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Predictive role of personality types and religious orientation in the self-management of patients with cancer

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Original Article

Abstract

BACKGROUND: Personality types and religious orientation are important in the self-management of patients with cancer. The present study was performed with the aim to investigate the predictive role of personality types and religious orientation in the self-management of patients with cancer.

METHODS: The statistical population of the study included all patients with cancer in Tehran, Iran. Aria and Toos hospitals, as well as two private offices were selected as the places willing to cooperate in the implementation of the questionnaires. From among the patients referred to these centers, 200 people were selected by the convenience sampling method. The questionnaires used in this study included three questionnaires of religious orientation, personality questionnaire, and the self-management scale introduced in the following. In this study, the data obtained from the questionnaires were analyzed in Statistical Package for the Social Sciences (SPSS) software.

RESULTS: The relationship between the predictor variables and self-management was significant ($P < 0.050$). Neuroticism, extraversion, agreeability, conscientiousness, internal religious orientation, and external religious orientation were significantly correlated ($P < 0.050$). Internal religious orientation and external religious orientation can change self-management ($P < 0.050$).

CONCLUSION: Accordingly, it can be concluded that there was a relationship between the personality types and religious orientation with the self-management of people with cancer.

KEYWORDS: Personality Types; Religious Orientation; Self-Management; Cancer

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Introduction

Cancer is one of the major health and treatment problems worldwide and the third cause of death, as well as the second non-communicable chronic disease (NCD). Now, 12% of deaths results from cancer in the world. By 2015, about 54% of total deaths was due to NCDs in the world and of this figure, at least 10% was dedicated to cancer. Currently, 9 million of new cancer cases occur annually, 4 million of which are related to developed countries and this rate in developing countries is about 5 million. About 12,000 people in Iran suffer from cancer and it is more common in men, in addition, 98 people die due to cancer daily in Iran.[1] The situation of cancer incidence varies in different regions of the world. The ten most common cancers in men include lung, prostate, pancreas, lymph nodes, hematopoietic system, esophagus, stomach, bladder, kidney, and throat and in women, it includes lung, breast, pancreas, lymph nodes, blood-forming system, stomach, neck, kidney, rectum, and bladder.[2] Cancer is one of the

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main causes of death among children, so that in the United States of America, among the 1-14 year old children, it is the second cause of death after unintentional injuries, and in the age group of 1-19 years, it has also been known as the fourth cause of death in men and the second cause of death in women.[3] In Iran, studies conducted in the field of cancer are often on the subject of epidemiology of this disease in different cities.[4] Some studies have also examined the role of psychological factors such as depression and anxiety in cancer treatment trend.[5] In the meantime, life expectancy, resilience, and efficacy are important psychological factors that are investigable in patients with cancer.[6] Therefore, it can be said that cancer is a serious illness associated always with psychological problems and pathologies. Cancer, however, creates considerable stress and may lead to acute or chronic maladaptive psychological reactions and people with cancer suffer from a high degree of psychological problems.[7,8] In this study, personality and religious orientation were assumed as predictor factors of self-management in patients with cancer. Self-management does not mean changing attitude and personality, rather it means bringing behavior under control and if necessary, making changes on it; in other words, self-management stems from social learning.[9] The most important event that will occur certainly in the future beyond technology or ecommerce is a fundamental change and evolution in human life. That will be along with significant and increasing growth of the number of humans, for who the first necessary step is self-management. The reason for this issue is the lack of preparedness opportunities and necessary capacity of community for dealing with this.[10] It should be noted that self-management is a voluntary process, not a compulsory one. In other words, self-management is performed by the people themselves rather than by coercion from others, therefore it practicality and restfulness dose not far away expectation and mind and this is possible. The main concern of researchers in this study was to answer the question of whether the type of personality and religious orientation of a person with cancer is determining in his/her self-management and whether it is a predictive factor? The main purpose of this study was to examine the predictive role of personality types and religious orientation in the self-management of people with cancer.

Methods

The present study was a retrospective, descriptive, and correlational study with the statistical population including all patients with cancer in Tehran City, Iran in 2018.

Aria and Toos hospitals and two private polyclinics were selected as places to implement the questionnaires in. 200 patients referred to these centers were selected using the convenience sampling method. The patients were selected from among those suffering from different types of cancer such as liver, bladder, breast, and gastric cancer. All patients were in the severe stage of the disease and they were referred for chemotherapy.

The study inclusion criteria were diagnosis of cancer based on pathological results, no critical condition of the patients when completing the questionnaires, and consent to participate in the study. All patients were assured that the information would be kept in secret. In addition, all questionnaires were submitted for patients and were then collected after they completed them. The questionnaires used in this study were three questionnaires: Religious Orientation Scale (ROS), personality questionnaire, and self-management questionnaire.

ROS: This test, which consists of 21 items, was provided to the subjects and after assuring them of maintaining the fidelity of the answers provided by them, they were asked to mark

their feelings and attitudes to each of the expressions with full sign and select one of the options. This scale is based on the Likert scale, with options ranging from strongly disagree to strongly agree and answers given a score of 1 to 5, respectively. In this way, options a, b, c, and d respectively get a score of 1, 2, 4, and 5, and unanswered phrases get a score of 3.

For example, for the item "I think only religion gives me the most comfort in times of sorrow and misery," the subject chooses one of the following four options to express his or her feelings:

A- Strongly disagree / B- Almost disagree / C- Almost agree / D- Strongly agree

The sum of the scores of items 1 to 12 determines the degree of external religious orientation of the subject and the sum of the scores of items 13 to 21 determines the score of his/her inner religious orientation.[11] This test was translated to Persian and standardized in 1999. Its internal consistency (IC) according to the Cronbach's alpha was 0.71 and its retest reliability was 0.74.[12,13]

Big Five Inventory–2 Short Form (BFI-2-S)/ NEO-Five Factor Inventory (NEO-FFI): The NEO questionnaire is one of the newest questionnaires related to the assessment of personality construction based on the perspective of factor analysis. In terms of reflecting the 5 main factors, this test is considered as a comprehensive model based on factor analysis today and its wide application in evaluating the personality of healthy people and also in clinical affairs can be one of the most appropriate tools for evaluating personality. The questionnaire has two forms, one (S) for personal reports which includes 240 five-point questions from strongly agree to strongly disagree, graded by the subject and suitable for men and women of all ages. The other is called the (R) or revised form and is based on observer ratings. This questionnaire also has a short form called (NEO-FFI) which is a questionnaire of 60 items and is used to evaluate the 5 main factors of personality. If the test time is very limited and general information about the personality is sufficient, this questionnaire is used. The answer to this questionnaire is based on the Likert scale (strongly disagree, disagree, indifferent, agree, and strongly agree). The scoring of the short form of this questionnaire, NEO-FFI, is not the same in all cases. In scoring some cases of the short form of the questionnaire we have strongly disagree, disagree, indifferent, agree, and completely agree with a score of 4, 3, 2, 1, and 0, respectively. While some other materials of this short form are scored in reverse. In standardization of the NEO test, the correlation coefficient of the 5 main dimensions was 0.56 to 0.87. The Cronbach's alpha coefficients in each of the main factors of neuroticism, extraversion, receptivity, adaptation, and conscientiousness were 0.86, 0.73, 0.56, 0.68, and 0.87, respectively. In order to evaluate the content validity of this test, the correlation between the two forms of personal report (S) and the observer evaluation form (R) was used, with a maximum correlation of 0.66 in the extraversion factor and a minimum of 0.45 in the compatibility factor.[13,14]

Thinking Styles Inventories (TSI): This questionnaire was designed was by Sternberg and Wegener and the answer to each question is determined on a 7-point scale. This questionnaire is scored using the Likert scale with scores of 1 to 7 for the options. In this questionnaire, each of the five items evaluates one of the 13 thinking styles. The Cronbach's alpha coefficients for thinking styles inventories have been reported for 13 styles from 0.50 to 0.80. Zhang studied the internal validity of the questionnaire through factor analysis of principal components and using the Oblimin rotation. Four streaks explained 0.73 of the variance of the data. The first streak showed a high factor load on the first type of styles (legal, free-thinking, and

judicial). The second streak was determined through the second type of styles (executive, conservative, and royal). The third included levels of psychological self-management (general versus partial) and finally, the fourth included the dual domains of psychological self-management (internal versus external).[15]

Statistical Analysis: In this study, Statistical Package for the Social Sciences (SPSS) software (version 16.0, SPSS Inc., Chicago, IL, USA) was used to analyze the data obtained from the information obtained based on the responses. Data analysis and interpretation were performed in two sections: descriptive statistics and inferential statistics. In the descriptive statistics section, data frequency analysis, frequency percentage, mean, median, and standard deviation (SD) were performed. In the inferential statistics section, the main hypothesis and sub-hypotheses were analyzed using focal correlation coefficient analysis and multiple regressions ($P < 0.050$).

Results

In this study, 123 (61.5%) of the patients were women. The mean ± SD of the age of the patients was 48.73 ± 6.25 years. The Pearson correlation coefficient and regression analysis were used to determine the role of fatigue and depression in personality types and religious orientation in the self-management of patients with cancer. The Shapiro-Wilk test was employed to measure the fitting of predictive and criterion variables. The results of the Shapiro-Wilk test showed that the scores of variables did not differ significantly from the normal curve, indicating the normal distribution of the study variables ($P > 0.050$).

Linearity of the relationship between the criterion variable and predictive variable showed that other predictor variables were kept constant. The data analysis results indicated that the relationship between the predictor variables and the criterion variable (self-management) followed this assumption ($P < 0.050$). Another predictor of regression analysis was the lack of correlation between odor predictor variables (linear multiplicity) which was used to assess the validity or tolerance of variables and variance inflation factor (VIF). Degree of tolerance was close to 1 and VIF was less than 2. Therefore, by fulfilling the assumptions of the Pearson correlation coefficient and stepwise regression, it was possible to use these tests to investigate the study hypotheses (Table 1).

The predictor variables of neuroticism, extraversion, agreeability, conscientiousness, internal religious orientation, and external religious orientation were significant. Stepwise regression analysis was used to determine contribution of each predictor variable in explaining variance of patients' self-management (Table 2).

The results showed that in the third step, the variable predicting conscientiousness was the last variable included in the analysis. The correlation coefficient calculated in this step was 0.386. Additionally, the coefficient of determination (COD) indicated that neuroticism, agreeableness, and conscientiousness could explain 0.296 of change in self-management.

Table 1. Correlation matrix of the study variables

Variables	1	2	3	4	5	6	7	8
1. Neuroticism	1							
2. Extraversion	-0.473**	1						
3. Openness	-0.063	0.138*	1					
4. Agreeableness	-0.429**	0.487**	0.071	1				
5. Conscientiousness	-0.417**	0.446**	0.053	0.402**	1			
6. Internal religious orientation	-0.563**	0.273**	0.066	0.367**	0.433**	1		
7. External religious orientation	-0.486**	0.386**	0.038	0.321**	0.396**	0.196**	1	
8. Self-management	-0.377**	0.198**	0.057	0.294**	0.274**	0.371**	0.342**	1

*P > 0.050, **P > 0.010

Table 2. Predicting self-management based on personality traits

Step	Variables	B	β	R	R^2	F	P
3	Constant	-0.901	-	0.386	0.296	24.75	< 0.001**
	Neuroticism	-0.401	-0.241				
	Agreeableness	0.294	0.196				
	Conscientiousness	0.263	0.188				

*P > 0.050, **P > 0.010

In the second step, the variable predicting external religious orientation was the last variable included in the analysis. The correlation coefficient calculated in this step was 0.441. Moreover, COD indicated that internal religious orientation and external religious orientation could explain 0.217 of change in self-management (Table 3).

Discussion

This study aimed to investigate the predictive role of personality types and religious orientation in the self-management of patients with cancer. The results obtained of the study findings indicate that the main hypothesis of the study was confirmed. Independent variables were predictors of the study dependent variables. This means that the type of personality and religious orientation in a person with cancer are two predictive factors in his/her self-management during coping with the disease. In fact, personality types such as neuroticism, consent, and conscientiousness have a religious orientation (internal or external). It is possible to predict what the level of self-management in a person looks like. The findings of the current study were similar to those of the studies by Renn et al.,[16] Jerant et al.,[17] Lundberg and Thrakul,[18] and Heidari et al.[19] In addition to the disease, patients with cancer also face problems and side effects caused by it. However, due to the variety of needs and concerns of patients with cancer, it is very important to know their needs and concerns. Understanding the needs and interests of patients with cancer is important. Professional staff, especially nurses, as the main providers of health services, can provide appropriate care, support, and counseling services for patients and families by prioritizing care for patients with cancer. Since poor mental health is a risk factor in reducing the survival rate of patients with cancer and an important factor in patients not accepting medical services, as a person improves their management ability, the unmet needs caused by the disease will decrease. Therefore, mental disorders are very stressful for the patient and families and lead to incompatibility with the disease and its effects. It also has a negative impact on interpersonal relationships, treatment process, and disease prognosis in patients with cancer, in addition to increasing treatment costs and disability or hospitalization of patients.[20,21] Planning for nursing care, mental health promotion, timely identification of patients, and group training program as components of the treatment plan for patients with cancer, especially patients with mental and psychological risk factors is essential. Self-management and reducing the level of unmet needs of people can play an important role in increasing the patient's therapeutic capacity.[22,23]

Table 3. Predicting self-management based on religious orientation

Step	Variables	B	β	R	R^2	F	P
2	Constant	21.30	-	0.441	0.217	17.89	0.000**
	Internal Religious Orientation	0.443	0.291				
	External Religious Orientation	0.419	0.257				

*P > 0.050, **P > 0.010

Therefore, we suggest that in future studies, education based on coping strategies and adaptation to the rate of mental disorders in patients with cancer and its impact be examined on individuals. This study, like previous and similar studies, emphasized the relationship between psychological factors such as personality and religious orientation with a variable such as self-management in people with chronic disease (cancer). Patients with cancer are advised to check the patients' mental state and physical condition to participate in psychological tests and psychological health in each patient by participating in psychological tests and counseling. Medical and nursing staffs in the oncology departments are advised to control and monitor the patients' mental condition with psychologists and expert counselors.

Conclusion

Patients with cancer live with other people in the community and their personality will not change when involved with the disease, rather it is their way of thinking and self-management that can underpin their evolution and development of dynamic ideas.

Conflict of Interests

Authors have no conflict of interests.

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