

Original Paper

Comparing Coping Styles Between Patients With Cancer and Healthy People



Sayede Tahere Taheri Otaghsara¹, Tahere Khaleghdoost Mohammadi^{2*}, Faride Hasavari², Ehsan Kazem Nezhad Leyli³

1. Nursing (MSc.), Social Determinants of Health Research Center (SDHRC), Guilan University of Medical Sciences, Rasht, Iran.

2. Instructor, Social Determinants of Health Research Center (SDHRC), Department of Nursing (Medical Surgical), Guilan University of Medical Sciences, Rasht, Iran.

3. Associate Professor, Social Determinants of Health Research Center (SDHRC), Biostatistics, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran.

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ABSTRACT

Introduction: Cancer is one of the most important health problems of present times. Evidence suggests that stress and lack of proper coping styles can play a role in the onset and progression of cancer.

Objective: This paper aims to compare the coping styles of cancer patients referring to a medical educational and healthy individuals in Rasht City.

Materials and Methods: An analytical cross-sectional study was conducted with 77 cancer patients and 77 healthy individuals in selected hospitals of the Guilan University of Medical Sciences during 2014-2015 with the convenience sampling method. Data was collected through questionnaires consisting of individual and clinical variables, and The Folkman and Lazarus coping strategies. Data were statistically analyzed using descriptive statistics (mean, standard deviation, and frequency) and inferential statistics (the Chi-square, the Independent t test, Mann-Whitney, and regression analysis).

Results: The subscales of seeking social support ($P=0.047$), accepting responsibility ($P=0.004$), rational problem solving ($P=0.003$), avoidance ($P=0.012$), and income level ($P=0.023$) were the factors associated with the coping style of cancer patients. In addition, cancer patients used the avoidance strategy more than others to deal with their problems ($OR=4.3$, $P=0.019$).

Conclusion: Nurses can benefit from such studies to design educational, prevention and screening programs. We recommend that educational programs be developed and the patients be trained in using problem-focused styles in dealing with stress and life-threatening situations.

* Corresponding Author:

Tahere Khaleghdoost Mohammadi, MSc.

Address: Social Determinants of Health Research Center (SDHRC), Department of Nursing (Medical Surgical), Guilan University of Medical Sciences, Rasht, Iran.

Tel: +98 (13) 33555056

E-mail: khaleghdoost@gums.ac.ir

Introduction

In spite of the remarkable advances in medical science, cancer remains one of the most prevalent diseases of the current century, and the second most common cause of death after cardiovascular diseases in the United States. In Iran, cancer is the third leading cause of death [1], with an estimated 70000 new cases every year, mainly in the Guilan Province which has one of the highest prevalence rates [2]. Due to current demographic trends and increasing life expectancy, the incidence of cancer is expected to increase from 84800 in 2012 to 129700 in 2025, i.e. by 35%, in Iran. In addition, the number of men and women afflicted with cancer will increase by 33% and 37%, respectively, during the same time period. A 52% increase is expected in the incidence of cancer in people younger than 65 years, and 48% in those older than 65 years by 2025 [3]. With increasing prevalence of cancer in various communities, it is highly likely that other factors besides physical condition, genetic tendencies and carcinogens play a role in this increase. Some evidence suggests that stress can also influence the onset and progression of cancer [4, 5], and the response or reaction to stress can play a significant role in individual adaptation to cancer [6]. For example, the Dehghanzadeh study showed a correlation between stress and colorectal cancer [7].

People in many countries, including Iran, have been increasingly looking for ways to escape from daily stresses and societal tensions. Response to stress is an individual experience, and people assess, adapt to and confront stress differently. An incident that might cause severe anxiety, depression or physical and psychological illness in one person, may not have any impact on another person, a phenomenon known as coping [8]. Generally, coping strategy has been described as an effort to enhance an individual's compliance with the situation or attempts to prevent its negative consequences [9, 10].

Based on the theory of Lazarus, there are two main types of coping mechanisms against psychological pressure: problem-focused and emotion-focused. In problem-focused coping, the person focuses on the stressful factor and tries to take constructive steps to change the tense situation or resolve it. In contrast, in emotion-focused coping, the individual tries to control emotional consequences of the stressful event. The primary function of emotion-focused coping is to adjust and control that stressful factor in order to maintain the emotional balance of the individual [11]. Problem-focused style includes the subscales of seeking social support, accept-

ing responsibility, rational problem solving, and positive reappraisal. The subscales of emotion-focused coping style are confrontational coping, distancing, escapism/avoidance, and self-control [10]. Coping strategies have an important role in reducing stress and as a result, improving mental health. Stress alone has limited value in evaluating and predicting the mental status of people, in the absence of coping strategies [12]. Although either coping method is effective, various studies have attempted to identify effective coping strategies [13], including in patients with cancer.

In the Karabulutlu study in Turkey, cancer patients benefited from the problem-focused coping styles more than healthy individuals [14]. In contrast, breast cancer patients used emotion-focused coping style in the study of Hamzeh in Iran [15], and specifically the confrontational and escape-avoidance coping styles in Rostami's study, more than healthy individuals [16]. Kazemi et al showed that using social support reduces the need for emotion-focused coping styles [17]. Some researchers believe that people who carry risk factors for cancer will develop the malignancy sooner if they experience more negative emotions in life [15, 18]. Awareness of the association of psychosocial factors like activities, thoughts, emotions, and coping styles with cancer can be helpful in predicting its incidence. Studies on the coping styles used by cancer patients have given differing results so far. In addition, the culture, literacy level, degree of social and economic support, and occupation (often farming) of the people of Guilan Province, which has a high prevalence of cancer in Iran, might affect their coping styles. The aim of this study was to compare the coping styles in cancer patients with healthy individuals.

Material and Methods

An analytical, a cross-sectional study was conducted on 77 cancer patients referring to a medical educational center and 77 healthy individuals living in Rasht City. The participants were selected using convenience sampling method based on the results of Hamzeh study [15] with 95% confidence interval, 90% power, expected clinical difference of 4, and the standard deviations of the emotion-focused coping style of 10.19 and 3.7 in patients and controls respectively. The questionnaires were distributed by the researcher among the patients (77 questionnaires) at two educational and therapeutic centers during their pre-chemotherapy period and among healthy subjects (570 questionnaires) during their visits to different medical educational centers in Rasht. Patients included those in the first and second sessions of chemotherapy. Inclusion criteria were age

between 20 and 65 years, no history of psychological problems as per medical records, and the start of the first or second chemotherapy session within 6 months of diagnosis. The inclusion criteria for the healthy group were age between 20 and 65 years, no history of psychological problems based on self-report, and no history of cancer. Data collection was carried out for about 4 months from February to June 2014.

The questionnaires used in this study had two parts: part one included individual and clinical variables, and part two the Ways of Coping Questionnaire (WOCQ) developed by Folkman and Lazarus [19]. Individual variables (including age, gender, marital status, occupation, place of residence, average monthly income, current family, the presence of a patient with cancer in the family) and clinical variables (including duration of illness, duration of treatment, average treatment cost per month since diagnosis, treatments taken) were selected by the researcher. WOCQ is a 66-item test on the problem-focused coping styles of subscales including seeking social support (6 items) accepting responsibility (4 items), rational problem solving (6 items), and positive reappraisal (7 items), and on the emotion-focused coping strategies with confrontational coping (6 items), distancing (6 items), escape-avoidance (8 items), and selfcontrol subscales (7 items). 16 items are deviant and their grades are not included in the analysis. The responses were rated based on the 4-point Likert-type scale from 0: "I have not used it at all" to 3: "I have used it often."

The raw score of each subscale was obtained by the adding up the scores of all items of the desired scale. The individual scores describe coping attempts for each of the eight coping styles, and the summed raw score describes the person's coping behavior in the face of stressful events. The proportion of each scale was then described with respect to all scales to control the number of unequal scores and different individual response levels. Relative score of each scale is expressed in terms of percentage; a high relative score of a scale implies higher use of that particular coping method. To calculate the relative scores, the average response of each scale is first obtained by dividing the total raw score of each scale by the number of items of that scale. Then the mean values of all scales are summed, and the average score of each scale is divided by the sum of all means to obtain the relative score (the main score) of that scale.

Both parts of the questionnaire were completed through interviews with the patients and healthy controls. To prevent any misunderstanding on account of a subject's low education level, the questionnaire was

read by the researcher for all study subjects and the same guidance was provided for all, if necessary. The relevant columns in the questionnaire were marked according to the answers received from the study subjects. The Ethics Committee of Guilan University of Medical Sciences approved the research with code No. 2930459707. All subjects were free to participate in the study and gave their oral consent. Eventually, the results were analyzed using SPSS version 21, and using descriptive statistics (frequency distribution, mean, standard deviation) and inferential statistics (Independent t test, ANOVA, and regression models only for cancer patients). The significance level was considered as $P < 0.05$.

Results

The distribution of the individual and social characteristics of the subjects of both groups were statistically homogeneous in terms of age, sex, education, household size, the presence of a person with cancer in the family, marital status, place of residence and occupation (Table 1).

As shown in Table 2, the groups were significantly different with regards to emotion-focused coping styles ($P = 0.001$). The mean score of the emotion-focused subscales was higher among the patients compared to the healthy individuals. Both groups were also significantly different with regards to problem-focused coping styles ($P = 0.001$), with the healthy individuals having a higher average score of the subscales compared to the patients. Therefore, the patients tend to use emotion-focused coping more frequently while healthy individuals rely more on the problem-focused coping.

Multiple adjusted regression analysis was used to determine the association of individual and clinical variables with the cancer group. As shown in Table 3, income level was the only demographic variable, along with the subscales of seeking social support ($OR = 0.3$, $P = 0.03$), accepting responsibility ($OR = 0.03$, $P = 0.003$), rational problem solving ($OR = 0.14$, $P = 0.001$), and escape-avoidance ($OR = 4.3$, $P = 0.019$) that were significantly associated with the style of coping. Therefore, by increasing the income level, the probability of using emotion-focused coping styles decreases ($OR = 0.25$, $P = 0.02$). In the Hamzeh study [15], salary classifications, as more or less than \$150, were considered.

Discussion

Recognizing psychological factors that affect cancer incidence, reducing stressors, and changing the attitude

Table 1. Distribution of subjects in terms of individual and social factors in two study groups

Individual and Social Characteristics		N (%)		*Sig.
		Healthy	Patient	
Gender	Male	41(53.21)	42(54.5)	0.872
	Female	36(46.8)	35(45.5)	
Age (year)	<40	17(22.1)	17(22.1)	0.984
	40-49	23(29.9)	24(31.2)	
	50-59	30(39.0)	28(36.4)	
	60≤	7(9.1)	8(10.4)	
Education level	Illiterate	10(13.0)	10(13.0)	0.999
	Elementary and middle school	29(37.7)	29(37.7)	
	Secondary and diploma	19(24.7)	19(24.7)	
	Academic	19(24.7)	19(24.7)	
Marital status	Single	6(7.8)	6(7.8)	0.999
	Married	71(92.2)	71(92.2)	
Employment status	Employed	10(13.0)	10(13.0)	0.999
	Unemployed	22(28.6)	22(28.6)	
	Retired	11(14.3)	11(14.3)	
	Housewife	34(44.2)	34(44.2)	
Current family (family size)	With spouse	5(6.5)	5(6.5)	0.942
	With spouse and children	68(88.3)	67(87.0)	
	Others	4(5.2)	5(6.5)	
Place of residence	City	34(44.2)	34(44.2)	0.999
	Village	43(55.8)	43(55.8)	
Family member with cancer	Yes	9(11.7)	9(11.7)	0.999
	No	68(88.3)	68(88.3)	
Income level	≤150 \$	33(29.9)	14(81.8)	0.812
	150 \$ <	54(70.1)	63(18.2)	

* The Chi-square test

of people towards such events is a necessary step in rehabilitating cancer patients. Nurses can play an important role in inculcating healthy coping strategies in a community and preventing diseases by recognizing the most common coping styles [20].

We found that cancer patients tend to use more emotion-focused coping styles, especially escape-avoidance, to cope with stress compared to the healthy individuals. This is consistent with the study of Hamzeh who

also showed that patients with cancer used emotion-focused coping more frequently [15], and contradicts the findings of Karabulutlu that patients used a more problem-focused coping style like seeking social support [14]. The difference in results is likely due to the different study groups and tools used for the study. Nevertheless, we believe that patients tend to use the problem-focused coping styles more when family and community, a source of emotional support, are involved.

Table 2. Distribution of problem-focused and emotion-focused coping styles in both healthy and patient groups

Study Group \ Coping Style	Mean±SD		*Sig.
	Healthy	Patient	
Problem-focused style score (0-100)	18.85(5.80)	8.15(6.26)	0.0001
Emotion-focused style score (0-100)	4.85(5.41)	18.32(7.39)	0.0001

*The Chi-square test

Table 3. Multiple adjusted regression analysis of coping styles with individual and social variables in relation to cancer disease

Variable	Coefficient of Regression	Standard Error	Sig.	Relative Distance	95% CI	
					Upper	Lower
Seeking social support	-1.199	0.560	0.032	0.302	0.101	0.904
Accepting responsibility	-3.290	1.119	0.003	0.037	0.004	0.334
Planful problem solving	-1.947	0.608	0.001	0.143	0.043	0.470
Escape-avoidance	1.479	0.630	0.019	4.388	1.276	15.086
Income	-1.370	0.604	0.023	0.254	0.078	0.830

In the present study, healthy individuals used problem-focused coping styles such as rational problem solving, accepting responsibility, and seeking social support, consistent with the study of Rostami et al who found that rational problem solving, accepting responsibility, and positive reappraisal were the preferred coping styles of healthy individuals. They also reported self-control, which is a subscale of the emotion-focused coping style, prevalent among the healthy people in their study [16]. It is possible that the simultaneous use of two types of coping styles by healthy individuals is due to the matched age and education level among the study groups. Emotion-focused coping strategies not only are inept in changing the situation, but they may also prolong the symptoms of the illness. Therefore, this kind of coping in cancer patients prevents them from directly and effectively dealing with the problem and decreases their ability to solve problems in the long run. It also prevents coherent thinking and induces emotional turmoil, which further undermines the ability to properly recognize the source of stress, and negatively affects physical and mental health. People who use problem-focused coping responses and adaptive cognitions in contrast, cognitively rebuild the problem or stressful situation, and enjoy a healthier life.

With regard to the average family monthly income, we found that higher income was associated with the use of emotion-focused coping style. According to our

findings, increasing the income level can decrease the likelihood of using emotion-focused coping styles. This contradicts the study of Dehghanzadeh et al who found no association between income and coping mechanism in colorectal cancer patients [7]. High income levels give a psychological equanimity and generally help people think and decide better in tense situations.

Furthermore, cancer patients were less likely to seek social support, accept responsibility, and rationally solve problems, and more likely to cope using avoidance. Since coping styles are the link between mental and physical disorder [15], and most studies have shown emotion-focused coping to be the most frequent during diseases [5, 15], the occurrence and worsening of the disease and endangering public health is often seen in people who continuously use emotional coping. Emotion-focused strategies like passive acceptance, escape-avoidance, and lack of control are associated with lower mental health and more negative outcomes [5].

Based on the current and previous results that show a higher prevalence of emotion-focused coping styles in cancer patients, we recommend developing programs to simulate stressful situations for different age groups to enable them to use problem-focused coping styles. This could start from the family and be continued in schools by the Education Ministry in order to institutionalize it as a habit.

The limitation of this study was its convenience sampling method, which obviates the generalization of the results to other populations. These issues need to be resolved in future studies. In conclusion, coping styles influence cancer risk, and promoting the use of problem-focused coping styles is recommended.

Ethical Considerations

Compliance with ethical guidelines

The Ethics Committee of Guilan University of Medical Sciences approved the research with code No. 2930459707. All subjects were free to participate in the study and gave their oral consent.

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Conflict of interest

The authors declared no conflict of interest.

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