

RESEARCH ARTICLE

Disease Uncertainty in Patients with Breast Cancer

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Abstract: Breast cancer is a chronic disease, which will produce uncertainty, affects the overall health and damages the quality of life of patients. The purpose of this relevant, quantitative and cross-sectional study was to link the degree of uncertainty in patients with breast cancer based on sociodemographic and diagnostic variables. For convenience, 61 participants were sampled. Sociodemographic data questionnaire and Michelle Uncertainty Scale were used. Data processing and analysis were conducted by SPSS19, and the relationship between variables was tested by Chi Square test. Majority of the population in the study was between the ages of 50 and 69. 62% of people have regular uncertainty. The degree of uncertainty of the study population is related to the level of education and the time of diagnosis.

Keywords: Uncertainty, Breast cancer, Diagnosis, Tumor nursing, Chronic diseases

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1. Introduction

In recent years, the epidemiology of breast cancer has changed significantly, and the morbidity, mortality and economic cost are increasing, so it has become a public health problem^[1]. In low-and middle-income countries, the problem is exacerbated by the lack of timely disease detection health systems, leading to late diagnosis^[2].

Breast cancer affects not only the patient^[3], but also the experience of the whole family, because the roles of all members are seriously affected^[4], creating an obstacle in the daily life of the family and the normal availability of the mother, which can lead to conflict and stress^[5,6].

Comprehensive treatment of breast cancer is required, because it is considered to be a chronic disease, and its development depends on a variety of factors. The symptoms of patients are often uncertain, which has a negative impact on people and the surrounding core^[7,8]. Uncertainty may be one of the factors affecting patients' calm and overall health, especially in diagnosis, because insecurity, pain and fear of death may have physical, emotional and mental effects, which may accelerate the development of diseases or lead to the occurrence of other diseases, damaging their quality of life^[9,10].

There has been a theory about disease uncertainty, which was founded by Merle h. Mishel^[11] to describe the process of adapting to various diseases^[9,12,13].

This theory describes uncertainty as the inability to describe and explain the meaning of disease-related facts, resulting in ineffective prediction of results^[9,12] and affecting the patient's response to new situations.

Uncertainty is related to ignorance and misunderstanding of the disease process, including diagnosis, treatment and monitoring procedures. The identification of uncertainty by health workers can guide intervention strategies and promote the adaptation and response of patients and families to disease experience^[14,15]. However, it is important to consider the conceptual elements proposed in the model, such as schema, cognitive ability and social support, which may be affected by the patient's own conditions and sociodemographic variables.

Based on the above questions, this study aims to link the uncertainty of women with breast cancer according to variables such as age, education, marital status, socio-economic level and diagnosis time.

2. Materials and methods

2.1. Learning type

The design type is quantitative, interrelated and cross domain. Considering the uncertainty theory proposed by Merle H. Mishel^[11] and its relationship with age, education level, marital status, socio-economic level and diagnosis time variables, the degree of uncertainty of breast cancer patients can be determined.

2.2. Population, sample and sampling

For convenience, through non probabilistic sampling, 61 women over the age of 18 diagnosed with breast cancer were selected from a private level IV care facility in Monteria from March to July 2016.

2.3. Instruments and apparatuses

In order to achieve these goals, the author designed a pre-pilot test and a sociodemographic knowledge volume in order to make necessary adjustments. In addition, it uses the Uncertainty Scale prepared by Merle H. Mishel and its Spanish validated version^[14], which has been applied in various studies in Colombia^[9,16]. The scale has four factors: fuzziness, predictability, complexity and inconsistency. It contains 29 Likert type questions, ranging from 1 to 5 points, from very disagree to very agree; The 5 points for each question reflect a high degree of uncertainty, except for questions 6, 7, 10, 12, 21, 22, 25, 27 and 29, where the scores are reversed. The maximum score is 145 points and the minimum score is 29 points. Score <59 is a low level of uncertainty (NI); normal NI level is equivalent to 59–87 points, high NI: >87 points (16 points). The scale has been widely used in different populations. It is a reliable and effective

tool for measuring uncertainty. A pilot test was carried out to determine the easy to understand scale and the average application time of 30 minutes.

2.4. Data analysis

SPSS 19 software is used for information processing. Descriptive and central trend measurements were used in data analysis. The relationship between variables was determined by chi square independence test.

2.5. Ethical considerations

According to Resolution 8430 of 1993, the present research is considered a research without risk, because the patient will not be physically intervened, being a documentary type research, by means of a questionnaire and the instrument is the uncertainty scale, so the variables obtained from the information of the sample were not altered or modified. Each participant was asked for authorization by means of a previously signed informed consent form.

3. Result

According to sociodemographic statistics, 42% of the participants were between 50 and 69 years old; 31.1% of the subjects were married, 11.5% were separated, 21.3% were single, 29.5% were free to combine, and 6.6% were widows. With regards to the level of education, 4.9% of the participants did not conduct any research, 23% had attended primary school, 4.6% had a bachelor's degree, 27.9% graduated from technical college and 1.63% graduated from graduate school.

At the socio-economic level, 85.2% of participants belong to layers 1 and 2. Considering the time of diagnosis, 57.4% of participants were diagnosed 13 to 24 years ago. (Table 1).

With regards to the level of uncertainty, according to Merle's classification, 62% of participants showed a regular degree of uncertainty.

The largest uncertainty index appears in the process of the disease (they don't know whether the disease worsens or progresses), the doctor's explanation (they seem to be confused, they don't understand), the difficulty of understanding the treatment (the purpose of the treatment is not clear), the fear of pain, and the difficulty of dealing with symptoms. They are uncertain about the future and their daily emotions.

As for the relationship between sociodemographic aspects, diagnosis time and uncertainty level, significant correlation between education level ($P = 0.021$) and diagnosis time ($P = 0.006$) variables and uncertainty level is obtained through chi square test. For other study variables, no significant correlation was observed, and the P value was greater than 0.05 (Table 3).

Table 1. Sociodemographic variables and diagnosis time of breast cancer women participating in the study

Variable	Frequency	Percentage (%)
Age		
18–30 years old	11	18%
31–49 years old	21	34.4%
50–69 years old	26	42.6%
70 years old and over	3	4.9%
Marital status		
Unmarried	13	21.3%
Married	19	31.1%
Apart	7	11.5%
Free combination	18	29.5%
Widow	4	6.6%
Educational level		
No research	3	4.9%
Primary	14	23%
Secondary	26	42.6%
Technology-University	17	27.9%
Graduate student	1	1.6%
Socio-economic level		
Stratum 1–2	52	85.2%
Stratum 3–4	8	13.1%
Stratum 5–6	1	1.6%
Diagnosis time		
Less than 6 months	5	8.2%
6–12 months	17	28%
13–24 months	35	57.4%
More than 24 months	4	6.6%

Table 2. The uncertainty level of breast cancer in women participating in the study

		Frequency	Percentage	Effective percentage	Cumulative percentage
Effective	Low	0	0	0	0
	Regular	38	62.3	62.3	62.3
	High	23	37.7	37.7	100.0
	Total	61	100.0	100.0	

Source: Sociodemographic questionnaire. Monteria, 2016

4. Discussion

62% of the subjects had regular uncertainty about breast cancer. This result is consistent with a study of diabetic patients in Cartagena^[15]. However, it differs from a study performed in oncology patients in Chile^[17] and another in patients with ischemic heart disease, in which the level of uncertainty was high^[16].

It has been described that the assessment of uncertainty reflects subjectivity in the experience of facing changes caused by death or disease, as well as adaptive responses^[18]. Uncertainty reflects a series of emotions that directly affect the patient's possible coping strategies for the disease, and the regular level of uncertainty shows that although some information is processed, it is still difficult for the patient to adapt to the new living conditions^[8].

The age range of study participants was 50–69 years. It is consistent with the description of Montalvo *et al.*^[19]

and Mera^[2], whose average ages observed in their study were 54 and 52.8 years, respectively. According to the Centers for Disease Control and Prevention (CDC), the risk of breast cancer increases with age^[20].

With regards to the marital status of the participants, 31.1% were married and 29.1% were free to combine. A study conducted in Antioquia reported that most women treated for the disease have a permanent partner (54%), which is conducive to their support^[21]. It is reported that expressing love and trust helps to cope with emotional crises in the process of disease^[22]. Social support is the health guarantee for all. In this case, the social support of breast cancer patients is related to lower uncertainty level^[23] and better quality of life of cancer patients^[24]. However, statistical analysis shows that there is no significant correlation between marital status and uncertainty level in this study.

With regards to the educational level of the subjects, 42.62% of the subjects had a bachelor's degree, i.e.

Secondary or secondary education, which was similar to those of Spanish breast cancer patients^[25]. Research shows that education level is a determinant of mental health, well-being and perceived health^[26,27]. Similarly, it has been described that education is associated with lower levels of uncertainty^[9,28,29] and has a direct impact on higher educated people, making them a positive aspect faster than lower educated people^[19]. Secondary or higher education helps to better understand the stress situation faced by patients^[13].

At the socio-economic level, 85.2% of participants are primary and secondary, that is, the socio-economic level is low; However, it is not related to the level of uncertainty ($P = 0.30$), which is contrary to what is described in the literature, which describes the socio-economic level as a factor closely related to health

status^[30]. Various studies have shown that lower socio-economic levels are associated with worse health status^[31], which in many cases determines timely access to health services, which affects the early detection of various cancers, including breast cancer^[32], and improves the efficiency of disease management, thus affecting the uncertainty of disease^[3,8].

Related to the diagnosis time, a relationship was observed that the longer the diagnosis time, the lower the level of uncertainty. This is consistent with that described in the literature, which has determined that with the extension of diagnosis time, patients and their families will be more familiar with the experience of the disease and gain more knowledge, so as to reduce the anxiety and uncertainty caused by the new situation^[3-5].

Table 3. The relationship between sociodemographic variables, diagnosis time and uncertainty level of female study participants.

Variable	Uncertainty level		Chi square	Geographic information system
	Regular	High		
Age				
18–30 years old	4	7	6.48	0.90
31–49 years old	12	9		
50–69 years old	19	7		
70 years old and over	3	0		
Marital status				
Unmarried	6	7	4.0	0.39
Married	12	7		
Apart	7	3		
Free combination	12	6		
Widow	4	0		
Educational level				
No research	3	0	11.5	0.021
Primary	13	1		
Secondary	14	12		
Technology University	8	9		
Graduate student	0	1		
Socio-economic level				
Stratum 1–2	34	18	2.3	0.30
Stratum 3–4	4	4		
Stratum 5–6	0	1		
Diagnosis time				
<6 months	0	5	12.5	0.006
6–12 months	9	8		
13–24 months	25	10		
>24 months	4	0		

Source: Sociodemographic knowledge volume-Uncertainty Scale. Monteria, 2016.

5. Conclusion

61 women participated in the study. 62% showed regular uncertainty and 38% showed high uncertainty. In response to the main objectives, the study found that different levels of education and diagnosis time were related to the uncertainty of patients with breast cancer. On the other hand, variables such as age, socio-economic level and marital status have no association with the

greater degree of uncertainty in the study population.

Conflict of interest

The authors of this research declared that they have no conflicts of interest for intellectual, academic, moral or research reasons. This project was carried out with their own resources.

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