

Lived Experiences of Cured Breast Cancer Women regarding the Meaning of Life in Iran: A Qualitative Research

Fateme Nemati ¹, Fahimeh Dehghani ^{2*}, Saeed Vaziri ¹,
Seyed Mohammad Reza Mortazavizadeh ³

1. Department of Counseling, Yazd Branch, Islamic Azad University, Yazd, Iran
2. Department of Psychology, Faculty of Psychology and Educational Sciences, Yazd University, Iran
3. Hazrat Ali-Ibn Abitaleb (AS) School of Medicine, Yazd Branch, Islamic Azad University, Yazd, Iran

ARTICLE INFO

Original Article

Received: 08 Mar 2023

Accepted: 28 May 2023



Corresponding Author:

Fahimeh Dehghani
dehghanif@hotmail.com

ABSTRACT

Background: Finding meaning in life reduces stress and increases life expectancy in human beings. The purpose of this study was to examine the lived experiences of women recovered from breast cancer and the meaning of their lives.

Methods: This qualitative study was performed on cured women with breast cancer, who referred to Yazd cancer medical centers in January and February, 2021. Eleven women with breast cancer who have been healthy for at least 5 years were interviewed based on theoretical saturation, and purposeful, in-depth and semi-structured talks. Due to COVID-19 condition, all interviews were done by telephone the interviews were analyzed using the Colaizzi's method of data analysis.

Results: Data analysis led to the emergence of a main theme called *individual and social development* and four sub-themes including *spiritual perfection, oneness, individual well-being and social growth*. The patients saw cancer as an opportunity to reflect their own values and goals and to correct them in order to draw themselves closer to spirituality and to love other beings.

Conclusion: Achieving perfection, personal growth, striving for well-being and social interest play a significant role in life experiences of women recovered from cancer. Findings of this study can be used as a conceptual basis for designing meaningful teaching intervention models for patients who have recently been diagnosed with cancer.

Keywords: Meaning of Life, Cured Breast Cancer, Lived Experiences

How to cite this paper:

Nemati F, Dehghani F, Vaziri S, Mortazavizadeh SMR. Lived Experiences of Cured Breast Cancer Women regarding the Meaning of Life in Iran: A Qualitative Research. J Community Health Research 2023; 12(1): 100-108.

Copyright: ©2023 The Author(s); Published by ShahidSadoughi University of Medical Sciences. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

Breast cancer is one of the most serious diseases threatening women's physical, mental, and social well-being. Physical changes caused by sickness, treatment chemistry, and radiotherapy may occur during the course of illness. Self-awareness, self-confidence, and a sense of worth and acceptability by others can all be affected by changes (1). Nearly half of cancer patients, particularly women between the ages of 40 and 59, reported high levels of stress (2). The role of psychosocial variables in the development and progression of cancer has long been a subject of speculation. In reality, in recent years, epidemiological and clinical investigations have offered substantial evidence for the relationship between cancer progression and persistent stress, despair, and social isolation (3). Joulaee et al. asked 11 women with breast cancer about their feelings and experiences in a phenomenological study (4). Participants characterized their unpleasant experiences of living with breast cancer as losing something important, missing self-confidence, living with fear, emotional instability, and needing support, as well as their positive experiences of learning new things. Existential worries and death fear were the most difficult and stressful aspects of these people's lives, issues that were easily overlooked because usually death anxiety is not expressed directly (5). Death, according to Yalom (6), is one of the earliest ultimate concerns of human beings, and existential conflict originates from the struggle between the awareness of death's inevitability and the longing for life. The inability to face the anxiety leads to a slew of issues and mental diseases (6). Having a meaningful life can help you avoid the harmful impacts of stress. Important aspects in psychological adjustment include structures that relate to meaning and a sense of cohesiveness in life (7). The significance of a person's life is determined by how important, meaningful, and understandable he thinks his existence is. Some examples include individuals' cohesive view of themselves and life events, as well as having a lifelong aim (8). Frankel views happiness as the process of discovering the

purpose in life. Meaningfulness, purposefulness, and life expectancy are all aspects of improving community health. Therefore, if life is purposeful and meaningful, it is natural that every occurrence- no matter how traumatic, such as acute stress or life-threatening sickness- will be meaningful in this aspect (9). Esteger considers the dimensions of the meaning of human life to be the identification of what is important to him and the ability to effectively direct his energies. In fact, for him, the meaning of life is to make people believe that their life is important and transcendent (10). But in Iran, the meaning of life is more tied to religion. Ibn Sina's (One of the great Iranian philosophers) approach to the meaning of life concerns a supernatural theory. Belief in the existence of God and life after death are the two main pillars of a meaningful life. According to him every person's life finds meaning where it is in line with God's purpose for human creation. Achieving a meaningful life requires setting high goals in life, constantly striving for wisdom, love, morality, and ultimately achieving immortality. Happiness, joy, and goodness are the three important concepts of Ibn Sina's view (11). The existence of meaning in life calls people to action. In fact, man is not destroyed by undesirable suffering and destiny; it is the meaninglessness of his life that makes him sad (12). It seems that the meaning of life reduces the perceived stress of cancer patients; a meaningful life can adapt patients to the disease and improve the treatment process (13).

To investigate this issue, the authors decided to probe the lived experiences of a number cured breast cancer women regarding the meaning of life in the form of a qualitative research.

Methods

To include the characteristics of a real community, purposive sampling method was used. Cancer treatment centers in Yazd (Iran) introduced 14 eligible patients who had been recovered from breast cancer for at least 5 years. They were contacted and the explanations were given about the project. 11 people were willing to participate in

the project. Due to COVID-19 epidemic, telephone or online interviews were done by voice or text after providing the appropriate explanations to the patient, receiving their consent, ensuring the confidentiality of information and having the right to leave the study. The interviews were in-depth and semi-structured, began in January 2021 and lasted until June.

The interview questions were designed by studying the sources related to the meaning of life, reviewed by two professors of psychology, and presented in the form of 5 main questions.

In addition, other exploratory questions were asked to better understand the answers.

The following questions were asked:

1. "What is the purpose of human creation?"
2. "What does cancer mean to you?"
3. "What satisfies you in life?"
4. "According to this thinking, what are the values of your life after recovery?"
5. "How can people prepare themselves for death?"

To analyze data, the Colaizzi approach was employed, and the responses were recorded and

implemented to encode and extract the concepts. It was analyzed numerous times to comprehend the participants' feelings and experiences. In the second step, after reviewing all of the participants' descriptions, the sentences relating to the phenomena being discussed. Were highlighted. In the third stage, a semantic unit was extracted from each sentence, expressing the meaning and the fundamental component of one's thinking. Naturally, after getting these semantic units, the appropriateness of the written meaning in respect to the main and elementary phrases was checked, as well as the correctness of the relationship between them. The semantic units were sorted based on similarity after the codes were extracted using Colaizzi's fourth stage. Sub-themes emerged as a result of this process. A major theme was derived from all sub-themes in the last step (figure 1). The number of interviews was increased until data was saturated. Participants and external evaluators were given access to the data in order to consolidate it and avoid the researcher's mental judgment. Then, its validity was checked.

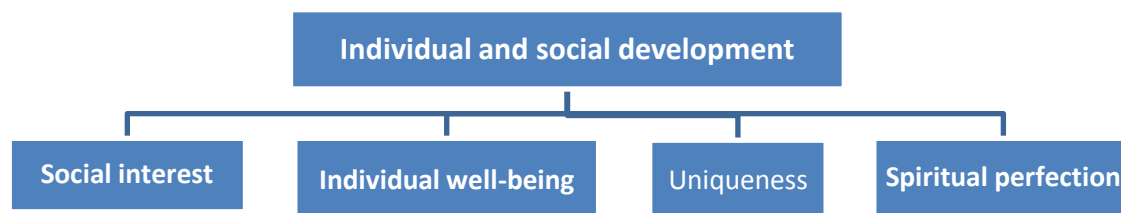


Figure 1. Qualitative themes and subthemes

Results

Patients' age ranged from 36 to 61. All except one were married, and their education was from diploma to PhD. The recovery duration ranged from 5 to 12 years, and all but one of the patients underwent cancer surgery, Table 1.

Four sub-themes emerged from the semantic units established during the interviews: "spiritual perfection, uniqueness, individual well-being, and social interest". The interrelationship between

these four aspects gave rise to the research's major theme, "individual and social development", Table 2.

The main theme is that patients generally consider achieving growth and development in both individual and social spheres as the meaning and purpose of life, and consider suffering necessary part to achieve this goal. In the following, the sub-themes of this research will be explained.

Table 1. Demographic characteristics of patients with cured breast cancer

Variable		N	%
Age	30-39	3	27
	40-49	2	18
	50-59	6	54
Education	High school diploma	5	45
	Bachelor's degree	2	18
	Masters' degree	3	27
	PhD	1	9
Job	Employee	6	54
	Self-employment	1	9
	Housewife	4	36
Marital status	Yes	10	91
	No	1	9
Number of children	1	2	18
	2	4	36
	3	2	18
	0	3	27
Recovery time	5-9	8	73
	10-15	3	27

Table 2. Data analysis based on evaluation of interview results

Major theme	Sub-themes	Semantic units
Individual and social development	Spiritual perfection	Looking at suffering as a platform for growth and development, the Lord 's test to obtain mercy from God, the evolution of man, gaining experience, cancer as an opportunity for growth
	Uniqueness	Performing unique human mission, specific personality and beliefs in each individual, impossibility of replacing individuals with each other, personal effort
	Individual well-being	Self-awareness and strengthening positive aspects of self-acceptance and active coping with illness, optimism, ability to solve problems (self-efficacy)
	Social interest	Helping each other-compassion, sharing in the sorrows and joys of others, empathy, respecting the rights of others, paying attention to the suffering of others

1- Spiritual perfection

Patients saw the purpose of life in "reaching perfection." According to them, growth and gaining experience take place in the context of the sufferings God has devised in the form of tests; this is to move them away from this world and draw them closer to the Lord. Some of the participants considered this world to be part of the evolutionary stages of man. According to them,

this world is part of a larger experience for growth and development.

Participant 1: "The purpose of life is to reach perfection and closeness to God, and suffering is bedrock for our growth and development."

Participant 5: "We come to this world to be tested. God tests everyone, according to the capacity of human beings, to reach perfection.

Participant 10: "We are in one of our

evolutionary stages in this world."

2- Uniqueness

Participants saw the purpose of living in this world as achieving personal growth and excellence. One of its examples is the uniqueness of every human being; that human beings each have their own personal mission and a duty to strive and achieve. Patients stated that human suffering makes people more familiar with their unique selves. The uniqueness of each person leads him to personal effort and self-fulfillment.

Participant 3: "Surely, God saw something in me that set this early test for me. In my opinion, the difficulty level of the test is determined in proportion to each person's level of belief."

Participant 2: "We are here to fulfill our unique mission."

Participant 10: "It gave me an opportunity to think about what I have done so far and what I want to do from now on."

3- Individual well-being

Personal well-being is another example of personal growth mentioned by patients. Trying to improve the life quality, self-awareness and strengthening positive aspects, active acceptance and coping with the disease, and the ability to solve problems (self-efficacy) were some of the things that the participants mentioned as meaningful activities in life. According to some of them, maintaining mental health and optimism increases the level of individual well-being.

Participant 11: "Life is not long enough for me to live through unhappiness, stress and pressure, and it is not short enough for me to take the slightest pleasures for granted. I put stress reduction, self-care, and self-friendship among my values and goals".

Participant 8: "After cancer, I suffered a spinal cord injury and I have no sensation or movement from chest down. My wife and I were saddened by these two unfortunate events! We suffered a lot of psychological damage, but we soon found ourselves. We learned how to continue now and enjoy life as much as possible".

4- Social interest

Participants knew the meaning of life regarding social interest in the form of helping others and loving and empathizing with them. They stated that serving one's fellow man without expectation can create spiritual pleasure and happiness in human beings and create a happy world.

Participant 6: "One of our existential philosophies in this world is to help each other."

Participant 5: "We came to this world to solve other people's problems, to be creative, to love each other to create a better world."

Participant 8: We came to rejoice and share with others. "Without a social brain, we cannot be happy. Empathy is the prelude to happiness and joy".

Discussion

This study provided an in-depth look at the meaning of life regarding patients recovering from breast cancer. The first sub-theme of this analysis was "spiritual perfection". Patients knew the meaning of life in reaching perfection and closeness to God. For patients, cancer and its suffering were seen as opportunities for active coping and growth (14). The ability to find meaning and peace in life had the greatest impact on optimal adaptation during cancer recovery; faith also seemed to be uniquely associated with post-cancer growth (15). In a study, Wagner (16)³ defined and explored the existential and spiritual experiences of 10 cancer patients who recovered without medical treatment. The narrations of ten participants showed that cancer was like a warning to them, leading them to unprecedented existential and spiritual growth. 9 participants reported that they were healed not only physically, but also emotionally. They described a new and intense relationship with divinity, as well as unity with all beings, which was not based on religious orientation. 9 out of 10 participants felt that cancer was a gift.

In a study, Maliski et al. (17) showed how faith in God helped low-income people overcome the initial shock of cancer, replacing healthcare providers and families. Faith empowered them to take an active part in their treatment and improve

the outcome of their treatment.

Patients' religious beliefs played an active role in defining the meaning of life. In a post-cancer coping study, Gal et al. (2009) revealed that religious coping strategies were aroused in early stages of adapting to breast cancer (18). Taleghani et al. (2006) concluded that patients, inspired by the religious principles and the religious approach of "surrender", look at the disease as a divine destiny (19). Spirituality was considered the main source of psychological support among patients, and almost all cancer patients attributed their will to God, as Harandi et al. found (20).

The findings indicated that religious beliefs played an important role in both the spiritual development of patients and treatment of cancer.

The second sub-theme of this study revealed that uniqueness in the field of individual development can define the meaning of life. Patients find the meaning of life in fulfilling their personal mission, which itself requires belief in uniqueness of all human beings. Individuals tended to be real, which was associated with higher levels of life satisfaction and well-being (21).

In a review, Mustax (2016) emphasized that personality is unique and essential to each individual, and that mental health depends on accepting individuals' uniqueness. Instead of trying to construct their identity according to external judgments or imposed values, human beings must find their inner guide (22). People who actively strive for personal growth often believe that they can change and grow (23). Breast cancer was considered both a risk and an opportunity. Most cancer survivors reported personal growth after fighting breast cancer (24). Compared to healthy women, cancer patients reported greater personal growth, especially in relation to others, life appreciation, and spiritual change, which was associated with perceived life-threatening behavior (25).

Striving for individual well-being was another example of the meaning of life, presented by the participants in the form of a third sub-theme. Graham and Shier (26) defined a person's well-

being as his feeling about life; its characteristics include satisfaction, positive emotions, absence of depression and anxiety, and mood swings. Participants considered self-knowledge and strengthening their positive aspects, active acceptance and coping with illness, optimism, and problem-solving ability (self-efficacy) as strategies to improve the level of well-being and create meaning. In reviewing the research conducted on semantic units derived from the theme of individual well-being, the concept of life and recovery from cancer, the authors encountered many similar concepts summarized below.

Optimism played a mediating role in the relationship between the meaning of life and the positive and negative aspects of well-being. Higher meaning in life was significantly associated with more optimism, less depression, less emotional pain and less financial distress; it could even be a factor in recovery (27-30).

There was a strong relationship between the meaning of life and positive dimensions of well-being such as self-improvement and participation (31, 32). Correction of cognitive processes such as catastrophizing, distorted thoughts, cognitive reframing and purpose in life towards self-knowledge plays an important role in psychological well-being and survival of breast cancer; it helps the individual to interpret stressful experiences and organize and perceive the disease from a less negative perspective (33, 34). Findings regarding the active acceptance of this disease showed that increasing women's active coping from 1 to 6 months after surgery was associated with a simultaneous decrease in emotional distress and an increase in emotional well-being and meaning in life (18, 35).

Considering the role of self-efficacy in individual well-being, it has been shown that self-efficacy predicts the existence of meaning in life and psychological-emotional well-being, and consequently leads to lower levels of anxiety and depression (36, 37). The fourth sub-theme of this study revealed that patients found the meaning of their lives in social development - the social interest that a person experiences in the form of

helping others, kindness and empathy. According to Adler (1927), social interest is an important measure of mental health and one of the best criteria for human values. He believed that people with a weak social interest feel inferior or superior in life, and their energy is spent escaping this feeling and finding personal position and usefulness (38).

Some studies demonstrated that social interest had a positive relationship with psychological well-being and life satisfaction (39) and sources of coping with stress (40); social interest had a negative relationship with frustration (41) and anxiety (42). People with a positive attitude towards societal behavior are helpful, happier and have a greater sense of well-being (43).

In a study, Klein found that people who participated in voluntary social acts and spent money for the benefit of others reported experiencing more meaning in their lives and feeling more self-worth and self-esteem (44). Meaning of life, self-efficacy and social behaviors had a significant positive relationship and self-efficacy was a mediator between the meaning of life and social behaviors (45). Hanguj (2019) showed that a greater willingness to participate in social affairs had a positive effect on the course of the disease in adolescent and young cancer patients, as participation recreates a sense of normalcy and decision-making power in daily life and persuades altruism in helping others (46).

Of the limitations of this study was the sample monopoly on Iranian Muslim women with breast cancer, which limited the use of samples. Due to

the small sample size, generalizability should be done with caution. Also, due to telephone and online interviews, they might not be as accurate as face-to-face interviews.

The findings of this study can be a conceptual basis for designing educational models of meaningful intervention for patients who had recently been diagnosed with cancer.

Conclusion

Reaching spiritual perfection, personal growth, striving for well-being, and social interest play a significant role in lived experiences of women recovering from cancer. In general, it can be concluded that altruism and helping others lead to experiencing a sense of satisfaction and meaning in life and has a positive effect on the course of cancer. Therefore, there is a need to create and hold spiritual interventions according to the concepts above in cancer care programs.

Acknowledgments

The authors would like to thank all the participants in the study. This study was approved by the ethics committee of Yazd Azad Medical School with the code IR.IAU.KHUISF.REC.1400.076.

Conflict of interest

Authors declared no conflict of interest.

Authors' contribution

F. N; found and interviewed the patients, S. V and F. D; handled the methodology and conceptualization, F. D; wrote the manuscript with the help of F. N. S. M; assisted in finding patients and providing necessary medical information.

References

1. Yarbrow CH, Wujcik D, Gobel BH. Cancer nursing: Jones & Bartlett Publishers; 2016.
2. Carlson LE, Zelinski EL, Toivonen KI, et al. Prevalence of psychosocial distress in cancer patients across 55 North American cancer centers. *Journal of psychosocial oncology*. 2019; 37(1): 5-21.
3. Mravec B, Tibensky M, Horvathova L. Stress and cancer. Part I: Mechanisms mediating the effect of stressors on cancer. *Journal of neuroimmunology*. 2020; 346: 577311.
4. Joolaei A, Joolaei S, Kadivar M, et al. Living with breast cancer: Iranian women's lived experiences. *International nursing review*. 2012; 59(3): 362-8.
5. Willis K, Ravyts SG, Lanoye A, et al. Measuring and understanding death anxiety in caregivers of patients with primary brain tumor. *Palliative & Supportive Care*. 2022: 1-8.
6. Damian SI, Necula MR, Bunea O. Humanist Therapies in Postmodernity (English version). *Postmodern Openings*.

- 2012; 11: 89-106.
7. Winger JG, Adams RN, Mosher CE. Relations of meaning in life and sense of coherence to distress in cancer patients: A meta-analysis. *Psycho-oncology*. 2016; 25(1): 2-10.
 8. Shek DT, Yu L. Self-harm and suicidal behaviors in Hong Kong adolescents: prevalence and psychosocial correlates. *The Scientific World Journal*. 2012; 2012.
 9. Saber K, Hamzian N, Madadzadeh F. COVID-19 Anxiety and Related Factors in Cancer Patients Undergoing External Radiation Therapy. *Asian Pacific Journal of Cancer Care*. 2022 Aug 12;7(3):451-8. [Persian]
 10. Snyder CR, Lopez SJ, Edwards LM, Marques SC, editors. *The Oxford handbook of positive psychology*. Oxford university press; 2020.
 11. Mokhles S, Akbari R, Rasooli Sharbani R, et al. Reconstructing Ibn Sina's Theory on the Meaning of Life. *A Research Quarterly in Islamic Theology (kalam) and Religious Studies*. 2017; 13(50): 7-20. [Persian]
 12. Madadzadeh F, Ghanbarnejad A, Ghavami V, Bandamiri MZ, Mohammadianpanah M. Applying additive hazards models for analyzing survival in patients with colorectal cancer in Fars Province, Southern Iran. *Asian Pacific journal of cancer prevention: APJCP*. 2017;18(4):1077.
 13. Narimani M, Eyni S. Relationship between meaning of life, self-compassion and sense of coherence with perceived stress in cancer patients. *Iranian Journal of Cancer Care (ijca)*. 2020; 1(3): 1-10. [Persian]
 14. Ka'opua LSI, Gotay CC, Boehm PS. Spiritually based resources in adaptation to long-term prostate cancer survival: perspectives of elderly wives. *Health & Social Work*. 2007; 32(1): 29-39.
 15. Yanez B, Edmondson D, Stanton AL, et al. Facets of spirituality as predictors of adjustment to cancer: relative contributions of having faith and finding meaning. *Journal of consulting and clinical psychology*. 2009; 77(4): 730.
 16. Wagner GB. Cancer recovery and the spirit. *Journal of Religion and Health*. 1999; 38(1): 27-38.
 17. Maliski SL, Connor RSE, Williams L, et al. Faith among low-income, African American/black men treated for prostate cancer. *Cancer nursing*. 2010; 33(6): 470.
 18. Gall TL, Guirguis-Younger M, Charbonneau C, et al. The trajectory of religious coping across time in response to the diagnosis of breast cancer. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*. 2009; 18(11): 1165-78.
 19. Taleghani F, Parsa-yekta Z, Nikbakht Nasrabadi A. Coping with breast cancer in newly diagnosed women: A qualitative study. *Iranian Journal of Psychiatry and Clinical Psychology*. 2006; 12(3): 282-8. [Persian]
 20. Harandy TF, Ghofranipour F, Montazeri A, et al. Muslim breast cancer survivor spirituality: coping strategy or health seeking behavior hindrance? *Health care for women international*. 2009; 31(1): 88-98.
 21. Mengers AA. *The benefits of being yourself: An examination of authenticity, uniqueness, and well-being*. 2014.
 22. Moustakas CE. *Loneliness*: Pickle Partners Publishing; 2016.
 23. Bhattacharya A, Mehrotra S. The journey of personal growth: A qualitative exploration of personal growth processes in young adulthood. *Psychological Studies*. 2013; 58: 456-63.
 24. Romeo A, Di Tella M, Ghiggia A, et al. Posttraumatic growth in breast cancer survivors: Are depressive symptoms really negative predictors? *Psychological Trauma: Theory, Research, Practice, and Policy*. 2020; 12(3): 244.
 25. Karimzadeh Y, Rahimi M, Goodarzi MA, et al. Posttraumatic growth in women with breast cancer: emotional regulation mediates satisfaction with basic needs and maladaptive schemas. *European journal of psychotraumatology*. 2021; 12(1): 1943871. [Persian]
 26. Graham JR, Shier ML. The social work profession and subjective well-being: The impact of a profession on overall subjective well-being. *British Journal of Social Work*. 2010; 40(5): 1553-72.
 27. Coreil J, Wilke J, Pintado I. Cultural models of illness and recovery in breast cancer support groups. *Qualitative Health Research*. 2004; 14(7): 905-23.
 28. Fasano J, Shao T, Huang H-h, et al. Optimism and coping: Do they influence health outcomes in women with breast cancer? A systemic review and meta-analysis. *Breast Cancer Research and Treatment*. 2020; 183: 495-501.
 29. Gravier AL, Shamieh O, Paiva CE, et al. Meaning in life in patients with advanced cancer: a multinational study. *Supportive care in Cancer*. 2020; 28: 3927-34.
 30. Ho MY, Cheung FM, Cheung SF. The role of meaning in life and optimism in promoting well-being. *Personality and individual differences*. 2010; 48(5): 658-63.
 31. Alhaj-Mahmoud FM, Ahmad SA. Psychological well-being program efficacy on meaning-in-life in a sample of

- University of Jeddah students. *Journal of Psychology in Africa*. 2021; 31(3): 232-6. [Persian]
32. McMahan EA, Renken MD. Eudaimonic conceptions of well-being, meaning in life, and self-reported well-being: Initial test of a mediational model. *Personality and individual differences*. 2011; 51(5): 589-94.
 33. Krok D, Telka E. Meaning in life in cancer patients: relationships with illness perception and global meaning changes. *Health Psychology Report*. 2018; 6(2): 171-82.
 34. Porter LS, Clayton MF, Belyea M, et al. Predicting negative mood state and personal growth in African American and White long-term breast cancer survivors. *Annals of Behavioral Medicine*. 2006; 31(3): 195-204.
 35. Park CL, Malone MR, Suresh D, et al. Coping, meaning in life, and quality of life in congestive heart failure patients. *Quality of Life Research*. 2008; 17: 21-6.
 36. Czyżowska N, Gurba E. Enhancing meaning in life and psychological well-being among a European cohort of young adults via a gratitude intervention. *Frontiers in psychology*. 2022; 12: 751081.
 37. Pintado S. Self-concept and emotional well-being in patients with breast cancer. *Revista Iberoamericana de Psicología y Salud*. 2017; 8(2): 76-84.
 38. Adler A. *Understanding human nature (Psychology revivals)*: Routledge; 2013.
 39. Alizadeh H, Little RJ, Asgari M, et al. Development of the Social Interest Scale for Iranian adolescents. *The Journal of Individual Psychology*. 2021; 77(1): 40-58. [Persian]
 40. Foley YC. *Cross Generational Personality Variables and Stress Coping Resources among Mainland Chinese*. 2005.
 41. Tiwari DN, Misra G. Social interest and social well-being across adolescence, young adulthood, and middle adulthood stages in the Indian context. *Trends in psychology*. 2022; 30(2): 294-315.
 42. Huo D. *Social interest and collectivism: A study in Mainland China*: Adler University; 2019.
 43. Lauri MA, Calleja SS. *Prosocial behaviour and psychological wellbeing*. *Perspectives on wellbeing*: Brill; 2019. p. 46-62.
 44. Klein N. Prosocial behavior increases perceptions of meaning in life. *The Journal of positive psychology*. 2017; 12(4): 354-61.
 45. Cheng L, Ye Y, Zhong Z, et al. Mediating effects of general self-efficacy on the relationship between the source of meaning in life and prosocial behaviours in vocational college nursing students: A cross-sectional study. *Plos one*. 2020; 15(12): e0243796.
 46. Hanghøj S, Pappot H, Hjalgrim LL, et al. Helping others: reasons for participation in service user involvement initiatives from the perspective of adolescents and young adults with cancer. *Journal of Adolescent and Young Adult Oncology*. 2019; 8(5): 534-9.