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Assessment of the Level of Uncertainty and the Factors Affecting it in Iranian Patients with Breast Cancer

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Abstract

Background: Uncertainty is one of the most common experiences among the women with breast cancer. From among the psychological problems, these patients are constantly experiencing uncertainty. Since these patients may feel uncertain even years after treatment due to the long-term effects of the disease and the risk of recurrence, this study aims at determination of the level of uncertainty and the factors affecting it in patients with breast cancer.

Methods: This is a descriptive-correlation study in which 50 patients with breast cancer, who referred to the Neshat Park Outpatient Surgery Clinique in Kerman Province, were investigated after convenience sampling and observation of the inclusion criteria for the study. Data were collected using demographic characteristics questionnaire and disease uncertainty questionnaire. According to the results, the average score of uncertainty in patients with breast cancer was 106 which show a high level of uncertainty.

Results: The results also showed uncertainty in patients with breast cancer had no significant relationship with any personal information such as age, marital status, education, insurance status, employment, monthly income, history of other diseases, duration of the disease, duration of treatment, breast cancer in other family members, and education about breast cancer issues. The personal characteristics of patients with breast cancer did not affect their level of uncertainty.

Conclusion: It is likely that the impact of cancer on the mental status of these patients is more effective than these It is likely that the effects of cancer on the mental status of the patients is higher than these characteristics. It is recommended that this study is performed on a larger number of samples.

Introduction

Breast cancer is the most common type of cancer and the most common cause of death due to cancer in women [1]. Also, it is one of the major public health problems in the world [2] . Breast cancer is a serious disease that deteriorates the whole life of the individual. Due to the severity of the disease, changes in daily life and also constant concerns, the disease not only affects the physical aspect of the body, it also affects the quality of life and the sense of well-being of the individual. In the midst of constant psychosocial changes, these patients encounter uncertainty about choices of treatment, the disease in the long-term and its impact on their daily lives [3,4].

Uncertainty exists when details of the situations are ambiguous, complex, unpredictable or disputable, when information is unavailable or inconsistent, and when the individual feels uncertain about her knowledge. Actually, uncertainty occurs when the individual estimates the probability of an accident. So, there is a strong relationship between probability and uncertainty. Uncertainty is less when the probability of an incident is 0 or 100%. However, when there is 50% probability of occurrence, there is more uncertainty [5] . Uncertainty means having a low level of confidence and poor control over various aspects of life [6]. The first sign of uncertainty is being uncertain about what is the best performance or best choice is in terms of the disease [7]. Studies have shown that after diagnosis of the disease, people will feel uncertain about the following: Do I have cancer? What is the effective treatment? What are the results of tests and examinations? Can I achieve my personal goals? Can I perform my daily activities? Can I get healthy again [8]. Also, another major uncertainty in cancer disease is the inability to perform daily activities, problems with treatment efficacy and concerns about recurrence of disease [1].

Uncertainty may have important implications for a patient with cancer. Studies have shown that there is a strong relationship between uncertainty, emotional health and depression symptoms. An increased uncertainty may reduce the tolerance of uncertainty. It also affects the patient's psychological compliance negatively and makes it difficult for the patient to cope with the disease [9,10]. Disease uncertainty affects the psychological aspect of the quality of life and may decrease the quality of life of the patients and increase their distress [11]. Also, several studies have shown the effects of disease uncertainty on emotional excitement, stress, depression, anxiety, coping with disease and quality of life in patients with breast cancer [12,13]. Therefore, these patients experience severe psychological distress when diagnosed with the breast cancer [13]. So, this study aims at determination of the level of uncertainty and the factors affecting it in patients with breast cancer who referred to the Neshat Park Outpatient Surgery Clinique in Kerman Province.

Materials and Methods

This is a descriptive-correlation study. The study population included all patients with breast cancer referring to the Neshat Park Outpatient Surgery Clinique in Kerman Province who met the inclusion criteria. The inclusion criteria consisted of the following: female participants, diagnosis with breast cancer, willingness to

participate in the study, reading and writing literacy, age 30-65, lack of communication problems (vision and hearing), lack of underlying diseases, (diabetes, renal failure, liver failure and cardio-pulmonary failure), lack of a known psychological illness, ability to understand Persian language and not being pregnant. Exclusion criteria consisted of the following: participation in other studies, migration or death of the patient, and the impossibility of participation in the study. In this study, data were collected by the two following instruments: 1. Demographic characteristics questionnaire, which was approved after reading books, articles and consultation with 10 professors of Zabol University of Medical Sciences. Also, a test-retest method was used to measure the repeatability and reliability of this questionnaire. The questionnaire consists of two sections: the first contained 10 questions related to personal characteristics including age, place of residence, marital status, number of children, educational level, insurance status, employment, monthly income, and those with whom the patient lives; and the second section contained 6 questions related to the disease profile including the history of other diseases, the duration of breast cancer, the duration of treatment, another family member's involvement in breast cancer, educations in relation to breast cancer issues, and educations in relation to the self-management after the treatment of the disease. 2. The "Mishel Uncertainty in Illness Scale – Adult Form" [14] questionnaire for Iranian patients with cancer which includes 31 items in the Likert scale which is scored from 1 (totally disagree) to 5 (totally agree) and has 4 aspect; ambiguity (12 items), complexity (5 items), information instability (8 items), and unpredictability (6 items). The rating range for this tool is between 31 and 159, and earning higher scores means greater uncertainty. This questionnaire was completed in the study of Sajjadi et al. [12] on 420 patients with cancer in two large hospitals in Tehran. After the translation, corrective opinions were applied. Then, measurement was made for the validity of content and form, validity of the construction, validity and reliability of the internal consistency of the Persian version. The average uncertainty rate for the participants was 90.1 (16.8). The validity of the 4 subscales was verified by confirmatory factor analysis. Cronbach's alpha coefficient was 0.89 for the 32 items and $\alpha = 0.86\text{-}0.58$ for the four factors. Therefore, the Persian version of Mishel's Uncertainty in Illness Scale – Adult Form has appropriate psychometric properties that can be used to evaluate uncertainty in Iranian patients with cancer [14].

In this study, the sample size was estimated to be 50 based on the results of the pilot study and using the static software of STATA v.11. Samples were selected through a convenience sampling method and after ensuring the inclusion criteria for the study and informed oral and written consent from the research community. Afterwards, demographic characteristics questionnaires and Mishel Uncertainty in Illness Scale were distributed and completed. Quantitative and qualitative variables were described with mean (standard deviation) and frequency (percentages) respectively. The relationship between quantitative variables and uncertainty was measured by means of correlation test and the relationship between qualitative variables and uncertainty by independent t-test or Mann-Whitney test. The statistical software STATA v. 11 was used for statistical analysis and p-value less than 0.05 was considered significant. Ethical considerations, including the confidentiality of information and the right to withdraw from the study at any stage were also observed.

Results

There were 50 participants in this study. Based on the results, the mean age was 49.12 years with a standard deviation of 13.31. They were in the age groups of 50 to 65 (61%), 40 to 50 years (24%) and 30 to 40 years (15%), respectively. The mean (SD) duration of breast cancer was (2.65) 4.42 years; the mean (SD) duration of the treatment was (2.33) 3.54 years. Also, the mean (SD) of the anxiety score was (4.54) 7.56, the depression score (5.58) 12.2 and the stress score (6.81) 14.96. Besides, 76% of the patients were married, 42% had Diploma degree and higher. History of co-morbidity and the history of the same illness in the family members were 16% and 28%, respectively. Also, 48% of the patients had already been trained in terms of breast cancer. As shown in (Table 1), correlations observed between the uncertainty and every characteristic of the patients studied, such as age (r=0.12, p=0.395), duration of breast cancer (r=0.27, p=0.055) and the duration of breast cancer treatment (r=0.26, p=0.073), were not statistically significant (Table 1).

Variable	Correlation Coefficient	p-value
Age	r=0.12	P=0.395
Disease Duration	r=0.27	0.055
Treatment Duration	r =0.26	0.073

Table 1: The relationship between the quantitative characteristics of research units with uncertainty.

Also, based on the findings in Table 2, obtained by the Independent T test or Mann Whitney U test, the difference in mean uncertainty was not significant in the groups of the marital status (p=0.3), education level (p=0.1), insurance status (p=0.08), employment status (p=0.6), income level (p=0.08) and associated underlying diseases (p=0.2). Only those with a familial history (p=0.01) and those who had breast cancer education (p=0.02) were significantly more uncertain (Table 2).

Variables		Uncertainty		
		Mean	SD	p-value
Marital status	Single	82.5	16.2	
	Married	99	17.23	
	Divorced	76	0	
	Widow	101	20.63	

Education	Reading and writing literacy	97.4	18.48	0.1
	Fifth grade	107	13.14	
	High School degree	102.14	16.25	
	Diploma and higher	92.47	19.30	
Insurance status	Healthcare	104.31	17.70	0.08
	Rural Services	111	0	
	Social Security	94.4	16.36	
	Armed Forces	86.66	16.04	
	Steel Companies	125	0	
	Supplementary insurance	69	0	
Employment	Employee	93.25	20.45	0.6
	Retired	102	18.46	
	Disabled	76	0	
	Self-Employment	105	0	
	Housekeeper	99.37	17.65	
Revenue	<1 million Tomans	101.05	17.67	0.08
	1 million Tomans	97.12	17.33	
	>1 million Tomans	83.33	14.66	
History of other morbidities	Yes	90.75	22.15	0.2
	No	99.73	16.94	
Family medical history	Yes	108.42	12.39	0.01
	No	94.36	1832	
Education on breast cancer	Yes	104.37	16.82	0.02

Table 2: Relationship between qualitative characteristics of research units and uncertainty.

The findings also showed that the uncertainty of the participants was high with the average score of uncertainty being (15.03) 106.44, so that we had the ambiguity score of 38.24 (9.63), complexity 20.2 (2.16), information instability of 26.64 (6.27) and the unpredictability of 21.36 (2.79) (Table 3).

Areas of Uncertainty Felt	Mean (SD)
Ambiguity	38.24 (9.63)
Complexity	20.2 (2.16)
Information instability	26.64 (6.27)
Unpredictability	21.36 (2.79)

Table 3: Areas of uncertainty felt by the participants.

Discussion

The results of the present study indicated that the majority of patients with breast cancer had high levels of uncertainty and factors such as age, duration of breast cancer treatment, duration of breast cancer, marital status, educational level, insurance status, employment, the income level and the history of other underlying diseases do not affect the uncertainty of these patients. However, patients with breast cancer education and those with a familial history were significantly more likely to be uncertain. Here, we will discuss the results of this study; however, it should be noted that since the researcher did not find studies similar to the present study in databases and resources, here, studies that are partly close to this study will be addressed. In addition, some of these studies have been conducted on non-cancerous patients, but the researcher mentioned them due to the limitation of studies in this area.

As shown in the results, the uncertainty score among patients with breast cancer was 106.44, indicating they encounter many disease-

related problems. Noghani et al. [15] stated that unpredictable prognosis and the threat of early death lead to the creation of a continuous chain of stressors for patients, and these long-term threats are one of the most destructive aspects of the disease, making it a disabling disorder in the physical and mental manners. Farsi et al. [16] suggested in their doctoral dissertation that a majority of patients with leukemia under study were ambiguous, skeptical and uninsured, and faced a constant fear of recurrence. Also, in a study by Rahemi et al. [17] it was found that patients with cancer tended to feel uncertain (uncertain about planning and decision making for the future).

The results of the present study revealed that age is not associated with the level of uncertainty in patients with breast cancer. The result of the study by Keiko kurita is also consistent with the results of this study [8]. Meanwhile, in their study, entitled "The concept of uncertainty model in children and adolescents with cancer", Stewart et al. [18] found that age has a positive correlation with uncertainty, and older patients face higher uncertainty. In addition, Kazer et al. [19], in their study entitled "Uncertainty and risk assessment among prostate cancer patients," found that younger patients reported less uncertainty than older ones. Meanwhile Shaha et al. [20] indicated that: due to less understanding of social support, younger patients feel less uncertain. The probable causes of the difference between these studies and the present study were type of cancer, the disease stage and the gender of patients. In the present study, the level of education did not have a significant relationship with the level of uncertainty in patients with breast cancer, which is consistent with the results of the study by Keiko Kurita et al. [8]. However, Kazer et al. [19] found that the level of education was associated with uncertainty, so that patients with lower education levels reported higher levels of uncertainty. Also the results of the study by Wonghongkul et al. [21] state that higher education, as it provides social support, reduces uncertainty. The probable causes of different results in the present study were the statistical population and the psychological distress of breast cancer. The results of the present study showed that there is no significant relationship between the uncertainty of patients with breast cancer and the marital status, employment status, insurance status, income level. Among the variables mentioned above, the statistical results of marital status and employment are consistent with the result of the study by Keiko kurita et al. [8]. The results also showed that patients previously educated in breast cancer and those with a family history of breast cancer had a greater uncertainty. Perhaps the reason for this result is that the fear of the consequences of breast cancer, the fear of other family members getting ill, and the fact that the patient blames himself/herself for other family members getting ill may lead to more uncertainty.

It should be noted that the existence of individual differences such as the response of individuals to breast cancer, surgical complications, chemotherapy and radiotherapy were among the limitations of this study; and using a self-control scheme, the individual differences that are constant and stable were controlled.

Conclusion

The results of the present study revealed that the problems that patients with face have major effects on the mental status of these patients, so that even some of the individual characteristics are not effective in this regard, and patients with different characteristics do not have suitable certainty level. However, due to the time limitations in this study, it would be advisable to repeat the study on a larger sample size.

References

1. Ahmadidarrehsima S, Rahnama M, Afshari M, Bidmeshki EA, Khandani BK (2016) An Evaluation of happiness and factors affecting it in patients diagnosed with breast cancer. Der Pharmacia Lettre 8: 305-310.

2. Rastad H, Shokohi L, Dehghani SL, Jahromi MM (2013) Assessment of the awareness and practice of women vis-à-vis breast self-examination in Fasa in 2011. J Fasa Univ Med Sci 3: 75-80.

3. Graves KD (2003) Social cognitive theory and cancer patients' quality of life: A meta-analysis of psychosocial intervention components. Health psychology 22: 210-219.

4. Bouya S, Koochakzai M, Rafiemanesh H, Balouchi A, Taheri S, et al. (2018) Health-related quality of life of Iranian breast cancer patients: a meta-analysis and systematic review. Breast Cancer Res Treat.

5. Brashers DE (2001) Communication and uncertainty management. Journal of communication 51: 477-497.

6. Karlsson M, Friberg F, Wallengren C, Öhlén J (2014) Meanings of existential uncertainty and certainty for people diagnosed with cancer and receiving palliative treatment: a life-world phenomenological study. BMC Palliative Care 13: 28.

7. Billi JE, Pai CW, Spahlinger DA (2007) Assessing uncertainty in outsourcing clinical services at tertiary health centers. Int J Health Plann Manage 22: 245-253.

8. Kurita K, Garon EB, Stanton AL, Meyerowitz BE (2013) Uncertainty and psychological adjustment in patients with lung cancer. Psychooncology 22: 1396-1401.

9. Parker PA, Alba F, Fellman B, Urbauer DL, Li Y, et al. (2013) Illness uncertainty and quality of life of patients with small renal tumors undergoing watchful waiting: a 2-year prospective study. Eur Urol 63: 1122-1127.

10. Parker WS (2013) Ensemble modeling, uncertainty and robust predictions. WIREs Clim Change 4: 213-223.

11. Kissane DW, Bloch S, Smith GC, Miach P, Clarke DM, et al. (2003) Cognitive-existential group psychotherapy for women with primary breast cancer: a randomised controlled trial. Psychooncology 12: 532-546.

12. Sajjadi M, Rassouli M, Abbaszadeh A, Majd HA, Zendehdel K (2014) Psychometric properties of the persian version of the mishel's uncertainty in illness scale in patients with cancer. Eur J Oncol Nurs 18: 52-57.

13. Bouya S, Balouchi A, Ahmadidarehsima S, Badakhsh M (2018) Knowledge and source of information about early detection techniques of breast cancer among women in Iran: A systematic review. J Cancer Prev 23: 51.

14. Mishel MH (1981) The measurement of uncertainty in illness. Nurs Res 30: 258-263.

15. Noghani F, Monjamed Z, Bahrani N, Jablo VG (2006) The comparison of self-esteem between male and female cancer patients. Hayat 12: 33-41.

16. Farsi Z, Nayeri ND, Negarandeh R (2012) The coping process in adults with acute leukemia undergoing hematopoietic stem cell transplantation. J Nurs Res 20: 99-109.

17. Rahemi S (2006) What is important for cancer patients: report of a qualitative study. Nursing Research Journal 1: 47-57.

18. Stewart JL, Mishel MH, Lynn MR, Terhorst L (2010) Test of a conceptual model of uncertainty in children and adolescents with cancer. Res Nurs Health 33: 179-191.

19. Kazer MW, Bailey Jr DE, Chipman J, Psutka SP, Hardy J, et al. (2013) Uncertainty and perception of danger among patients undergoing treatment for prostate cancer. BJU Int 111: E84-E91.

20. Shaha M, Cox CL, Talman K, Kelly D (2008) Uncertainty in breast, prostate, and colorectal cancer: implications for supportive care. J Nurs Scholarsh 40: 60-67.

21. Wonghongkul T, Moore SM, Musil C, Schneider S, Deimling G (2002) The influence of uncertainty in illness, stress appraisal, and hope on coping in survivors of breast cancer. Cancer Nurs 23: 422-429.