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Research Article

The Relationship Between Hope and Received Information About Cancer Among Women with Breast Cancer: A Descriptive-Correlational Study

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Abstract

Background: In Western culture, information about different aspects of cancer is directly provided to the individual, but in Eastern culture, health professionals and families do not prefer to inform the patient from diagnosis, treatment, test results, causes of the disease, and the effect of treatment on sexual intercourse in front of patients in order to maintain their hope.
Objectives: This study aimed at investigating the relationship between hope and received information about cancer (RIAC) among patients with breast cancer.
Methods: Using a descriptive-correlational design, this study was conducted from July to December 2019 on 200. Patients with breast cancer were consecutively recruited from 2 hospitals affiliated with the Iran University of Medical Sciences, Tehran, Iran. The participants completed a demographic and clinical characteristics questionnaire, the European Organization of Research and Treatment of Cancer Quality of Life Information module (EORTC QLQ-INFO25), and the Herth hope index.
Results: The response rate was 100% and participants' mean age was 49.0 ± 10.33. The mean scores of participants' RIAC and hope were 40.17 ± 11.52 (in the possible range of 0 - 100) and 36.77 ± 4.61 (in the possible range of 12 - 48), respectively. The mean score of hope had significant positive relationships with the mean score of RIAC ($r = 0.305$; $P < 0.001$), and educational level ($P = 0.004$). Moreover, the mean score of RIAC had a significant positive relationship with educational level (0.049).
Conclusions: Greater RIAC is associated with greater hope among patients with breast cancer. Therefore, healthcare providers need to establish effective communication with these patients and provide them with necessary education and information in order to promote their engagement in care plans, improve their self-efficacy, and boost their hope.

Keywords: Breast Cancer, Hope, Information, Culture

1. Background

Cancer is a chronic disease and a major healthcare challenge throughout the world (1). Breast cancer (BC) is the most prevalent cancer among women in both developed and developing countries (2). In 2018, 627000 women died due to BC in the world (3). In Iran, 12802 new cases of BC are annually diagnosed and BC is the most prevalent cancer (4).

BC is associated with many significant complications such as hair loss, fatigue, weight gain, physical defects, upper extremity dysfunction, and altered body image (5). BC-associated complications can cause many psychological problems (6). Thereby, this kind of cancer is the most psychologically and emotionally effective cancer among women (7).

When a woman, as a wife and mother, gets cancer, her family dealing with a lot of stress. In addition, cancer treatment affects the relationship between couples by reducing sexual desire and can lead to divorce in families (7, 8). Therefore, these consequences by creating emotional reactions such as sadness, fear, and pain cause patients to lose hope as an important component for survival (8, 9). While hope is an effective factor for helping patients with cancer to cope with the disease and achieve goals (10). As an intrinsic property, hope enriches life and enables patients to have a better understanding of their conditions, pain, and suffer (11). Studies showed that hopeful people have more positive thoughts about their lives and are more inclined to identify the positive aspects of traumatic situations; they can set other goals, such as spending more time with family and enjoying the opportunity left (12).

The amount of received information about cancer (RIAC), particularly from healthcare providers, is one of the factors which can affect hope among patients with cancer (13). This information includes the diagnosis, treatment, prognosis, test results, complications of the disease, and the effect of treatment on social and sexual life (14). Patients have the right to be informed about the disease and the issues surrounding it so that they can make decisions based on their conditions, although the patient's right to avoid receiving the information must be considered (15). The results of studies indicated the desire of patients to receive more information about the disease (16). However, a review of medical literature indicated that patients with cancer do not receive adequate information about the disease (17).

Since bad news such as telling the cancer diagnosis and providing information about recurrence or metastasis according to the prognosis of the disease are essential parts of information in the field of oncology (18), one of the important factors that causes healthcare providers to avoid providing cancer patients with adequate information is their fear of diminishing patients' hope (15). This practice is more common in Eastern culture. In Western culture, healthcare providers usually provide patients with adequate information about their conditions and treatments, while families and healthcare providers in most Asian cultures refuse to provide information to patients with cancer in order to boost their hope and morale (19). But is it really possible to keep patients with cancer hopeful by hiding information from them? In order to answer this question, previous studies reported varying results regarding the effects of RIAC on hope. For example, some studies showed that patients' greater knowledge about cancer, its treatments, and its prognosis did no negatively affect their hope (20, 21). Other studies revealed that knowledge and awareness about cancer can be associated with positive consequences (15, 22). Contrarily, some studies showed that acquiring knowledge about cancer and its different aspects was associated with a stronger emotional reaction to the illness and hopelessness (13, 23).

2. Objectives

Therefore, the conflicting results of research on the relationship between knowledge of different dimensions of the disease and hope in patients with cancer were the most important concern of researchers to conduct this study. To the best of our knowledge, there was no study conducted into this relationship among patients with BC in Iran. Therefore, this research aimed at investigating the relationship between hope and RIAC among patients with BC.

3. Methods

3.1. Study Design and Participants

This descriptive-correlational study was conducted in July-December 2019. The study setting was inpatient hospital wards and outpatient clinics in 2 hospitals affiliated with the Iran University of Medical Sciences, Tehran, Iran. Eligible women with BC were recruited to the study through consecutive sampling. In this method, sampling was continued up to 200 participants in the study. Inclusion criteria were age older than 18 years, awareness of cancer diagnosis, ability to establish verbal communication, no history of mental disorders, no metastasis to other organs, and no experience of serious crises in the last 6 months before the study. Patients who did not fill out questionnaires completely were excluded. With a confidence level of 0.95, a power of 0.80, and a hypothetical RIAC-hope correlation coefficient of at least 0.2, the sample size was calculated to be 200.

3.2. Instruments

In this study, 3 instruments were used:

1- Demographic and Clinical Characteristics Questionnaire: Contained items on participants' age, educational level, employment status, family income, marital status, duration of affliction by cancer, number of chemotherapy courses, history of affliction by other health problems, and family history of cancer.

2- European Organization of Research and Treatment of Cancer Quality of Life Information module (EORTC QLQ-INFO25): Is a module of the EORTC QLQ-C30 and is used as a valid and reliable scale for assessing RIAC among patients with cancer. The items of EORTC QLQ-INFO25 come after the 30 items of the EORTC QLQ-C30 and hence, start from item 31 and end with item 55. The 25 items of this scale fall into 12 dimensions. Four dimensions including multiple items are related to information about the disease (items 31 - 34), information about medical tests (items 35 - 37), information about treatments (items 38 - 43), and information about other services (items 44 - 47). The remaining 8 dimensions are single-item dimensions (items 48 - 55) which are respectively related to information about different places of care, information about things you can do to help yourself get well, written information, information on CD or tape/video, satisfaction with RIAC, willingness to receive more information, willingness to receive lesser information, and helpfulness of RIAC. Four items are "yes/no" questions, while 21 items are answered and scored on a 4-point Likert scale as follows: "1 = not at all" to "4 = very much". The scores of all items were changed into a 0-100 scale with higher scores showing more RIAC, greater willingness to receive information, and greater satisfaction with RIAC. EORTC QLQ-INFO25 was developed and validated by Arraras et al. in 2010 with a total Cronbach's alpha of 0.91 and test-retest correlation coefficients of 0.71 - 0.91 (16). Asadi-Lari et al. (14) confirmed that the Persian EORTC QLQ-INFO25 had an acceptable face and content validity and Cronbach's alpha coefficient of the scale was 0.7. In the present study, the Cronbach's alpha coefficient of EORTC QLQ-INFO25 was 0.76.

3- Herth Hope Index: This index was developed and validated by Herth in 1992. It contains 12 items which are answered and scored on a 4-point Likert scale as follows: "1 = completely disagree" to "4 = completely agree". The possible total score of the questionnaire is 12 - 48 with higher scores showing greater hope. Herth reported that the Cronbach's alpha and the test-retest correlation coefficient of the scale were 0.97 and 0.91, respectively. Abdi and Asadi Lari (24) reported that the Cronbach's alpha of the Persian Herth Hope Index was 0.81. In this study, the Cronbach's alpha coefficient of the Herth hope index was 0.85.

3.3. Data Collection

For data collection, the last author selected eligible patients with BC who were referred to inpatient wards and outpatient clinics for chemotherapy. Patients were reassured that they would not experience any problems with the study. In response to the RIAC questionnaire, patients were given the necessary explanations to consider only the information they received from the health care team. For participants with limited literacy skills and patients undergoing chemotherapy, instruments were completed through the self-report method.

3.4. Data Analysis

Data were analyzed using the SPSS software (version 16). The Pearson's correlation analysis, the independent-sample t-test, and the one-way analysis of variance were performed for data analysis. In all statistical analyses, the level of significance was set at less than 0.05.

3.5. Ethical Considerations

The Ethics Committee of Iran University of Medical Sciences, Tehran, Iran, approved this study (code: IR.IUMS.REC.1398.185). Participants received clear explanations about the aim of the study, the potential advantages and disadvantages of the study, and the confidential management of their data. Written informed consent was obtained from all participants.

4. Results

All 200 participants completed the study instruments. The mean age of participants was 49.0 ± 10.33. Most participants were married (90.5%) and housewife (83%) and had a sufficient family income (83.5%). Around 34.5% of them had elementary (Table 1).

The mean scores of RIAC and hope were 40.17 ± 11.52 and 36.77 ± 4.61, respectively. The mean score of RIAC only had a significant relationship with participants' educational level ($P = 0.049$; Table 1). Post hoc analysis revealed that the mean score of RIAC among participants with a university degree was significantly higher than illiterate participants ($P = 0.027$). Moreover, the mean score of hope had a significant relationship with participants' educational level ($P = 0.004$) (Table 1). Post hoc analysis showed that the mean score of hope among participants with a university degree was significantly greater than illiterate participants ($P = 0.031$).

Respecting RIAC, the highest and the lowest dimensional mean scores were related to the willingness to receive more information (90.50 ± 29.39) and the information on CD or tape/video (0.50 ± 7.07) dimensions, respectively. Around 51% of participants had low satisfaction with RIAC and only 4% of them reported deep satisfaction. Respecting the helpfulness of RIAC, 44.5% of participants had low satisfaction, 38% moderate satisfaction, and only 5.5% had deep satisfaction with the helpfulness of RIAC, and 12% of them reported that RAIC was not helpful for them at all. Among 181 participants who wished to receive more information (90.5%), 48.6% wished to receive more information about BC prognosis. Finally, only 17 participants (8.5%) wished they had received less information and 58.8% of them wished they had received less information about metastasis. Table 2 shows the mean scores of all items of EORTC QLQ-INFO25.

RIAC had significant positive correlation with hope ($r = 0.305$; $P < 0.001$). In other words, women who received more information about cancer had significantly greater

Table 1. The Total Mean Scores of Participants' RAIC and Hope Based on Their Characteristics[a]

Characteristics	Values	Hope		RIAC	
		Mean ± SD	P-Value	Mean ± SD	P-Value
Marital status			0.059[b]		0.803[b]
Single	19 (9.5)	35.63 ± 6.15		53.52 ± 7.71	
Married	181 (90.5)	36.88 ± 4.42		51.75 ± 7.72	
Educational level			0.004[c]		0.049[c]
Illiterate	23 (11.5)	4.46 ± 34.73		48.56 ± 8.07	
Elementary	69 (34.5)	4.51 ± 35.71		51.26 ± 6.90	
Secondary	29 (14.5)	3.78 ± 37.79		52.27 ± 6.70	
Diploma	48 (24)	5.05 ± 37.62		52.39 ± 7.19	
University	31 (15.5)	4.07 ± 38.35		54.80 ± 9.88	
Employment status			0.186[c]		0.097[c]
Housewife	166 (83)	36.50 ± 4.65		51.39 ± 7.44	
Retired	9 (4.5)	5.56 ± 38.33		53.88 ± 6.62	
Employee	25 (12.5)	3.79 ± 38.00		54.72 ± 9.32	
Family income			0.162[c]		0.277[c]
Low	23 (11.5)	5.13 ± 35.04		49.52 ± 6.11	
Sufficient	167 (83.5)	4.62 ± 37.00		52.26 ± 7.88	
High	10 (5)	2.07 ± 36.90		51.60 ± 7.98	
Duration of afflication by cancer, mon			0.130[c]		0.776[c]
< 12	124 (62)	37.20 ± 5.02		52.03 ± 8.07	
12 - 24	28 (14)	36.78 ± 3.43		50.96 ± 6.76	
> 24	48 (24)	35.62 ± 3.93		52.18 ± 7.39	
Number of chemotherapy courses			0.675[c]		0.612[c]
< 5	52 (26)	37.26 ± 5.06		50.82 ± 6.84	
5 - 9	115 (57.5)	36.62 ± 4.64		52.26 ± 7.54	
≥ 10	33 (16.5)	36.48 ± 3.78		51.69 ± 9.28	
History of other health disorders			0.851[b]		0.81[b]
No	131 (65.5)	36.85 ± 4.66		51.22 ± 8.00	
Yes	69 (34.5)	36.72 ± 4.60		53.23 ± 7.02	
Family history of cancer			0.433[b]		0.275[b]
No	122 (61)	36.97 ± 4.61		51.44 ± 7.41	
Yes	78 (39)	36.44 ± 4.82		52.66 ± 8.17	
Age, y	49.0 ± 10.33	Pearson's correlation: r = -0.078; P = 0.274		Pearson's correlation: r = -0.102; P = 0.151	

[a] Values are expressed as No (%) or mean ± SD.
[b] The results of the independent-sample *t*-test.
[c] The results of the one-way analysis of variance

hope. Moreover, the total mean score of hope had significant positive relationships with 4 dimensions of RIAC, namely information about medical tests (r = 0.326; P < 0.001), information about treatments (r = 0.310; P < 0.001), satisfaction with RIAC (r = 0.368; P < 0.001), and helpfulness of information (r = 0.392; P < 0.001). Table 2 shows the coefficients of the correlation between the total mean score of hope and the total mean scores of RIAC and its different dimensions.

5. Discussion

The purpose of this study was to determine the relationship between hope and RIAC among patients with BC. We found that RIAC had a significant positive correlation with hope among patients with BC. In other words, patients who had received more information about their conditions by healthcare professionals had greater hope. other studies also reported greater hope among patients who had received information about their disease (25, 26). Since BC patients suffer from adverse outcomes such as decreased libido, altered body image, conflict in the role of mother and wife, and decreased fertility and sexual attractiveness they need enough information to overcome these problems (7, 27, 28).

In some sociocultural contexts such as the context of Iran, talking about cancer-related issues is a taboo and cancer is equated with hopelessness and death. Therefore, cancer-related information is usually provided to family members instead of patients. However, evidence shows that providing patients with adequate information using appropriate communication strategies not only raises their hope, but also encourages them to actively engage in their treatment, reduces their anxiety, enhances their understanding of goals, and improves their coping abilities and quality of life (15, 29). Active engagement in the process of care in turn promotes patients' perceived self-efficacy for managing their illnesses and life challenges and thereby, boosts their hope (11). Contrary to our findings, a study in Turkey showed that patients who had a clearer understanding of the treatment goals had lower levels of hope (13). Adverse effects of being informed about cancer and its aspects can be due to lack of communication and insufficient skills of health professionals in providing information. Therefore, it is necessary to use appropriate methods and provide information to patients in accordance with patients' perceptions, preferences, culture, educational needs, and emotional conditions in order to prevent the provision of information that can reduce their hope (30).

Our findings showed that the mean score of hope among patients with BC was greater than the median score of the Herth hope index. Diagnosis of cancer by associating difficult treatments, excruciating complications, and eventually death seemed to impair a person's quality of life and lead to a loss of life expectancy. However, according to the findings of the present study, women with BC have not lost their life expectancy. Advances in medical science and the ability to diagnose BC in the early stages that lead to the long-term survival of such patients may play an important role in promoting their life expectancy (31, 32).

Results showed that the mean score of hope had a significant relationship with educational level so that participants with university degrees had greater hope compared with illiterate participants. Two former studies also reported the same finding (22, 33). This may be attributed to more access of highly educated people to information resources such as internet, books, magazines, and articles which can enhance a person's hope. In this way, the results of studies showed that increasing education is a solution to learn ways to cope with frustration, stress, and anxiety. In other words, increasing awareness can increase life expectancy by changing people's attitudes (34, 35).

We also found that the mean score of RIAC was less than the possible median score of EORTC QLQ-INFO25. A similar finding has been reported in Spain (16). Contrarily, in 2 studies among women in Belgium (36) and Malaysia (37), the mean score of RIAC was greater than the median score of EORTC QLQ-INFO25. This contradiction is attributable to the fact that while only 15.5% of our participants had a university degree, this rate in those 2 studies was 45.6% (36) and 23.3% (37), respectively.

Our findings also showed that RIAC among participants with a university degree was significantly greater than their illiterate counterparts. People with higher education may be more curious about their illness and want to know more about the details of the illness. Similarly, 2 former studies reported that educational level had a significant relationship with RIAC among patients with cancer in Lebanon (38) and Malaysia (37).

The highest dimensional mean score of RIAC was related to the "willingness to receive more information" dimension. In line with this finding a, former study by Oswald et al. (39) reported that patients with cancer wished to receive more information about cancer. Contrarily to our findings, a study by Lew et al. (37) showed that the highest RIAC dimensional mean score was related to the helpfulness of the information dimension. The great willingness of our participants for receiving more information about cancer is probably due to the poor quality of education provided to patients in the study setting. Factors such as the lack of managerial supervision, nurses' limited interest and time in educating patient, and family members' request for non-provision of cancer-related information to

Table 2. The Mean Scores of the Items and the Dimensions of RIAC and the Correlations of Dimensional Mean Scores with the Mean Score of Hope

Number	Items	Mean ± SD	Dimensions, Mean ± SD	Pearson Correlation
31	The diagnosis of your disease?	99.83 ± 2.35	Information about disease; 62.58 ± 13.75	r = 0.140; P = 0.047
32	The extent (spread) of your disease?	80.00 ± 28.93		
33	The possible causes of your disease?	15.66 ± 24.76		
34	Whether the disease is under control?	54.83 ± 27.93		
35	The purpose of any medical tests you have had or may undergo?	41.16 ± 32.39	Information about medical tests; 39.05 ± 27.37	r = 0.326; P < 0.001
36	The procedures of the medical tests?	35.66 ± 35.91		
37	The results of the medical tests you have already received?	40.33 ± 30.18		
38	The medical treatment (chemotherapy, radiotherapy, surgery or other treatment modality)?	78.33 ± 28.89	Information about treatments; 35.44 ± 15.31	r = 0.310; P < 0.001
39	The expected benefit of the treatment?	35.83 ± 31.15		
40	The possible side-effects of your treatment?	63.00 ± 32.18		
41	The expected effects of the treatment on disease symptoms?	26. 16 ± 29.29		
42	The effects of the treatment on social and family life?	7.33 ± 18.65		
43	The effects of the treatment on sexual activity?	2.00 ± 10.37		
44	Additional help outside the hospital (e.g. help with daily activities, self-help groups, district nurses)?	19.83 ± 30.27	Information about other services; 23.12 ± 15.66	r = -0.012; P = 0.872
45	Rehabilitation services (e. g. physiotherapy, occupational therapy)?	12.83 ± 27.89		
46	Aspects of managing your illness at home?	49.83 ± 32.74		
47	Possible professional psychological support?	10.00 ± 25.22		
48	Different places of care (hospitals/outpatient services/home)?	56.83 ± 36.26	r = 0.118; P = 0.095	
49	Things that you can do to help yourself get well (rest, contact with others)?	32.33 ± 32.72	r = 0.098; P = 0.168	
50	Have you received written information?	37.50 ± 48.53	r = 0.074; P = 0.297	
51	Have you received information on CD or tape/video?	0.50 ± 7.07	r = 0.107; P = 0.132	
52	Were you satisfied with the amount of information you received?	44.33 ± 23.65	r = 0.368; P < 0.001	
53	Do you wish to receive more information?	90.50 ± 29.39	r = 0.071; P = 0.381	
54	Do you wish that you had received less information?	8.00 ± 27.19	r = -0.099; P = 0.162	
55	Overall has the information you have received been helpful?	45.66 ± 25.51	r = 0.392; P < 0.001	
Total		40.17 ± 11.52	r = 0.305; P < 0.001	

their cancer patients leads to the provision of limited education and information to cancer patients and hence, these patients are usually unaware of their conditions and wish to receive more information (19, 40).

Our findings also showed that the lowest dimensional mean score of RIAC was related to the information on CD or tape/video dimension. Two studies in Spain and Malaysia also reported the same finding (19, 37). This finding may be related to the lack of necessary budget and equipment as well as healthcare providers' limited skill for patient education through digital media (40).

Our findings also showed that more than half of the participants had low satisfaction with RIAC. Other studies in Iran also reported that patients with cancer were dissatisfied with patient education about the appropriate use and the side effects of medication (41, 42). Patient dissatisfaction with RIAC may result in healthcare providers' inattention to patients' educational needs, provision of limited or trivial information to patients, and use of incomprehensible technical jargons in patient education.

We also found that around half of the participants were dissatisfied with the helpfulness of RIAC and only 5% of them were highly satisfied. Contrarily, studies in Spain and Lebanon reported that patients were satisfied with the helpfulness of RIAC (19, 38). Factors such as healthcare providers' limited communication skills, their limited knowledge about cancer and its treatment, lack of appropriate environment and adequate time for education, patients' inattention and limited motivation for learning, and their poor mental and physical status can result in dissatisfaction with RIAC (40, 43).

In this study, around half of the participants wished to receive more information about cancer prognosis. A negative view towards cancer has led health professionals to refrain from providing prognostic information to keep patients hopeful. However, the results of studies showed that providing information related to the prognosis in accordance with the patient's preferences, can even reduce patients' stress and anxiety and improve their mental health well-being (44).

Findings also showed that more than half of patients who wished they had received less information, wanted less information about metastasis. Metastasis is one of the main causes of treatment failure, is perceived as the spread and aggravation of cancer, and hence, can negatively affect patients' perceptions of their future (15). Therefore, patients with cancer usually prefer not to receive information about metastasis.

5.1. Study Limitations

This study was conducted just in 2 hospitals and sampling was not performed randomly. These limitations may undermine the generalizability of the findings. Therefore, large-scale studies on random samples of patients are recommended to produce more reliable data. Also, individual, family, and cultural differences of patients in adapting to cancer were uncontrollable factors in the present study.

5.2. Conclusions

This study shows that RIAC has a significant positive correlation with hope among patients with BC which highlights the great importance of providing cancer patients with clear information about their conditions. Interventions at the society level are needed to change public attitude towards cancer and the importance of providing patients with cancer with adequate information about their conditions. Providing patients with adequate information can improve their quality of life and enhance their satisfaction with treatment.

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Footnotes

Authors' Contribution: Fatemeh Negari, Maryam Ehsani, Mansoureh Ashghali Farahani, and SHima Haghani designed the study. Fatemeh Negari collected the study data. Fatemeh Negari, Maryam Ehsani, and Shima Haghani performed data analysis and interpretation. Fatemeh Negari and Maryam Ehsani prepared the manuscript.

Conflict of Interests: It was not declared by the authors.

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