The Comparison of Personality Traits, Forgiveness, and Resilience between the Patients with Cancer and Healthy Persons

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Abstract

Background: *This research purpose was to compare the HEXACO personality traits, forgiveness and resilience between the cancer patients and healthy people.*
Methods: *In this comparative study, the research samples included 100 cancer patients and 100 healthy people with the age of 30 to 55 years old during 2017 in Shahroud city. HEXACO Personality Inventory, Forgiveness Scale of Walker and Gorsuch (2002) and Connor-Davidson Resilience Scale (2003) were used in order to collect data. Data were analyzed using a multivariate analysis of covariance (MANCOVA).*
Results: *The multivariate analysis of covariance results indicated that HEXACO personality traits had a lower mean score in two dimensions (conscientiousness and openness to experience)amongst people with cancer. It was also established that people with cancer had a higher mean score in the lasting resentment dimension. The results also demonstrated that there is a significant difference between the two groups resilience.*
Conclusions: *It is crucial to pay more attention to the psychological factors role like personality traits, forgiveness and resilience in the cancer formation and promotion.*

Keywords: HEXACO personality traits, Forgiveness, Resiliency, People with cancer.
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Please cite this paper as: Dashtipour M, Vahedi H, Taher M. The comparison of personality traits, forgiveness and resilience between the patients with cancer and healthy persons. Int J Health Stud 2018;4(3):27-30.

Introduction

Nowadays, cancer is one of the health problems in all over the world, and is also a complicated and debilitating disease, which has numerous psychological, biological, and social dimensions, consequences, and complications.[1] It can also considered as a disease, which is connected to the life conditions.[2] Cancer is the second bio-medical cause of mortality after cardiovascular diseases in many countries, including Iran and although it is progressively developing in all over the world, but its psycho-social dimensions have received little research attention in Iran.[3,4,5] According to the World Health Organization (WHO) prediction, the occurrence of cancer in Iran will have reached to 85653 cases in the total population by 2020 and also its mortality numbers will have reached to 62897 persons per year.[6]

Researchers have paid attention to the personality factors in many studies conducted on the psychological dimensions associated to the cancer and have also reported different findings. Some researches results confirm these traits effect on

this disease improvement, relapse and progress and also about cancer coping strategies and the patients psychological complications.[7-10]

Personality refers to the traits, tendencies, characteristics relatively stable patterns, which perpetuate the behavior partly.[11] Resilience has been also defined as the individual process or ability to adjust with the challenges and threats and overcoming them[12,13] and the last part includes the factors of keeping calm under pressure, flexibility in confronting with impediments, eroding strategies avoidance, keeping optimism and positive feelings in difficulties occurrence and getting rid of internal obstacles in facing with the problems like cancer.[14,15]

Forgiveness is an intentional attempt for sorrowing thoughts and feelings overcoming and can be used in order to facilitate the individuals happiness, which occurs by changing the negative aspect to a more affectionate form, and can also effect the well-being and mental health, too.[16] Forgiveness and resilience would help the cancer patients in order to cope with their illness pain and suffering.[17-19] Considering the importance of the issue and the requirement to improve the health and cancer patients life quality, this research purpose was to compare the personality traits, forgiveness and resilience between the cancer patients and healthy people, and also in this way has an intention to help the health system planners in Imam Hossein Hospital, in Shahroud, northeast of Iran.

Materials and Methods

This research is a comparative study in which 100 patients diagnosed with the cancer disease, who referred to the chemotherapy department of Imam Hossein Hospital in Shahroud were selected using a convenience sampling method, and they participated in the study after being informed of the study purposes. The participants in the control group consisted of 100 individuals who were referred to Imam Hossein Hospital without a cancer diagnosis and they were companions of the patients. The inclusion criteria for the study are as following: having a cancer diagnosis based on the pathological criteria, having the age of 30 to 55 years old and at least 6 months elapsing after the diagnosis. By attaining the required permits from Shahroud University of Medical Sciences and after obtaining the informed consent of the cancer patients and the healthy people, the questionnaires were self-administered to the participants.

The HEXACO Personality Inventory was used in order to measure the personality dimensions. This inventory has 60 items and also includes six dimensions as following: honesty-

humility (H), emotionality (E), extroversion (X), agreeableness (A), conscientiousness (C) and openness to experience (O).[10] This inventory is scored based on a five-point Likert scale, which ranges from 1 (Strongly Disagree) to five (Strongly Agree). The Cronbach's Alpha coefficients for the inventory six dimensions have ranged from 0.87% to 0.94%.[20] The Cronbach's alpha of the inventory was reported to have a range between 0.71 and 0.81 in Iranian contexts.[21] The Persian version of this inventory validity was approved in Iranian students.[21] Forgiveness was measured by the use of 20-item Mullet's Forgiveness Questionnaire (FQ), which includes three sub-scales of lasting resentment (items 1-6), sensitivity to circumstances (items 7-12) and willingness to forgive (items 13-20). Each of these sub-scales is measured by the use of seven-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." In this study the Cronbach's alpha reliability of Forgiveness Questionnaire was measured as 0.71. The Resilience Questionnaire (RQ) was used for measuring the resilience. RQ is scored on a seven-point Likert scale, and the total score ranges from 15 to 105. Mohammadi validated this scale with a reliability coefficient of 0.89 in Iran.[22]

The collected data were entered into SPSS-16. Chi-square test and multivariate analysis of covariance (MANCOVA), were used to compare the scores of personality dimensions and forgiveness between the two groups with controlling the effect of age. Normality of data were checked using Kolmogorov–Smirnov test. The significance level was 0.05 in this study.

Results

Comparison between the patients and healthy people frequency distribution by gender indicated that women had the higher frequency in both healthy and cancer groups and there was no significant difference between the two groups in terms of gender. Chi-square test results indicated a significant difference between the education, occupation and marital status in the two groups. The results are displayed in table 1. The mean age of these two groups indicated that the mean age of the patients with cancer was 50.2±8.4 years old and also it was 41.0±6.8 years old in the healthy group.

Table 1. Frequency of participants by demographic variables

Variable	Healthy		Cancer		χ^2	P
	N	%	N	%		
Gender						
− Female	67	67	57	57	2.12	0.095
− Male	33	33	43	43		
Education						
− Illiterate	1	1	15	15		
− Elementary	5	5	35	35	67.35	0.001
− High school Diploma & AD	30	30	36	36		
− Bachelor's degree and higher	64	64	14	14		
Marital status						
− Single	13	13	2	2		
− Married	85	85	90	90	11.8	0.003
− Other	2	2	8	8		
Employment						
− Employed	64	64	23	23	34.2	0.001
− Unemployed	36	36	77	77		

The multivariate analysis of covariance results indicated that there were significant differences between the two groups of cancer patients and healthy people only in two dimensions of conscientiousness and openness to experience from the personality six dimensions, so that the cancer patients had a lower mean score. The Levene's test results for examining the variance equality in different dimensions in the two groups, indicated that the variances of the two groups were equal in all dimensions except the agreeableness dimension and the analysis of equality of the different personality dimensions covariance using the Box's M test presented that there was no significant difference between the two groups. The table 2 displayed the results.

Table 2. Results of the one-way multivariate covariance (MANCOVA) analysis and adjusted means for age and components of personality in two groups

Variable		Adjusted Mean	SE	F	P
honesty-humility	Healthy	36.9	0.59	2.5	0.12
	Cancer	35.67	0.56		
Emotionality	Healthy	32.69	0.58	0.16	0.69
	Cancer	32.36	0.55		
Extroversion	Healthy	33.72	0.52	0.008	0.93
	Cancer	33.65	0.50		
Agreeableness	Healthy	35.05	0.61	1.6	0.24
	Cancer	34.00	0.58		
Conscientiousness	Healthy	36.18	0.51	27.4	<0.001
	Cancer	32.51	0.48		
Openness to experience	Healthy	33.24	0.59	16.1	<0.001
	Cancer	29.95	0.56		

The assumptions of the analysis of covariance was checked before comparing the mean scores of the three dimensions of forgiveness and no significant difference was found between the different dimensions of forgiveness scores variance in the two groups. The comparison between the mean scores of the three forgiveness components was accomplished using one-way multivariate analysis of covariance (MANOVA). The results of Wilks' Lambda test indicated that there was no significant difference between the two groups in terms of these three forgiveness components (F=1.6 and P=0.2). Consequently, the results of one-way ANOVA were used as displayed in table 3.

Table 3. Comparison of the mean scores of dimensions of forgiveness and resilience questionnaires in cancer patients and healthy participants

Group	Variable	Adjusted Mean	SE	F	P
Lasting resentment	Healthy	12.01	0.88	3.9	0.05
	Cancer	14.41	0.82		
Sensitivity to forgiveness	Healthy	29.01	0.88	0.57	0.45
	Cancer	28.10	0.83		
Willingness to forgive	Healthy	32.16	0.68	0.50	0.48
	Cancer	31.50	0.65		
Resilience	Healthy	30.61	11.33	4.3	0.01
	Cancer	33.77	12.02		

Mann- Whitney U test *

The resilience scores in the two groups were not normal. We used a non-parametric test for this analysis. Moreover, the comparison between the resilience mean scores in the two groups indicated that the cancer patients had a higher resilience score than the resilience score of the healthy participants (table 3).

Discussion

In this study, the personality dimensions, forgiveness and resilience status were compared amongst those patients contracted with cancer and healthy people.

This research results showed that, only two dimensions of openness to experience and conscientiousness from the six dimensions of HEXACO personality traits were lower in the patient group in comparison with the healthy group and also in other dimensions, the two groups had no significant difference.

Hali and Magdalena[23] established that there was a negative relationship between the openness to experience and the risk of developing cancer, which these findings are in agreement with our outcomes. This study results showed that the conscientiousness subscale scores in cancer patients were significantly lower than the healthy people scores, which means that these individuals lead a disorderly life and are reluctant to progress and review things. This may result from their disease condition.

The results indicated that amongst the forgiveness various dimensions, there was a significant difference between the two groups only in the lasting resentment dimension, consequently the mean score of cancer patients was significantly lower than that of healthy people and there was no significant difference between the two groups in other dimensions.

The mean resilience score was 30.61 amongst healthy people and also it was 33.77 amongst cancer patients. In a study done by Tajikzadeh et al.[18] they reported that the resilience mean score was 48.32 amongst healthy people and also it was 42.7 amongst the cancer patients, which is not consistent with this study results in terms of higher scores amongst people with cancer. Habibi et al.[24] concluded that the spiritual experiences and resilience of women with breast cancer were significantly different from those of healthy women. Moreover, the resilience of healthy women (93.14) was higher than that of women with breast cancer (87.32) due to the mean scores, which is not in agreement with this study results.[24] Tajikzadeh et al.[18] also established that cancer would lead to the difference between the two healthy and patient groups in terms of resilience, coping with stress, and making a catastrophe of the pain.

In a research done by Abdollahzadeh et al. about cancer patients, it was established that there was a positive and significant relationship between the resilience and gender.[6] Due to the above-mentioned results, it can be concluded that the resilience is more associated with the mental status, mental health and spiritual intelligence of the people in compare with their physical status.

The paucity of relevant domestic and international researches was one of this study main constraints, which limited the results discussion and comparison with other studies.

Limitation: This study is a cross-sectional study; as a result, the association in this study must be interpreted cautiously. Selection of comparison group was not population based. Also, we used three valid psychological questionnaires for performing a comparison between these two groups in this study.

Based on this research results, it can be concluded that some personality traits in cancer patients differ from those in healthy people. Although, the resilience has no difference between the two groups, but the cancer patients had a higher forgiveness mean score.

Acknowledgement

Conflict of Interest

The authors declare that they have no conflict of interest.

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