. Z., L.S., and V. L.; Tabulating the data: S. Z., and V. L.; Editing the study: L. S., S. Z., Z. V., B. L., and V. L. All authors read and approved the manuscript.

Conflict of Interests: The authors declare that they have no conflict of interests.

Ethical Approval: The study was approved by the Ethics Committee of the Tabriz University of Medical Sciences, Tabriz, Iran (Code: TBZMED.REC.167.2018).

Funding/Support: None.

Informed Consent: Verbal and written information about the study objectives and procedures was provided to each participant before obtaining their informed consent and permission to tape-record the interviews.

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