



Quality of Life of Patients with Cancer Undergoing Hematopoietic Stem Cell Transplantation in Taiwan: A Qualitative Study

臺灣癌症病患行造血幹細胞移植之生活品質：質性研究

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摘要

Purpose: The purpose of this study was to understand the perspectives of quality of life (QOL) in patients with cancer undergoing hematopoietic stem cell transplantation (HSCT) within 6 months after the transplantation in Taiwan. **Methods:** A longitudinal qualitative design using grounded theory method with in-depth interviews was conducted to understand the perspective of QOL in patients at three different phases after the HSCT: pre-discharge, 3-month and 6-month post-transplantation. Theoretical sampling was used to enroll the participants at the division of hematology and oncology in a medical center in central Taiwan. **Results:** Twenty-seven Taiwanese patients aged 21 to 59 years were interviewed. Under the comparative analysis, a framework of the process of “moving forward with symptoms distress and worry of recurrence” developed from the data. The interview results showed that the QOL of the patients undergoing HSCT experienced three phases of changes, which were initial hardship, waiting, and stabilization of life. Symptom distress, psychological concern, support and power source and perception of life were the four themes woven throughout the phases of changes for quality of life among patients undergoing the transplantation. **Conclusions:** Professional nurses can teach patients to actively seek for resources, propose the problems on their mind, and help them clarify such problems, and assist them to maintain positive beliefs to face life. It is also important to involve family members and the patient’s religious beliefs in the care of individuals undergoing HSCT. **Relevance to clinical practice:** The results of this study could be provided as a reference for professional oncology medical and nursing professionals to improve the quality of care for patients.

Keywords: Hematopoietic Stem Cell Transplantation, Quality of life, Qualitative study

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Introduction

For some patients with hemopoietic malignancies, hematopoietic stem cell transplantation (HSCT) is a complex treatment that offers the possibility of long-term disease-free survival or potential cure (Passweg et al., 2012). However, during transplantation, patients will suffer from a high level of symptom distress caused by the side effects of treatment, which not only affect their physiological functions but also impact their psychological, social, family functions, and quality of life (Braamse et al., 2014; King & Hinds, 2011).

Increasing importance has been attached to the concept of quality of life by medical experts and scholars of various fields, the improvement of personal quality of life has become the most important issue in the medical care field (Ovayolu, Ovayolu, Kaplan, Pehlivan, & Karadag, 2013). More and more studies used longitudinal methods to investigate quality of life followed by HSCT. Scholars have suggested that it is important and valuable to investigate the changes in quality of life at different time points (King & Hinds, 2011).

After transplantation, HSCT patients' physical functioning and physical activity levels declines after transplantation, reaching a lowest level at 30 to 100 days (Cohen et al., 2012; Hung et al., 2013). Emotional functioning for survivors is most compromised before transplantation and immediately after (Bevans, Marden, & Leidy, 2006), with significant improvements seen as early as hospital discharge to 100 days (Bevans et al., 2006; Schulz-Kindermann, Mehnert, & Scherwath, 2007). The studies by Hjermstad et al. (1999) and McQuellon et al. (1998) indicated that social functioning will be restored one year after transplantation, the improvement is significant at year three. Between year one to year four, the social functioning continuously improves. Hjermstad et al. (2004) found that role functioning is immediately decline after the transplantation, that it gradually improves

over time, and has returned to baseline levels one year after transplantation. Frödin et al. (2015) indicated that functional status and global quality of life decreased from baseline to weeks 2 and 3, especially role and social functions. It took at least 1 year for HRQL to return to the baseline level.

Although many studies explore quality of life related to HSCT at one year after transplantation, but few address its impact during and immediately after hospitalization (dos Santos, Sawada, & dos Santos, 2011). Some studies reported that the changes during the first six months after transplantation are the most significant (Bevans et al., 2006; Sirilla & Overcash, 2013).

Scholars have suggested that during the investigation on health-related quality of life, it is necessary to take into account individuals' experiences (Chauhan & Eppard, 2005). There is an urgent need to assess the quality of life of patients undergoing HSCT from the patients' subjective and multidimensional perspectives, in order to improve the quality of nursing care. Qualitative studies used to understand the quality of life of patients at each phase of the transplantation are likely to obtain abundant and complete information. Hu (2004) indicated that culture can determine the long-lasting life of a group of people and create positive senses of their lives, suggesting that life is certainly associated with culture. According to the review of past literatures, there is a significant lack of studies in this issue. Therefore, it is necessary to understand the meaning of quality of life in patients undergoing transplantation. In addition, the comprehensive literature found that patient's quality of life were most pronounced at three different phases: pre-discharge, 3-month post-transplantation, and 6-month post-transplantation. The purpose of this study was to understand the perspectives of quality of life in patients with cancer undergoing HSCT within six months after the transplantation in Taiwan.



Methods

Study design

Strauss and Corbin's grounded theory was the qualitative design chosen for this study. This approach involves fully structured coding, memoing and analysis that describes the procedures of open, axial and selected coding (Streubert & Carpenter, 2011). Grounded theory emphasizes the necessity of garnering participants' viewpoints to understand interactions, processes, and social change (Strauss & Corbin, 1990). In Taiwan, there is limited research about the quality of life of patients with cancer undergoing HSCT within six months after the transplantation. A grounded theory research design was used to understand these patients' perspectives of quality of life in patients at three different phases: pre-discharge, 3-month post-transplantation, and 6-month post-transplantation. The foundations of grounded theory are embedded in symbolic interactionism; this approach is concerned with the meaning of events or perceived reality and the ways in which people act in relation to the significance or meaning of those events (Corbin & Strauss, 2008).

Setting and samples

The participants were drawn from patients at a teaching hospital in central Taiwan from August 2012 to July 2013. For this study, the participants were all had been diagnosed with hematological malignancies and had undergone autograft or allograft. We used theoretical sampling to select participants who: (1) aged 20 and above; (2) diagnosed with hematological malignancy; (3) underwent peripheral hematopoietic stem cell transplantation, including autograft and allograft; (4) had no cognitive impairment; (5) could communicate clearly in Mandarin or Taiwanese; and (6) consented to participate in this study. Patients were excluded if they had any medical condition that precluded participation in an interview session lasting 30 minutes.

Data Collection and Analysis

The interviews conducted by the first

author and lasted approximately 50–70 minutes each. The interview guidance content included the following questions:

1. Please talk about your experience for the hematopoietic stem cell transplant.
2. What was the most impressive experience during this transplant process?
3. Are you satisfied with your current physical condition? How about your current mood?
4. Are you satisfied with the current situation with your family and friends?
5. What do you think of the quality of life now?
6. What are the conditions that affect your quality of life during the transplant process? How do you deal with it?

They were audiotaped with the participant's permission, and the recordings were transcribed verbatim immediately after the interviews. Data collection ended when saturation was achieved, that is, when no new themes emerged from the participants' narratives, and the data were becoming repetitious.

At the beginning, the researchers recruit and interviewed 5 participants based on the sampling criteria. Following these initial interviews in a grounded theory study, the researchers analyzed these data. Based on the results from this round of data analysis, the researchers then identified more participants to interview. The researchers conducted interviews with those newly selected participants and then analyzed them. They continued moving back and forth between sampling, data collection, and analysis, until reached data saturation.

The data were transcribed verbatim and then read and reread by the authors to gain familiarity while interesting points and ideas were recorded. The emergent themes were then noted, taking into account the original ideas generated, recording all potential themes at this stage. The next stage involved looking for connections between clusters of themes, and existing themes were also modified, developed, and combined to create categories. When this process had been completed for each

transcript, the themes were integrated across participants to capture the participants' shared experiences, and themes were written and rewritten to develop the interpretation.

Trustworthiness

Trustworthiness of data was established by means of the criteria established by Lincoln and Guba (1985), including credibility, transferability, dependability, and confirmability. The first author, with doctoral degree in nursing, has been trained in qualitative interviewing, and has worked in an oncology unit for more than ten years, conducted all the interviews to maintain the consistency of the interview process. In this study, the patients' oncologists introduced the author to potential participants so that they could get know each other and establish trust for the interview process. Each typed transcript was carefully checked by re-listening to the corresponding tape to ensure the accuracy of the transcript, and the use of controlling conditions and variations in the sampling analysis of a large volume of qualitative data established transferability. Dependability was validated by means of a peer review analysis process. Three researchers with doctoral studies training in cancer care and qualitative studies conducted a data analysis of the verbatim text and cross-examined the analysis results. The participants were also

invited to verify the results.

Ethical Considerations

Permission (DMR101-IRB1-168) for this study was obtained from the Research Committee at the teaching hospital. To protect the participants' rights and interests, we explained the purpose and procedures of the study in detail before the interviews, and the participants gave written informed consent. Participants had the right to request termination of the interview and to unconditionally destroy their interview records at any time. To protect the identity of the participants, the researchers used letters (A–V) instead of the participants' real names when presenting documents or reports related to this study, and data were encoded before storage.

Findings

There were a total of 27 Taiwanese patients aged 21 to 59 years diagnosed with acute myelogenous leukemia, acute lymphoblastic leukemia, chronic myelogenous leukemia, malignant lymphoma had participated in this study. A total of 10, 9 and 8 participants completed the interviews at three time point of before discharge, 3-month post-transplantation, and 6-month post-transplantation. A profile of the participants that were eventually recruited is shown in Table 1.

Table 1: Demographic data of the participants (n=27)

	Gender	Mean age (year)	Mean Time post-PBSCT	Diagnosis
Before discharge n=10	Male: 8 Female: 2	36.8 (23-51)	22.2 days (12-45 days)	AML (n=5) ALL (n=1)CML (n=1) Malignant lymphoma (n=3)
Post- PBSCT 3 months n=9	Male: 9 Female: 0	42.5(29-57)	3.3 months (3-4.5 months)	AML (n=5) ALL (n=1)CML (n=1) Malignant lym phoma (n=2).
Post- PBSCT 6 months n=8	Male: 6 Female: 2	33.1(21-59)	7.8 months (6-10 months)	AML (n=6) ALL (n=1) Malignant lymphoma (n=1)

peripheral blood stem cell transplantation (PBSCT), acute myelogenous leukemia (AML), acute lymphoblastic leukemia (ALL), chronic myelogenous leukemia (CML), malignant lymphoma



Under the comparative analysis, a framework of the process of “moving forward with symptoms distress and worry of recurrence” developed from the data. The interview results showed that the quality of life of the patients undergoing the transplantation experienced three phases of changes, which were (1) hardship at the beginning, (2) the waiting phase, and (3) stabilization of life. Symptom distress, psychological concern, support and power

source and perception of life were the four themes woven throughout the phases of changes for quality of life among patients undergoing the transplantation. Various thematic and categorical results were described, as shown in Fig. 1:

Symptom distress

During the acute phase of post-transplantation hospitalization, the patients suffered from symptom distress, those symptoms represented physiological

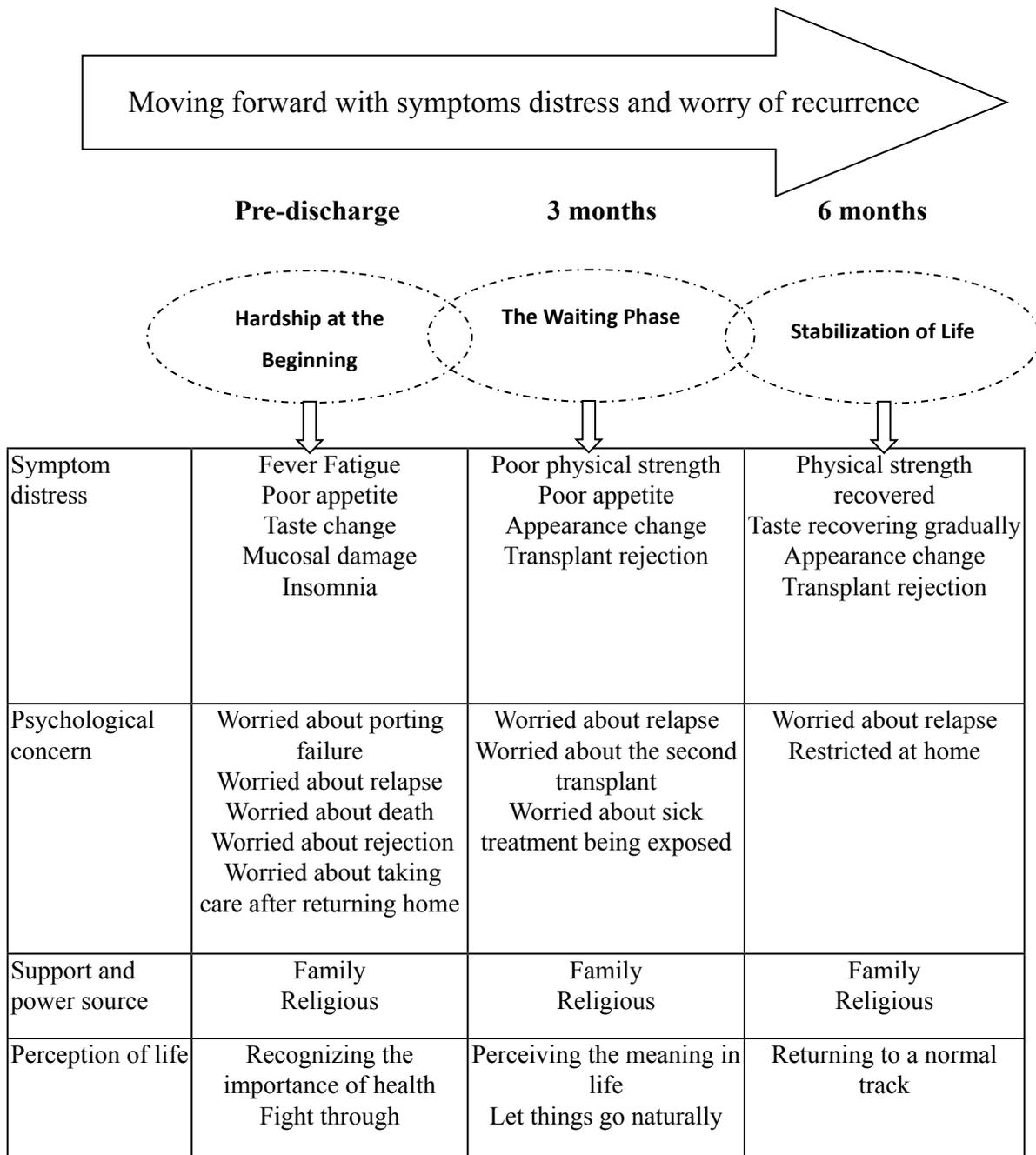


Fig. 1: Process of QOL for HSCT participants

suffering. The symptom burdens at the phase before discharge was most serious. The symptoms included fever, fatigue, lack of appetite, change of the sense of taste, mucosal damage, and difficulty in sleeping, which were serious problems to the patients. Such as, Mr. E stated: *"The most difficult part was at about 10 days after the chemotherapy. I would vomit and had a lack of appetite."* Mr. B said: *"My mouth hurt, and it was useless to rinse my mouth with narcotic mouthwash."* Ms. C responded: *"My throat hurt, and I could not sleep well."*

At 3 months after the transplantation, the patients returned home for home isolation. During this phase, their physical symptoms were much improved compared with those during hospitalization. Because they had not regained their sense of taste, they still had poor appetites. Problems caused by rejection and changes in appearance also occurred one by one, which continued to affect the patients' quality of life. Mr. O said: *"I had skin rashes...I experienced diarrhea and dehydration."* Mr. E stated: *"My body swelled because I took steroids. My skin color turned black. Anyone can tell that I am a patient."*

At month six after the transplantation, the patients' physiological functions were gradually restored to what they used to be before the treatment. However, rejection responses and changes in appearance still existed. Mr. U stated: *"I have no idea whether it was caused by steroids. I have more acne."* Ms. V stated: *"The rejection makes my palms and soles become barky, and impedes my hands and feet from moving flexibly."*

Psychological concern

From the psychological aspect, at the phase before discharge, the patients worried about the failure of the transplantation, recurrence, death, rejection, and medical care after discharge. For example, Mr. I stated: *"I was afraid that the transplantation would not succeed...I certainly do not want to come back to the hospital again."* Mr. H said: *"When the doctor said that I could leave the hospital, my wife and I*

were concerned about medical care after returning home."

The concern regarding recurrence was not reduced with the increase of time. At the phase of 3-month post transplantation, the patients even started to worry whether they would have to undergo a second transplantation. They still could not feel relieved. For example, Mr. F stated: *"I hope that I never experience any recurrence. It gives pressure to listen to the test reports."* Mr. N said: *"It is painful to undergo the transplantation. I will never undergo it again."*

Because they patients suspended their work for a period of time, they started worried about the economic. Some of them started to find the difficulty to return to work. Mr. F said: *"If there is no income, how can I bear the medical expenses?"* Mr. J said: *"I have not regained my physical strength, so it is difficult for me to resume my work."* In addition, the patients also worried that other people might learn of the fact that they suffered from illness. They worried that other people would view them as being useless, and thus they developed concerns regarding the disclosure of illness and treatment.

During the phase of 6-month post-transplantation, the patients still worried about recurrence, and their economic burdens extensively existed. They felt that they were trapped. As the patients' physical strength was gradually restored, they felt that their daily life was back on track, and they would start to prepare for returning to work. However, although they looked forward to returning to work, they worried about that they were incompetently a lot. For example, Ms. S stated: *"Six months have passed. I haven't worked. I feel that I am nonproductive."* Ms. V responded: *"I wish to go back to my work now."* Ms. S said: *"The doctor told me to change my job. But I have no idea what I can do... I feel a struggle."*

Support and power source

Participants expressed that although they simultaneously faced suffering, support



from family and religion continued provided them with positive power, during every phase including hospitalization, 3-month and 6-month post-transplantation. For example, Mr. A described at the time before discharge: *“My family’s support encourages me. I have to fight against cancer; otherwise I may die. I will never give up.”* Mr. D described at the phase of 3-month post-transplantation: *“I feel relieved through religious power and interactions with God.”* Ms. V said at 6-month post-transplantation: *“During the last six months after the transplantation, my family’s encouragement invisibly supported me.”*

Perception of life

Although the patients experienced a lot of physical and psychological suffering during the process for undergoing transplantation, they perceived the importance of health and the responsibility in taking care of families, and they decided to fight with cancer. For example, Mr. F said: *“I have family to take care of. I have to hang on no matter how difficult it is.”* at the time before discharge.

During the waiting phase, in the aspect of overall quality of life, Mr. J said: *“My satisfaction with life at most reaches the minimum edge now.”* The patients started to perceive the meaning of life, and they did not forced to have good result. They decided to let things go naturally. Such as Mr. I stated, *“I had very little time to spend with kids before. Now I have realized that we have limited time.”*

As a whole, the patients’ lives gradually returned to a normal track within six months after the transplantation. The patients started to prepare for returning to their past lifestyle, and they intended to regain their jobs or adjust their work. Because their lives were stabilized, their quality of life was also gradually improved. Mr. L stated: *“My life gradually returned to normal.”* Mr. U said: *“I feel that 90% of my health status has recovered. My life has also returned to normal.”* Ms. S said: *“I started to feel that I am as normal as other people.”*

Discussion

The interview results showed that the

quality of life of the patients undergoing the transplantation experienced three phases of changes, including hardship at the beginning, the waiting phase, and stabilization of life. Symptom distress, psychological concern, support and power source and perception of life were the four themes woven throughout the phases of changes for quality of life among patients undergoing the transplantation.

At the phase before discharge, the side effects of high doses of chemotherapy made the patients suffer from symptom distress. The most significant symptoms experienced by the patients enrolled in this study during hospitalization were fatigue, change of the sense of taste, mucosal damage, and difficulty sleeping. The results of the study by Ovayolu et al. (2013) showed that fatigue was assessed as the most strong and distressful symptom during the first month after HSCT. Cohen et al. (2012) showed that the patients’ sense of fatigue on day 100 after HSCT was still higher than baseline. Fatigue can significantly reduce quality of life. It may even become the cause of future employment difficulties.

The study by Anderson et al. (2007) on the symptom burden of patients undergoing autologous HSCT showed that mucositis-induced pain reached the highest in the acute phase after the transplantation. Nguyen et al. (2015) indicated the HSCT patients suffered changes to their oral and gastrointestinal tract mucosa, oral mucositis can result in significant morbidity. The appetites of the patients undergoing transplantation tended to be affected due to the change of taste. A study by Cohen et al. (2012) showed that lack of appetite is one of the top five severe symptoms of patients on day 100 after the transplantation. In terms of sleep problems, the study by Rischer et al. (2009) on the sleep disturbances of patients undergoing hematopoietic cell transplantation during the acute course found that the sleep problems were significantly worse during the hospital stay compared with the other measurement points in time.

At month three after HSCT, most of the

symptoms were gradually alleviated. The patients began to suffer from other problems formed with the increase of time, such as changes in their appearance caused by the side effects of the immunosuppressive drug, as well as rejection caused by acute and chronic graft-versus-host disease at various extents. The use of the cyclosporine can lead to significant pigmentation, hair growth, steroid-induced edema, thinning of the skin, acne, and moon face, which all are important factors affecting the changes in appearance. Lee (2011) showed that the high-dose corticosteroids commonly used to treat chronic graft-versus-host disease have a major impact on physical features and body image, which also reminded them of the severity of their illness. A study by Russell et al. (2010) also indicated that changes in appearance have a significant impact on patients' self-confidence. However, the need for protection and isolation makes them feel that it is a good approach to avoid the psychological distress caused by exposure to the public.

At month six after HSCT, most of the patients suggested they had gradually returned to a normal track. At this phase, the patients perceived that their symptom distress was gradually improved in the aspects of physical strength, appetite, and sleep. However, it is worth mentioning that the participants experienced chronic graft-versus-host disease. A longitudinal study by Lee et al. (2006) found that at month six after the transplantation, patients will start to experience graft-versus-host disease. Some of the participants in this study experienced symptoms such as dry eyes, skin rashes, and abnormal of the liver function. Some of them also experienced rejection responses, such as hardening of the skin, scaling, skin thickening, skin rashes, darkening, hardening or skin pain, which were extremely distressful.

According to the above studies, it is found out that patients experience different symptoms at different stages of transplantation. As the severity of symptoms increased, quality of life deteriorated. Thus,

patients should be carefully assessed by nurses to identify possible problems and to support their quality of life.

In terms of the psychological aspect, the patients undergoing transplantation worried about disease progression, therapeutic effect, changes in physical function, and life-threatening illness. The research results showed that the psychological concern of patients at the pre-discharge phase included concern regarding failure of the transplantation, recurrence, death, rejection, and medical care after discharge. Farsi, Nayeri and Negarandeh (2012) used in-depth interviews to understand the patients' stress at month two and month six after transplantation, they found that the patients experienced a great deal of fear, including afraid of death, post-transplantation rejection, and recurrence. Previously studies have also indicated that the psychological concerns caused by cancer treatment include the uncertainty of therapeutic outcomes, concern regarding recurrence, death, and change in appearance (Lee, 2011). Cooke, Gemmill and Grant (2011) stated that the most difficult challenge is the fear of recurrence among patients and their families undergoing transplantation.

A qualitative study by Cohen and Ley (2000) found that some patients felt they had lost control of many things after the transplantation, including failing to control symptoms, emotions, and uncomfortable bodies. In order to regain some esteem, they intended to refuse undergoing the transplantation again. Moreover, the patients also worried that other people might learn of the fact that they suffered from cancer. They worried that other people would view them as being useless, and thus they developed concerns regarding the disclosure of illness and treatment. A study by Sherman et al. (2005) indicated that patients will perceive the lack of privacy in public and feel uncomfortable when receiving other people's empathy, especially that of strangers. Patients also described feeling uncomfortable with friends having knowledge about their medical history.



The regular follow-up caused the patients to perceive an endless feeling of uncertainty. The concern regarding recurrence always shadowed the patients, and the time spent waiting for laboratory reports was a time of suffering. A study by Sherman et al. (2005) found that patients still experience depression due to the sense of uncertainty about their future and concern regarding recurrence, and they even have to use antidepressants to treat depression.

As opposed to physical and psychological suffering, the patients re-perceived their lives due to the support from family and religion during transplantation. Intimacy and close relationships with family members are social and cultural features in Taiwan. During the patients' hospitalization, the primary caregivers were mainly family members, and the support from family naturally was an important source of social support. The provision of social and psychological support not only improved the patients' quality of life but also improved their coping ability (Thomas, Morris, & Harman, 2002). The primary caregivers of the patients enrolled in this study were spouses or mothers, and the patients were grateful for their assistance.

After the patients discharged from hospital and began living an isolated life, the burden fell on their families. This study found that patients had to rely on their families for environmental disinfection at home: three meals a day, hospital visits and emotional consolation. A study by Niederbacher et al. (2012) found that post-transplantation family support is beneficial to positive transplantation experiences. However, patients also worry that their families carry too much burden.

As a whole, during the six-month period after the transplantation, the importance of social support could not be overlooked. The results of the study by Farsi, Dehghan and Negarandeh (2010) stated that the participants believed that emotional support from family and friends decreased their level of stress, made them feel relaxed and able to bear their problems more easily,

limited the symptoms of the disease, and improved their physical and psychological condition.

Besides obtaining support from family members, the patients undergoing HSCT were under an extremely vulnerable situation, and they tended to seek for spiritual support (King & Hinds, 2011). In terms of religious perspectives, the patients sought for peace by worshipping at temples and interacting with God. A study on the religious responses and quality of life of patients with cancer by Sherman et al. (2009) also showed that the overall quality of life of patients with positive religious responses is better.

Although the patients experienced a lot of physical and psychological suffering during the process for undergoing HSCT, they perceived the importance of health and the responsibility in taking care of families, and they decided to fight with cancer. A qualitative study by Molassiotis and Morris (1998) showed that the patients viewed quality of life as normal and that of a pleasant life of fullness. The concept of a life of fullness includes physical and psychological health. Another study by Cohen and Ley (2000) showed that, although the risk of transplantation is high, it is the last chance for the patients to survive. Patients wish to survive and raise their children. Therefore, transplantation is their only chance. The result of a study by Saleh and Brockopp (2001) also showed that expected survival is an important source of patients' sense of hope.

The aspects of perception of life included realization and being fatalistic. Before being diagnosed with cancer, the patients in this study were not close with their families. However, during the home care period, they spent more time on getting along with their families, and they perceived the importance and happiness of accompanying their families. A similar result was obtained in the study by McGrath (2004), in which the patients reconfirmed their intimacy and close bond with their families through sharing the transplantation process, which

increased the importance of family.

On the other hand, some of the patients intended to become helpers, and they suggested that receiving treatment is God's will. They perceived the meaning and connotation of cancer from a stressful event. A study by Sherman et al. (2005) found that the participants experienced increased understanding about other people and developed a more thorough idea about the creation of new meanings of life. They regarded transplantations as a gift and perceived this gift through their experiences. They discovered that they became tougher, and their coping ability for life stress was enhanced.

At month six after the transplantation, "thinking better" appeared in the patients' perception of life. They found that it was important to stay open-minded, and they were no longer obsessed with many things. A study by Beeken, Eiser & Dalley (2011) on the quality of life of patients after transplantation found that the patients used the change of value as their response. What they used to regard as important factors affecting quality of life were no longer important. Instead, family and friends became more important, and played a support role became more intimate.

Some studies on quality of life after the transplantation showed that the overall quality of life is gradually stabilized and constantly improving six months after the transplantation, and it is better than baseline (Farsi et al., 2012). These findings were consistent with this study. In terms of the overall quality of life, the patients in this study experienced the true meanings of quality of life.

Implications for Practice

The results of this study showed that the patients experienced the symptoms distress after the transplantation, and their lives were affected. It is important for healthcare professionals to provide appropriate care and assess the effectiveness of intervention to patients at different period of transplantation. It is necessary for healthcare professionals to explain information in

detail to patient and his/her family before and after the transplantation. Developing a handbook or video specifically to help them understand the relevant information is recommended.

In this study, the most significant psychological issue of the patients was concern regarding recurrence. For the patients' concern, nurses can strengthen their coping ability to reduce the sense of anxiety and adopt problem-oriented coping strategies. Professional nurses can teach patients to actively seek for resources, propose the problems on their mind, and help them clarify such problems, and assist them to maintain positive beliefs to face life. The study showed that family and religious provided that patients with positive power woven through the process of transplantation. It is important to involve family members and the patient's religious beliefs in the care of individuals undergoing HSCT.

Recommendation for Future Research

More studies are needed to fully understand the health care needs of patients undergoing HSCT. Intervention studies that build on the study findings are recommended to enhance the patients detection and quality of care for patient with cancer undergoing HSCT.

In order to fully understand patients' disease progression with time and changes in their quality of life at specific phases, future studies are recommended to use a longitudinal qualitative research design to perform in-depth interviews and conduct questionnaire surveys at the baseline, before discharge, 3 month, 6 month, and 1 year after the transplantation, to fully reflect the entire transplantation phases.

Limitations

Although a qualitative study emphasizes the use of data saturation and thorough understanding of a certain phenomenon to achieve rigor, some scholars still suggest that a small sample size is not representative. This study used theoretical sampling to enroll participants at a certain medical center in Taiwan, and it was



possible failed to expand the study site to other medical institutions.

Conclusion

This research has offered insight into hemopoietic malignancies patients' experiences of quality of life following HSCT, an area unexplored by previous research. The quality of life was considered relatively low during the acute stage of transplantation but became more positive later in recovery. There are few studies exploring the quality of life of patients undergoing HSCT. It was hoped that the preliminary research results of this study could be provided as a reference for professional oncology medical and nursing professionals to improve the quality of care for patients.

Contributions

Study design: TLL; data collection and analysis: TLL, HRL, LIT, SPY, SLC; manuscript preparation: TLL, HRL.

Conflict of interest

There are no conflicts of interest concerning this manuscript.

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臺灣癌症病患行造血幹細胞移植之生活品質：質性研究

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摘要

研究目的：本研究目的主要是探討台灣癌症病患接受造血幹細胞移植後六個月期間對生活品質之感受。研究方法：採質性縱貫性設計，以紮根理論研究法，分別在病患出院前、移植後三個月及六個月等三階段時間，以深度訪談方式深入了解在此過程中的生活品質內涵及歷程變化。採理論性取樣，於臺灣中部某醫學中心血液腫瘤科進行收案。研究結果：共27位年齡介於21-59歲間之病人完成受訪。經持續比較資料分析，研究結果在病患身上出現「在症狀困擾與擔心復發中漸入佳境」的歷程，其生活品質結果在症狀的困擾、心理的擔憂、支持與力量來源、對生命的體認等四大主題之下經歷了辛苦的開始、沉潛的階段與回穩的生活等三個過程。結論：期望透過研究結果加強血液腫瘤專業醫護人員症狀護理專業能力，針對病患及家屬提供明確的訊息、強化因應能力、協助維持社交聯繫且引導保有希望，以提升癌症照護之專業品質。實務應用：本研究結果將可提供血液腫瘤醫護專業人員參考，以提升照護品質。

關鍵字：造血幹細胞移植、生活品質、質性研究

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