



The Relationship Between Religious Coping and Depression in Iranian Patients with Cancer

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Abstract

Background: The present study aims at investigating the relationship between religious coping behaviors and depression in Iranian patients with cancer.

Methods: In this cross sectional study (October to December, 2015), 380 patients with cancer, admitted to the associated university's medical sciences hospitals (Sari, Iran), were entered to the present study, using non-random sampling (accessible sampling). Data were collected by demographic questionnaire, center for epidemiological studies depression scale (CES-D), and religious coping questionnaire (RCOPE). The statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, IL, USA) was used for data analysis by descriptive and inferential statistical tests (Spearman's correlation and generalized linear models).

Results: Males ($48.39 \pm 13 \pm 39$; CI95: 46.41 - 50.38) were older than females (45.33 ± 18.44 ; CI95: 42.79 - 47.87). The results of Spearman correlation test suggested that there was a negative and significant correlation between positive religious coping and depression ($r = 0.134$, $P = 0.009$). In addition, there was a significant relationship between depression and level of education ($P < 0.05$), the economic status ($P < 0.05$), age ($B = -0.078$; $P = 0.002$), gender ($B = 2.604$; $P < 0.001$), marital status ($B = 3.073$; $P = 0.001$), and history of cigarette smoking ($B = -2.176$; $P = 0.003$) in patients with cancer.

Conclusions: Considering the adverse effects of depression on the treatment process and secondary problems, more comprehensive studies should be conducted on the effects of religious coping on depression in order to take effective steps towards the intervention and health promotion of these patients.

Keywords: Depression, Cancer, Religious Coping, Iran

1. Background

Cancer is the second leading cause of death in most industrialized countries (1). By 2002, a total of 9.1 million people suffered from cancer, worldwide. Reports indicate that this number will reach up to 16 million by 2020 (1). According to World Health Organization (WHO) reports, it is estimated that in 2020, the number of deaths caused by cancer in United States of America (USA) will increase to more than 800 000 people and it is expected that this trend will be ascending (2). In Iran, the number of people with this disease has increased 3.3 times from 1985 to 2005 (3). Cancer reduces the ability of individuals to play a role and lead them towards a feeling of lack of competence. This reduces a person's self-esteem that eventually can cause psychological reactions, such as depression, anxiety, and stress (4). Many studies have suggested that depression is one of the

most common psychiatric disorders in patients with cancer (5-7). Depression is very harmful for these patients, because it will cause submission to the disease (8). Depressed people do not attempt to live longer and will lose better opportunities to live the rest of their lives (9).

Many research groups have carried out studies to investigate the rate of depression in patients with cancer since 1960 (10). According to various studies, the prevalence of depression was reported to be between 1.5% to 30% in advanced patients with cancer (11, 12), while in a review study, patients with cancer, from 7 different countries, this rate was stated to be 16.5% (13).

In recent years, studies related to mental health have laid more focus on coping behavior and the effect of lifestyle on mental health (14). Coping behaviors are used for people who suffer from stress and want to manage their own internal and external pressure; this issue is of high im-

portance in patients with cancer suffering from stress (15, 16). Coping behaviors are dynamic, continuous, and progressive; the willingness of a person to compromise with the continuous changes happens in life. These behaviors can cause mental health and prevent trauma (17).

Religious coping is a method of coping behavior that includes concepts, such as praying and trusting God (18). Positive religious coping is the style of dealing with negative events, in which a person deals with problems with the help of God. But, in the negative coping, avoidance and uncertain relationship of the individual with God is evaluated (17). According to the theories, the researchers came to the conclude that positive religious coping behavior makes it easier for patients to cope with illness, control it, and significantly reduce the incidence of mental disorders such as depression (19-21).

A review of various studies states contradictions in relation to the impact of religion on mental health. One study noted that religion is accompanied by irrational thinking and emotional disorders (22), while another study rejected the connection of religion with mental disorder (23). The results of other studies showed that practicing religious coping and psychological problems have an important role in patients with cancer to encourage them to fight with their disease; they are as important as depression (19-21, 24). However, the significant links between these 2 variables and its future direction is still unknown (25), thus; further studies are required to confirm the relationship more precisely. Likewise, according to available databases, there were limited similar studies in Iran.

This study aims at investigating the relationship between religious coping behaviors with depression in Iranian patients with cancer.

2. Methods

In this cross sectional study (October to December, 2015), 380 patients with cancer, admitted to one of the associated university's medical sciences hospitals (Sari, Iran), were entered to the current study, using non-random sampling (accessible sampling). During 4 months, approximately 600 patients were admitted to the oncology department of the above-mentioned hospitals. Out of all patients, 450 patients met the inclusion criteria. Then, 380 patients were accepted to participate in this study with the response rate of 63.3%. The adequacy of the sample size was calculated to be 380 based on two-sided significant degree $\alpha = 0.05$ and test power of 80 ($d = 0.3$) by G*power 3.0.10 software.

Inclusion criteria included age (18 years or older), cancer treatment with radiation, chemotherapy, or surgery. Exclusion criteria included taking anti-depressants in the

last 6 months, transferring patients to other hospitals, and occurring acute medical conditions (such as loss of consciousness).

After explaining the purpose of the study and the way of completing the questionnaire, informed consent form was signed by qualified patients. Then, the necessary explanation, regarding the objectives of the study, was given to patients and the questionnaires were distributed among them. Explanation would be given to the patients if a question was vague. It should be noted this explanation was given without any kind of bias and only to avoid ambiguity.

2.1. Data Collection Tools

Data were collected by demographic questionnaire, Center for epidemiological studies depression scale (CES-D) and religious coping questionnaire (R-COPE). Demographic questionnaire included items, such as age, gender, education level, economic status, family history of cancer, and stage of the cancer.

CES-D is a 20-option tool used to measure symptoms associated with depression, experienced in the past week (26). Each of 20 options available in this instrument is measured, using the Likert scale as follows: 0 = rarely or never (less than 1 day), 1 = occasionally or in few cases (1 - 2 days), 2 = occasionally or a moderate amount of time (3 - 4 days), and 3 = most of the time or all the time (5 - 7 days) (27). Total scores range from 0 to 60. Knight et al. (1997) have reported the reliability of these instruments to be 0.88, using Cronbach's alpha (27). In this study, the reliability of the instrument was calculated to be 0.741, using Cronbach's alpha on patients with cancer.

Religious coping methods were investigated, using RCOPE. This standard questionnaire had 14 items to measure positive and negative religious coping made by Kenneth Pargament (24). Each positive and negative scale included 7 options of religious coping test. Scoring method is in the form of Likert from "not at all" to "many times". Positive religious coping is a style of dealing with negative life events, in which a person using the evaluation and positive changes associated with God deals with those events. A person believes that God will not abandon them when confronting sad events. But, in other form of coping, which is called negative coping, a person establishes an avoidant and insecure relationship with God. For example, one believes that God will leave them alone in difficult moments (21). In a study conducted by Nesami et al., an acceptable reliability for this tool was reported (28).

2.2. Statistical Analysis

The statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, IL, USA) was used for data analysis. First,

descriptive statistics for continuous variables were shown as means with standard deviation (SD) and n (%) for the categorical variables. Then, Spearman's correlations were used to probe the relationship between religious coping and depression. Finally, the predictors associating with depression were determined, using generalized linear models (GLM). Statistical significance was set at $P < 0.05$.

2.3. Ethical Considerations

This study was approved by the associated university's medical sciences ethics committee (IR.MAZUMS.REC.95.S.105). Patients were informed of the goals and stages of the study so that their participation could be considered voluntary. Patients passed the study stages in a quiet room. To ensure that a wide range of patients were involved in the study, a trained researcher who was a member of the study provided the supplies. All patient information was undetectable by assigning a code to each patient.

3. Results

The demographic characteristics of 380 patients with cancer are summarized in Table 1. Males ($48.39 \pm 13 \pm 39$; CI95: 46.41 - 50.38) were older than females (45.33 ± 18.44 ; CI95: 42.79 - 47.87). The mean total scores of positive and negative religious coping and depression were 24.14 ± 5.45 ; CI95: 23.59 - 24.69, 18.22 ± 3.25 ; CI95: 18.12 - 18.74, and 18.43 ± 3.11 ; CI95: 17.89 - 18.55, respectively. A total of 69.9% of patients under treatment had higher depression in early stages of disease. The rate of depression in women (58.8%) and singles (86.6%) were higher than men and married patients.

The results of spearman correlation analysis (See Table 2) suggested that there was a negative and significant correlation between positive religious coping and depression ($r = 0.134$, $P = 0.009$). According to the results of generalized linear regression models in Table 3, there was a significant relationship between depression and positive religious coping in patients with cancer ($B = -0.39$; $P = 0.001$) and 4 stages of cancer ($P < 0.001$). In addition, there was a significant relationship among depression and level of education ($P < 0.05$), the economic status ($P < 0.05$), age ($B = -0.078$; $P = 0.002$), gender ($B = 2.604$; $P < 0.001$), marital status ($B = 3.073$; $P = 0.001$), and history of cigarette smoking ($B = -2.176$; $P = 0.003$) in patients with cancer.

4. Discussion

According to the results of the current study, the average score of depression in patients with cancer is above average, reflecting the results of many studies (7, 29, 30). The

Table 1. Sample Characteristics of Patients with Cancer Included in the Study

Characteristic	No. (%)
Sex	
Male	175 (46.1)
Female	205 (53.9)
Economic Situation	
Weak	110 (28.9)
Average	204 (53.7)
Good	66 (17.4)
Education	
Illiterate	210 (55.3)
Diploma	138 (36.3)
BS	22 (5.8)
MSs and above	10 (2.6)
Marital status	
Single	51 (13.4)
Married	329 (86.6)
Cancer stage	
One	132 (34.7)
Two	133 (35)
Tree	92 (24.2)
Four	23 (6.1)
Family history of cancer	
Yes	112 (29.5)
No	268 (70.5)
Depression	
Mild	261 (68.7)
Major	119 (31.3)
Past medical history^a	
Cardiac diseases	46 (12.1)
Respiratory diseases	34 (8.9)
Gastric diseases	41 (10.78)
Urinary diseases	26 (6.84)
Age, mean (SD)	46.74 (16.328)
PRC	18.43 (3.11)
NRC	18.22 (3.25)
Depression	24.14 (5.45)

Abbreviations: NRC, Negative Religious Coping; PRC, Positive Religious Coping.

^aNumber of patients who had these diseases.

Table 2. Correlations Among Major Study Variables

Variable	Depression		PRC		NRC	
	R	P Value	R	P Value	R	P Value
PRC	0.134	0.009 ^a			0.316	0.009 ^a
NRC	0.056	0.275	0.316	0.009 ^a		
Depression			-0.134	0.009 ^b	0.056	0.275

Abbreviations: NRC, Negative Religious Coping; PRC, Positive Religious Coping.

^aP < 0.005.^bP < 0.05.**Table 3.** Predictors of Depression in Cancer Patients

Variable	B	SE	95% CI		P Value
Education					
Illiterate	8.544	1.5835	5.441	11.648	0.000 ^a
Diploma	7.290	1.5072	4.336	10.244	0.000 ^a
BS	3.535	1.6620	0.278	6.793	0.033 ^a
MSc and upper	0 ^b	-	-	-	-
Economic Situation					
Weak	1.657	0.7640	0.160	3.155	0.030 ^a
Average	-2.161	0.7426	-3.617	-0.705	0.004 ^a
Good	0 ^b	-	-	-	-
Cancer stage					
One	9.074	1.3569	6.414	11.733	0.000 ^a
Two	9.217	1.1516	6.960	11.474	0.000 ^a
Three	6.896	1.2469	4.452	9.340	0.000 ^a
Four	0 ^b	-	-	-	-
Past medical history					
Cardiac diseases	-0.861	0.42	-2.106	0.23	0.086
Respiratory diseases	-0.913	0.513	-1.961	0.142	0.091
Gastric diseases	-0.983	0.597	-2.613	0.18	0.096
Urinary diseases	0 ^b	-	-	-	-
Age	-0.078	0.0255	-0.128	-0.028	0.002 ^a
Sex	2.604	0.6293	1.371	3.837	0.000 ^a
Marital	3.073	0.8856	1.337	4.809	0.001 ^a
History of cigarette smoking	-2.176	0.7224	-3.592	-0.760	0.003 ^a
Past medical history	0.556	0.5348	-0.492	1.604	0.298
PRC	0.390	0.1141	0.167	0.614	0.001 ^a
NRC	0.085	0.0905	-0.092	0.263	0.345

Abbreviations: NRC, Negative Religious Coping; PRC, Positive Religious Coping.

^aStatistically significant at P ≤ 0.05.^bSet to zero because this parameter is redundant.

patients had an average level of religious coping and, averagely, the level of negative religious coping was slightly higher than the level of positive coping in patients. The results of research studies conducted by McCoubrie and Davies, Nelson, Rezai et al., and Khezri et al. (2015) were in line with the present study (31-34). However, Hojjati et al. (2010) have stated that the majority of hemodialysis patients in their study were highly spiritual and had religious affiliation (35). Moreover, in another study on patients with cancer, high religious tendencies were reported (36). The difference between the mentioned studies may be due to cultural differences of patients, different treatment methods, type of cancer, and the environment of the research. The most important result of the present study was the significant negative correlation between positive religious coping and high religious affiliation with the level of depression in patients. Like any factor that affects health, religion can be effective, too (37). This finding is consistent with studies of Abernethy et al., Fenix et al., Zwingmann, et al., and Haghighi (30, 38-40). However, unfortunately, this fact was not significantly mentioned in Iran about patients with cancer. In Iran, cancer has high prevalence (3); thus, researchers should focus more on the side effects of this disease and ways to reduce them. In this regard, Rash (1745-1813), father of psychiatry in United States of America, pays attention to the religious studies and states: "Religion is so important to nurture and health of the human spirit, like air to breathe" (41). So far, several theories and models have been expressed in order to evaluate the effect of religion on mental and physical health and its role in controlling depression and stressors. These models are as follow: Pargament et al. during the presentation of concepts and coping mechanisms introduced a comprehensive theory for religion to deal with anxiety and depression: 1, Religion can be considered a part of the coping process and may affect the individual assessment of the threat and how serious it is; 2, Religion may interfere with the process of coping by redefining the problem as a solvable challenge; 3, Religion can affect the results of the of stressors. In other words, interpreting the results or consequences associated with life events may be influenced by religious beliefs (7, 17, 19-21, 23, 24, 27, 29-35, 37-45).

Furthermore, there was a significant relationship among depression and level of education, economic status, age, gender, marital status, and history of cigarette smoking among patients with cancer, which is consistent with other studies (31, 39, 44). But, in another study, no significant relationship was found between variables such as age, gender, and marital status with the rate of depression (30). This study included 150 patients with cancer with the help of the Beck depression inventory; therefore, the probable cause of this contradiction can be cultural dif-

ferences (that affects coping with stressors and depression (46)), sample size, and the scale used to determine depression.

The most important limitation of this study was that patients did not have access to other hospitals in Kerman province and Iran, which limits the generalization of the results due to small sample size as well as cultural differences of patients that was not controllable in this study. Impatience and imprecision of some of the patients at the completion of questionnaires due to disease-related treatment affect the results. Therefore, it is suggested that because of the importance of this issue in future, these studies be carried out more frequently and with greater breadth on patients with cancer.

As a consequence of cancer, depression should be one of the nursing diagnoses in care centers. Given the prevalence of depression in these patients, putting psychotherapy sessions for early detection of depression and, if necessary, starting therapy sessions and using anti-depressants are necessary. Also, considering the significant effect of religious coping on depression, it is anticipated that, with the necessary training and strengthening religious foundations of these patients, one can have beneficial effects on their mental health.

According to the results of the present study, the level of depression and religious coping of patients had been moderate, and a significant negative correlation was found between positive religious coping and depression level. Furthermore, there was a significant relationship among depression and level of education, economic status, age, gender, marital status, and history of cigarette smoking among patients with cancer. Considering the adverse effects of depression on the treatment process and secondary problems, more comprehensive studies should be conducted on the effects of religious coping on depression in order to take effective steps towards the intervention and health promotion of these patients.

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Footnotes

Authors' Contribution: Amir Hossein Goudarzian, Fatemeh Zamani and Masoumeh Bagheri Nesami designed and

performed the study. Sima Beik analysed data, Amir Hossein Goudarzian and Fatemeh Zamani wrote the paper; Ma-soumeh Bagheri Nesami analytical tools and modified the article. All of the authors accept the final version of the paper.

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