

Religiosity, Psychological Resilience, and Mental Health Among Breast Cancer Patients in Kingdom of Saudi Arabia

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ABSTRACT

OBJECTIVES: This study aimed to investigate the correlations of religiosity and psychological resilience with mental health among cancer patients and to examine whether religiosity and psychological resilience can predict mental health.

METHOD: The sample consisted of 329 patients. Researchers applied Islamic Religiosity Scale, Wagnild and Young Resilience Scale, and the scale of Hospital Anxiety and Depression.

RESULTS: The results showed that there are positive, statistically significant correlations between religiosity and psychological resilience, while there were negative, statistically significant correlations of religiosity and psychological resilience with mental health. And there are correlations between the alternative therapeutic interventions currently used to religiosity and psychological resilience, while there were no statistically significant correlations between alternative therapeutic interventions that the patient will use in the future to religiosity and psychological resilience. The results also revealed the possibility of predicting mental health through religiosity and psychological resilience.

CONCLUSION: These results emphasized the importance of increased religiosity and psychological resilience among cancer patients.

KEYWORDS: Cancer, religiosity, psychological resilience, anxiety, depression, alternative therapeutic interventions

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Introduction and Theoretical Background

Cancer is a global problem. In 2010, cancer has infected more than 8 million people worldwide. The World Health Organization¹ report indicates that more than two-thirds of these new cases and cancer deaths will occur in the third world countries, where infection rates remain increased.² Breast cancer is the most common cancer in the world, among women, with 22% in all cases, and in Saudi Arabia the number of new cases of breast cancer is about 2741 cases of cancer in women. Breast cancer ranks first among Saudi citizens for both men and women (15.9%; see Saudi Ministry of Health, 2019).³

Many studies have shown that there are many physiological and psychological changes that occur when cancer patients are directed to take chemotherapy or combination therapy (surgical, chemotherapy) or radiotherapy, which affects their mental health.

Religion and cancer in Saudi

Saudi Arabia represents the heart of the Muslim world, being viewed as the birthplace of Islam. It is the home of 2

of Islam's holy sanctuaries, Mecca the Blessed and Madinah the Radiant.

The Holy Quran and the Sunnah provide the framework for Islamic law (Shareaa), which governs all aspects of life of every Muslim. The Holy Quran is observed as the authority of how to surrender to Allah's will in various circumstances in life. The Sunnah considers to be complemented to the Holy Quran; it could be defined as the teachings and sayings of the Prophet Muhammad. The Prophet Muhammad said, "There is no disease that Allah has created, except that He also has created its treatment." Cultural medicine in Islam is regularly reported as the Medicine of the Prophet. Examples for that are black seed, honey, olive oil, Zamzam water, Camel milk, and Camel urine. Recitation of the Holy Quran for all patients has a healing effect on the body, mind, and heart. Given that Saudi is a highly religious society, very little is known about the exact nature of religious role that plays in the lives of cancer patients in Muslim countries in general and in Saudi Arabia in particular.

More recently, Alqahtani et al⁴ mentioned that from the patient's point of view in Saudi Arabia, cancer affect much



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more than the physical body; it also affects the mind, the spirit, and social relationships.

Religion and health in general

For many people, religion and spirituality are important aspects of everyday life. A survey has found that 59% of people worldwide describe themselves as religious. Previous studies have recognized that most cancer patients rely on religion to help themselves to cope with the illness and its treatment.⁵ Results of an interview survey conducted by The National Health showed that 69% of cancer patients reported praying for their health compared with 45% of the general US population.⁶

Seeman et al⁷ argued that religiosity/spirituality is linked to health-related physiological processes—including cardiovascular, neuroendocrine, and immune function. Hill et al⁸ show that regular religious attendance was associated with a wide range of healthy behaviors, such as preventive care use, vitamin use, infrequent bar attendance, seat belt use, walking, strenuous exercise, sound sleep quality, never smoking, and moderate drinking. Similarly, in their study, Park et al⁹ found that daily spiritual experiences were related to greater performance of health behaviors, while religious struggle was related to less.

There is an increasing interest in the role of religion in the context of health, illness, and health care practice; frequently, patients who are already religious become extremely religious when diagnosed with cancer, while others who are less religious search for spirituality occasionally and a linking to a power outside themselves after being diagnosed with cancer.¹⁰

In the review of 18 quantitative studies about religion/spirituality and psychological well-being among breast cancer survivors, Schreiber and Brockopp¹¹ found that limited relationships exist among religion, spirituality, and psychological well-being, and also there was a sufficient evidence to include a brief, clinically focused assessment of women diagnosed with breast cancer regarding the importance of a given belief system as they face the diagnosis and treatment of their disease. Engel (1977)¹² argued that psychological and social factors influence biological functioning and play a role in health and illness. Recently, Arnout and Ahed (2019)¹³ recommended the necessity and importance of applying the Biopsychosocial-Spiritual Model in all institutions that provide health care to patients with physical and psychological illnesses.

Religion as coping with cancer

According to *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*),¹⁴ cancer is one of the causes of posttraumatic stress disorder (PTSD), as it is a severe stress factor that threatens the lives of individuals with it.

Emmons¹⁵ reported that one of the factors contributing to positive outcomes may be having a spiritual orientation to life which protects people from undesirable and non-adaptive behaviors such as destructive, social, or even personal behavior. And King¹⁶ emphasized that spirituality plays an important

role in all the steps of health care, especially its management, treatment, and healing.

The role of religion in coping with illness in general, and cancer in particular, has received quite little attention as an arena of study. Religion as a coping strategy could be defined as “applying cognitive behavioral techniques, in the face of stressful life events, that arise out of one’s religion.”¹⁷ This role of religion in coping strategies is frequently observed as an emotional processing (eg, provide hope, forgiveness, comfort, love, and other emotional benefits), but it can have a cognitive processing (eg, reviewing the illness as part of Allah’s willing) as well as behavioral processing (eg, praying; avoidance of alcohol, tobacco, and drug use).^{18,19}

In the same context, Park et al²⁰ found that both spiritual identity and the use of religious coping were positively related to fruit and vegetable intake, while private prayer was marginally positively related among breast cancer. And Gioiella, Berkman, and Robinson (1998)²¹ found the inclusion of spirituality as part of the routine patient assessment and intervention. Clinical intervention that would increase a patient’s level of spiritual awareness can help decrease the patient’s level of psychosocial distress.

Religion and quality of life

Weber and Pargament²² mentioned that religion has the energy to enhance mental health. Religion was defined as a meaning system that influences persons to cope with significant life stressors and promote mental health by enhancing psychological well-being and fostering meaning-making coping.²³

Several studies have examined the relationship between religion and psychological issues. The reviews of these literatures informed that religion has a positive relationship to psychological issues. A growing body of these studies has observed the association between religion and psychological issues in cancer patients and survivors.²⁴

Religion has been linked to plentiful results in adjustments to the cancer experience. In a recent meta-analysis for more than 44 000 patients, religion confirmed positive associations with multiple factors of health-related quality of life.^{19,24,25}

Resilience among cancer patients

Cancer is the most prevalent and serious disease, and each stage of cancer has a different impact on the lives and mental health of patients.

Thus, Seiler and Jenewein²⁶ mentioned that the cancer experience is associated with positive and negative life changes. They found that biological, personal, and social factors contribute to cancer patients’ resilience.

Despite the considerable psychological impact that was linked to cancer diagnosis and its treatment, several patients show notable resilience. Resilience was conceptualized broadly as a dynamic process that involves adaptation to stressful conditioning, an adaptation that supports healthy levels of psychological functioning in the face of traumatic circumstances.²⁷

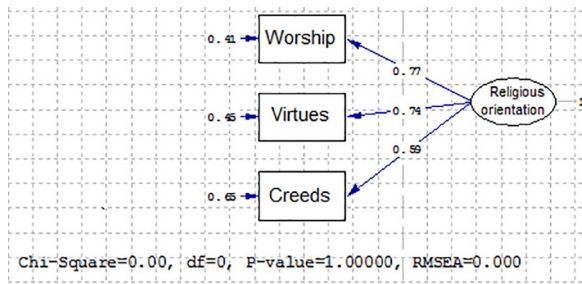


Figure 1. Path parameters of the triad model of Scale of Islamic Religiosity Attitude.

Extensive literature studies were conducted to investigate the role of resilience during one or more stages of cancer. Molina et al²⁸ revealed that promoting resilience is a critical element of patient psychosocial care. Likewise, Solano et al²⁹ detected a strong relationship between resilience and hope among metastatic colorectal cancer patients. And Dong et al,³⁰ in their study, found that resilience mediated the relationship between perceived social support and posttraumatic growth among colorectal cancer survivors. And Gao et al³¹ showed that the higher level of resilience was related to less anxiety symptoms among patients with oral cancer.

Therefore, according to Seiler and Jenewein,²⁶

resilience is an important area for cancer patients because it may provide a protection against the negative effects of stress by lessening or absorbing the shock of a cancer diagnosis, the impact of aversive events, and related life changes and thus improve mental health and treatment outcomes. (p. 29)

Study Objectives

Few researchers have focused on resilience in linking with religion and mental health of cancer patients. To the best of the authors' knowledge, this subject has not been presented in any Arab literature before. As it has been recommended in previous studies, and according to the reported relationship between religion and spirituality and mental health, there is a need for greater discrimination between differing cultures and traditions and increased focus on the situated experiences of patients belonging to certain societies.²²

Consequently, this study sought to provide a comprehensive summary of the relation between religion, resilience, and mental health among breast cancer patients in Saudi Arabia. We hypothesized that religion would be associated with better mental health among breast cancer patients. Additional analyses examined whether dimensions of religious and psychological resilience were predicting mental health (anxiety/depression).

Methodology

Population and sample

The statistical population of this study includes all patients diagnosed with breast cancer. From this population, we choose a random sample of 329 breast cancer patients, their age range between ≤ 26 and ≥ 45 years.

Tools

Islamic Religiosity Scale (40-Item Scale of Islamic Religiosity Attitude). This scale was prepared by Marwa.³² It consists of 40 items distributed into 4 dimensions: worship, virtues, forbidden, and beliefs. The individuals respond by using a 4-point Likert-type scale. The validity and stability of the scale were verified, the Cronbach alpha coefficients for dimensions and for the scale as a whole were 0.604, 0.847, 0.512, and 0.872, respectively, the low reliability of the 2-dimensional worship and creed is due to the low number of items, unlike the virtues and the scale as a whole. These results indicated that the Scale of Islamic Religiosity Attitude is reliable. To verify the validity of the scale, we used the confirmatory factor analysis (CFA). The quadratic model of the scale was tested to verify the suitability of its design for the new sample. The results showed that because the sample evaluation of forbidden dimension is 0, the dimension has become statistically constant and the statistic deals with the variables and does not deal with the constants, so this dimension was excluded because the sample is not different in the response to it, and the model to be verified is the tripartite model.

From Figures 1 and 2, the values of t corresponding to the path coefficients do not fall in the period $(-1.96, 1.96)$, which means the significance of the path parameters. The model also achieved the conditions of good match (0). Therefore, the research team is satisfied with the scale criterion applicable to the new sample and that the data model complies with the theoretical model of the scale when it is prepared in the original version.

Wagnild and Young 14-Item Resilience Scale. The scale prepared by Wagnild and Young³³ contains 14 items spread across 5 dimensions: self-reliance (1, 5, 7, 12, 14), the meaningfulness (2, 9, 13), balance (3 and 10), perseverance (6 and 8), and existential aloneness (4 and 11). The individuals respond by using a 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree). The Cronbach alpha coefficients for dimensions and for the scale as a whole were 0.822, 0.724, 0.549, 0.734, 0.753, and 0.928, respectively; these results indicated that the Resilience Scale (RS) is reliable. To verify the validity of the RS-14, we used the CFA, and the 5-dimensional model was tested. The results are shown in Figures 3 and 4.

From the Figures 3 and 4, we notice that the t values corresponding to path coefficients do not fall within the period $(-1.96, 1.96)$. This indicates the significance of the path parameters. The value of the chi-square was a sign. The chi-square has many disadvantages and therefore it is recommended to be used together with other indicators of good fit. From sensitivity to the volume of correlation coefficients, high correlation coefficients lead to an increase in the value of a chi-square, and the chi-square is affected by the size of the sample, so we adopted alternative indicators, root mean square residual (RMR)=0.03 is close to 0, goodness of fit index (GFI) was 0.984 (<0.90), adjusted goodness of fit index (AGFI) was 0.951 (>0.90). This result indicated that the RS scale is suitable for measuring the psychological resilience.

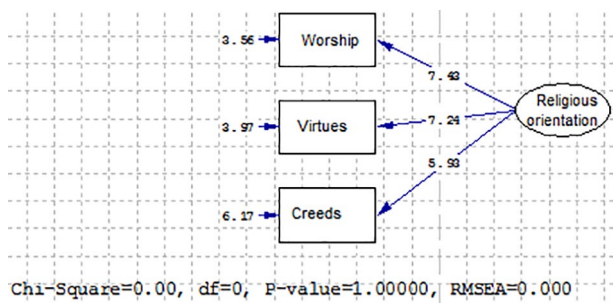


Figure 2. Values of *t* corresponding to the path coefficients of the 3-dimensional model of religiosity.

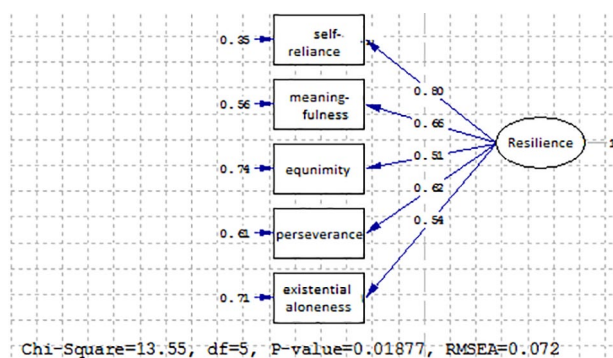


Figure 3. Path parameters of the 5 model of the psychological resilience test.

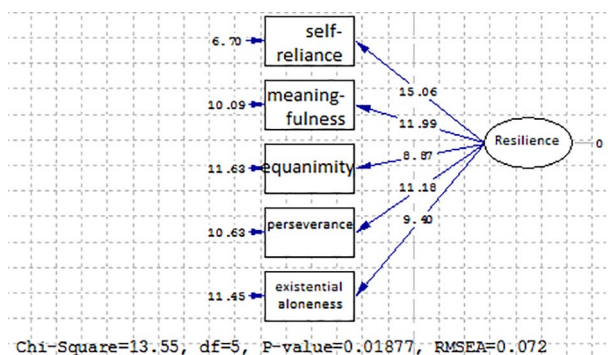


Figure 4. The *t* values corresponding to the path coefficients of the 5 model of psychological resilience.

The 14-Item Hospital Anxiety and Depression Scale. This scale prepared by Alqahtani³⁴ contains 14 items distributed across 2 dimensions: anxiety (1, 3, 5, 7, 9, 11, 13) and depression (2, 4, 6, 8, 10, 14). The individuals respond by using a 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree). The Cronbach alpha coefficients for dimensions were 0.680 and 0.577, respectively, these results indicated that Hospital Anxiety and Depression (HAD) scale is reliable. To verify the validity of the HAD-14 scale, we used the CFA, and the 2-dimensional model was tested. The results are shown in Figures 5 and 6.

From Figures 5 and 6, the values of *t* corresponding to path coefficients do not fall within the period (-1.96, 1.96). This indicates the significance of the path parameters. The value of

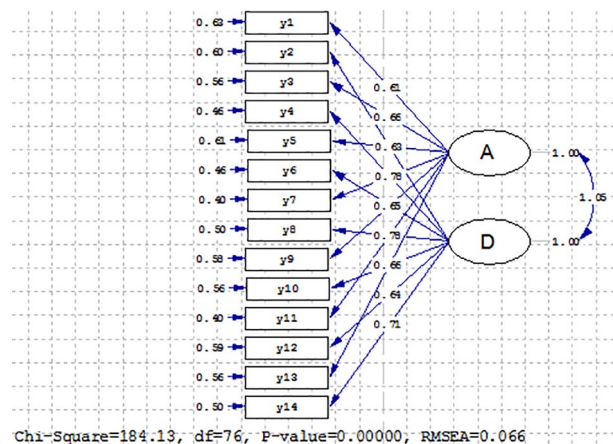


Figure 5. Path parameters of the model of anxiety and depression scale.

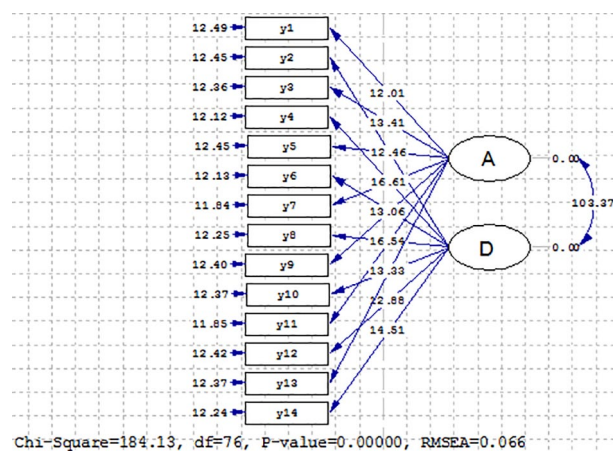


Figure 6. Values of *t* corresponding to the path parameters of the model of the anxiety and depression scale.

the chi-square was a significant because the chi-square is affected by the size of the sample, so we adopted alternative indicators, RMR=0.038 is close to 0, GFI was 0.926 (>0.090), AGFI was 0.897 (>0.80). This result indicated that the anxiety and depression scale is suitable for measuring anxiety and depression.

Research design

A descriptive design was used in this study to examine the relationships between religiosity, resilience, and mental health, and to detect the differences in religiosity, resilience, and mental health due to demographic variables (duration of cancer, treatment stage, cause of cancer from the point of patient view), as well as test the possibility of predicting mental health through the level of religiosity or psychological resilience among breast cancer patients.

Data analysis

The obtained data were analyzed by using SPSS 25.0 (statistics package for social sciences) and LISRAL to test validity and

reliability of the scales used in this study and in response to the study questions about correlation, differences, and predictability. After we tested the data normal distribution (see Table 1), the results showed that the values of normality tests were

significant. This means that the distribution of the data are not consistent with the normal distribution curve. Consequently, the nonparametric statistic should be used to analyze the data if necessary.

Table 1. Tests of Normality.

VARIABLES	KOLMOGOROV-SMIRNOV		SHAPIRO-WILK			
	STATISTIC	DF	STATISTIC	DF	STATISTIC	DF
Worship	0.092	328	0.01	0.935	328	0.01
Virtues	0.081	328	0.01	0.960	328	0.01
Creed	0.315	328	0.01	0.614	328	0.01
Total	0.092	328	0.01	0.946	328	0.01
Self-reliance	0.175	328	0.01	0.819	328	0.01
Meaningfulness	0.106	328	0.01	0.968	328	0.01
Balance	0.161	328	0.01	0.940	328	0.01
Perseverance	0.233	328	0.01	0.845	328	0.01
The existential aloneness	0.389	328	0.01	0.629	328	0.01
Total	0.090	328	0.01	0.937	328	0.01
Anxiety	0.130	328	0.01	0.959	328	0.01
Depression	0.091	328	0.01	0.966	328	0.01

Results

The results about the relationship between the level of religiosity and psychological resilience among cancer patients

We used Pearson correlation coefficient to calculate correlations between religiosity (dimension and total scores) with the dimensions of psychological resilience and its overall score. The results are shown in Table 2.

From the results shown in Table 2, there are positive, statistically significant correlations between the dimensions of religiosity—except the forbidden, where it was a constant value—and the total score with all dimensions of psychological resilience and its overall scores with statistical significance level (0.01).

Table 2. Correlation coefficients between religiosity and psychological resilience.

VARIABLES	SELF-RELIANCE	MEANINGFULNESS	BALANCE	PERSEVERANCE	EXISTENTIAL ALONENESS	PSYCHOLOGICAL RESILIENCE
Worship	0.752**	0.730**	0.585**	0.709**	0.523**	0.925**
Virtues	0.674**	0.622**	0.456**	0.509**	0.436**	0.766**
Creed	0.436**	0.359**	0.212**	0.365**	0.361**	0.478**
Total	0.780**	0.728**	0.546**	0.643**	0.526**	0.909**

**P ≤ .01.

The results about the differences in the level of religiosity and psychological resilience due to the duration of cancer

We use the Kruskal-Wallis test used for calculating differences in the level of religiosity and psychological resilience due to the duration of cancer. The results shown in Table 3.

From Table 3, the results indicated that there are no statistically significant differences due to the duration of cancer in both religiosity and psychological resilience. This may be due to the fact that the Saudi society is by its nature a religious society and there is a close correlation between the religiosity and psychological resilience. God teaches us how to face

Table 3. Results of the Kruskal-Wallis test for differences in the level of religiosity and psychological resilience in light of the duration of cancer.

DEPENDENT VARIABLES	DURATION OF CANCER	N	MEAN RANK	χ^2	ASYMPTOTIC SIGNIFICANCE
Worship	Newly discovered	28	192.46	2.57	Not significant
	Less than 1 year	71	162.75		
	More than a year	230	162.35		
Virtues	Newly discovered	28	161.09	1.11	Not significant
	Less than 1 year	71	155.20		
	More than a year	230	168.50		
Forbidden	Newly discovered	28	164.50	0	Not significant
	Less than 1 year	70	164.50		
	More than a year	230	164.50		
Creed	Newly discovered	28	181.89	1.3	Not significant
	Less than 1 year	71	161.55		
	More than a year	230	164.01		
Total	Newly discovered	28	174.50	1.14	Not significant
	Less than 1 year	71	155.13		
	More than a year	230	166.89		
Self-reliance	Newly discovered	28	180.23	1.15	Not significant
	Less than 1 year	71	158.06		
	More than a year	230	165.29		
Meaningfulness	Newly discovered	28	165.89	0.68	Not significant
	Less than 1 year	71	156.89		
	More than a year	230	167.40		
Balance	Newly discovered	28	160.14	0.36	Not significant
	Less than 1 year	71	170.56		
	More than a year	230	163.88		
Perseverance	Newly discovered	28	185.54	1.79	Not significant
	Less than 1 year	71	158.37		
	More than a year	230	164.55		
Existential aloneness	Newly discovered	28	184.30	1.95	Not significant
	Less than 1 year	71	166.09		
	More than a year	230	162.31		
Total	Newly discovered	28	175.84	0.76	Not significant
	Less than 1 year	71	158.11		
	More than a year	230	165.81		

predestinations in our lives and how to control them and win the reward of God.

The results about the differences in the level of religiosity and psychological resilience due to the stage of cancer treatment

The Kruskal-Wallis test calculated to detect the differences in the level of religiosity and psychological resilience due to the duration of cancer. The results are shown in Table 4.

From Table 4, the results indicated that there are no statistically significant differences due to the stage of cancer treatment in each of religiosity and psychological resilience.

The results about the differences in the level of religiosity and psychological resilience due to the cause of cancer from the patient's point of view

Because the variables are nominal variables, we used both eta and analysis of variance (ANOVA) analysis. The results are shown in Table 5.

Table 4. Results of the Kruskal-Wallis test for differences in the level of religiosity and psychological resilience due to the cancer treatment phase.

DEPENDENT VARIABLES	TREATMENT STAGE	N	MEAN RANK	χ^2	ASYMPTOTIC SIGNIFICANCE
Worship	I did not start yet	17	146.65	1.93	Not significant
	In treatment	76	155.72		
	I finished the first and started the second	57	172.35		
	I finished the whole treatment	179	168.34		
Virtues	I did not start yet	17	166.41	1.11	Not significant
	In treatment	76	157.71		
	I finished the first and started the second	57	175.24		
	I finished the whole treatment	179	164.70		
Forbidden	I did not start yet	16	164.50	0.00	Not significant
	In treatment	76	164.50		
	I finished the first and started the second	57	164.50		
	I finished the whole treatment	179	164.50		
Creed	I did not start yet	17	168.82	2.15	Not significant
	In treatment	76	159.59		
	I finished the first and started the second	57	179.10		
	I finished the whole treatment	179	162.45		
Total	I did not start yet	17	155.47	1.34	Not significant
	In treatment	76	156.18		
	I finished the first and started the second	57	173.25		
	I finished the whole treatment	179	167.02		
Self-reliance	I did not start yet	17	148.62	3.77	Not significant
	In treatment	76	151.78		
	I finished the first and started the second	57	180.62		
	I finished the whole treatment	179	167.19		
Meaningfulness	I did not start yet	17	142.32	1.57	Not significant
	In treatment	76	160.34		
	I finished the first and started the second	57	172.11		
	I finished the whole treatment	179	166.87		

(Continued)

Table 4. (Continued)

DEPENDENT VARIABLES	TREATMENT STAGE	N	MEAN RANK	χ^2	ASYMPTOTIC SIGNIFICANCE
Balance	I did not start yet	17	156.29	0.83	Not significant
	In treatment	76	158.16		
	I finished the first and started the second	57	165.36		
	I finished the whole treatment	179	168.62		
Perseverance	I did not start yet	17	171.76	0.87	Not significant
	In treatment	76	156.97		
	I finished the first and started the second	57	169.75		
	I finished the whole treatment	179	166.25		
Existential aloneness	I did not start yet	17	170.09	1.86	Not significant
	In treatment	76	157.76		
	I finished the first and started the second	57	176.13		
	I finished the whole treatment	179	164.04		
Total	I did not start yet	17	144.62	2.3	Not significant
	In treatment	76	155.96		
	I finished the first and started the second	57	175.63		
	I finished the whole treatment	179	167.39		

Table 5. The value of the eta² to association between causes of the cancer and each of religiosity and psychological resilience.

DEPENDENT VARIABLES	ETA	ETA ²
Worship	.141	.020
Virtues	.138	.019
Creed	.177	.031
Total	.136	.018
Self-reliance	.141	.020
Meaningfulness	.097	.009
Balance	.173	.030
Perseverance	.190	.036
Existential aloneness	.190	.036
Total	.130	.017

It is clear from Table 5 that there is a low association between the belief in the cause of the disease and the religiosity and psychological resilience of breast cancer patients. Whereas the eta values (0.02 weak, 0.05 average, 0.14 strong, and 0.5 very strong).

The results shown in Table 6 indicated that there are no statistically significant differences in religiosity and

psychological resilience due to the belief by patients about the causes of cancer.

The results about the relationships between the level of religiosity and psychological resilience to alternative therapeutic interventions (medicine prophetic) that have been used or that the cancer patients thinks of using

Because the variables are nominal variable, we used the eta² to determine the association between the variables. The results are shown in Tables 7 and 8.

The results shown in Table 8 indicated that there is a moderate correlation between alternative therapeutic interventions currently used and each of religiosity (worship, creed, and total score) and psychological resilience (all dimensions and total score except the meaningfulness dimension) in breast cancer patients.

It is clear from the results shown in Table 9 that there is no correlation between the alternative treatment interventions that the patients considered in the future to each of religiosity and the psychological resilience (all dimensions and the total score except the meaningfulness dimension) among cancer patients.

The results shown in Tables 8 and 9 indicated that there are moderate correlations between the alternative therapeutic interventions currently used to both religiosity (worship, creed, and

Table 6. Results of analysis of variance table for differences in religiosity and psychological resilience due to cause of cancer.

DEPENDENT VARIABLES	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIFICANCE
Worship	Between groups	1.132	10	0.113	0.643	.777
	Within groups	55.982	318	0.176		
Virtues	Between groups	1.205	10	0.120	0.619	.798
	Within groups	61.915	318	0.195		
Creed	Between groups	0.425	10	0.043	1.025	.422
	Within groups	13.197	318	0.041		
Total	Between groups	0.434	10	0.043	0.595	.818
	Within groups	23.209	318	0.073		
Self-reliance	Between groups	29.063	10	2.906	0.649	.771
	Within groups	1424.633	318	4.480		
Meaningfulness	Between groups	12.185	10	1.218	0.304	.980
	Within groups	1274.812	318	4.009		
Balance	Between groups	23.793	10	2.379	0.983	.458
	Within groups	769.429	318	2.420		
Perseverance	Between groups	19.178	10	1.918	1.187	.299
	Within groups	513.965	318	1.616		
Existential aloneness	Between groups	8.998	10	0.900	1.196	.293
	Within groups	239.245	318	0.752		
Total	Between groups	183.115	10	18.312	0.550	.854
	Within groups	10585.006	318	33.286		

Table 7. The value of the eta² for the correlation of alternative therapeutic interventions currently used and both religiosity and psychological resilience.

DEPENDENT VARIABLES	ETA	ETA ²
Worship	.241	.058
Virtues	.206	.042
Creed	.270	.073
Total	.239	.057
Self-reliance	.238	.057
Meaningfulness	.205	.042
Balance	.243	.059
Perseverance	.263	.069
Existential aloneness	.152	.023
Total	.232	.054

Table 8. The value of the eta² to correlation between alternative therapeutic interventions that the patient considers to be used in the future and both religiosity and psychological resilience.

DEPENDENT VARIABLES	ETA	ETA ²
Worship	.193	.037
Virtues	.165	.027
Creed	.150	.022
Total	.180	.033
Self-reliance	.143	.021
Meaningfulness	.226	.051
Balance	.154	.024
Perseverance	.186	.034
Existential aloneness	.162	.026
Total	.180	.032

Table 9. The value of the eta² to correlation between alternative therapeutic interventions that the patient considers to be used in the future and both religiosity and psychological resilience.

DEPENDENT VARIABLES	ETA	ETA ²
Worship	.193	.037
Virtues	.165	.027
Creed	.150	.022
Total	.180	.033
Self-reliance	.143	.021
Meaningfulness	.226	.051
Balance	.154	.024
Perseverance	.186	.034
Existential aloneness	.162	.026
Total	.180	.032

total score) and psychological resilience (all dimensions and the total score except the meaningfulness dimension), while the results found that there were no correlation between alternative therapeutic interventions that the patient thinks of future use to each of religiosity and psychological resilience (all dimensions and total score except the meaningfulness dimension) among cancer patients.

The results about the contribution of religiosity and psychological resilience to predict cancer patients' mental health (depression/anxiety)

We used the Stepwise Regression. The results are shown in Table 10.

Table 10. Results of regression analysis of anxiety on religiosity and psychological resilience.

MODEL	R ²	DURBIN-WATSON	F	INDEPENDENT VARIABLES	UNSTANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS	T
					B	SE	B	
1	0.092	1.906	33.996**	Constant	28.346	3.411		8.310**
				Creed	-5.115	0.877	-0.307	-5.831**
2	0.113		21.791**	Constant	28.487	3.371		8.450**
				Creed	-3.867	0.964	-0.232	-4.011**
				Self-reliance	-0.277	0.093	-0.172	-2.962**
3	0.132		17.603**	Constant	28.748	3.336		8.619**
				Creed	-4.051	0.956	-0.243	-4.239**
				Self-reliance	-0.360	0.097	-0.223	-3.720**
				Balance	0.346	0.121	0.159	2.873**

**P ≤ .01.

From the results shown in Table 10, the creed explains 9.2% of the variation in anxiety, creed, and self-reliance, explaining 11.3% of the variation in anxiety, and the 3 variables of creed, self-reliance, and balance explain 13.2% of the total variance of anxiety among cancer patients. And the Darben-Watson coefficient was close to 2, which meant that the effect of the residue was weak, and all P values of the 3 models indicate that there is an effect of the independent variables in each model on the dependent variable (anxiety).

These results indicated that the most important factors affecting anxiety among cancer patients were cured, followed by the first dimension of psychological resilience (self-reliance), and then the third dimension of psychological resilience (balance). The following equation can be formulated to predict anxiety among cancer patients from religiosity and psychological resilience

$$\text{Anxiety} = 28.748 - 0.243 (\text{creed}) - 0.223 (\text{self-reliance}) + 0.159 (\text{balance})$$

The results shown in Table 11 indicated that the virtues account for 7.7% of the total variance of depression in breast cancer patients, and the Derbin-Watson coefficient was close to 2. The results also show that the most influential factor in depression was virtues, while there was no effect on the other dimensions of religiosity or psychological resilience on the scores of depression, and the equation of prediction is Depression = 12.856 - 1.942 (virtues).

Discussion

Brest cancer patients exposed to chronic stress has caused a wide range of psychological negative health outcomes. It is important to understand that risk factor of cancer patients' stressful experience may be mediated by individual factors,

Table 11. Results of regression analysis of depression on religiosity and psychological resilience.

MODEL	R ²	DURBIN-WATSON	F	INDEPENDENT VARIABLES	UNSTANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS	T
					B	SE	B	
1	0.077	1.856	28.388**	Constant	12.856	1.202		10.700**
				Virtues	-1.942	-.364	-.283	-5.328**

**P ≤ .01.

such as personality traits, sex, ethnicity, religion, beliefs, and human culture.

This study revealed that mental health correlated with religiosity and psychological resilience. This finding is compatible with Behere et al³⁵ reporting that religiosity provides guidelines, which can help patients to devise a course for their lives and to cope with life stresses. Arnout³⁶ mentioned that individuals with high spiritual intelligence invest more effort and persist longer than individuals with low spiritual intelligence. Therefore, it may be expected that those with high spiritual intelligence will choose effective or problem-centered coping strategies, whereas those with low spiritual intelligence use negative emotional strategies.

In their review, Moreira-Almeida et al³⁷ mentioned that the positive impact of religion on mental health is more robust for who are faced with stressful circumstances such as those with medical illness (such as cancer). The higher levels of religion are positively correlated with mental health indicators and with less depression, suicidal thoughts and behavior, and drug/alcohol. The results of earlier studies showed that religiosity associated with health indicators (Hill et al, 2003; Schreiber et al, 2012; Park et al, 2018)^{20,38,39} and related to quality of life.^{19,24,25}

The results of this study consisted of findings of systematic reviews that reported positive correlations between religion and mental health. Bonelli and Koenig⁴⁰ found that there was good evidence that religious involvement correlated with better mental health in the areas of depression, substance abuse, and suicide; some evidence in stress-related disorders and dementia. And the review of 74 articles published between January 2000 and March 2012 conducted by AbdAleati et al,⁴¹ findings of past studies, found that religion could play an important role in mental health. Recently, Färber and Rosendahl,⁴² in their systematic review and meta-analysis, found a strong association between resilience and mental health in the somatically ill.

In addition, the findings of this study also consisted with systematic reviews that found resilience was correlated negatively with symptoms of mental problems in patients with physical illness, cancer, and chronic disease.⁴³⁻⁴⁷

Davydov et al⁴⁸ argued that resilience can be viewed as a defense mechanism, which helps individuals to cope effectively adversity. Bowes and Jaffee⁴⁹ mentioned that most definitions

of resilience include the overcoming of stress, adversity, and environmental risk. From the perspective of positive transformations, resilience plays an important role in maintaining mental health, restoring homeostasis, and increasing the level of functioning.⁵⁰

Several factors that promote resilience include religion. Religion has been exposed to be a key in promoting resilience among older adults.⁵¹ About the role of religion and resilience for patients, Jones et al⁵² found correlations between the higher levels of spirituality with improved quality of life, life satisfaction, mental health, and resilience for spinal cord injury patients.

Religion is seen as providers of path for coping with health and illness in Muslim culture. Exploiting the natural resources of religion can promote resilience mechanisms in negative life events⁵³ and can enhance recovery by providing faith and hope in being able to overtake after a cancer diagnosis and recover health.⁵⁴

All of these findings emphasized that each of religiosity and psychological resilience plays a role in coping with the stress of cancer, and, in turn, it relieves the negative effects of it. Thus, if we need to recover the homeostasis and mental health of breast cancer patients, it is necessary to improve their religiosity and psychological resilience skills through counseling interventions.

Conclusion

Through the results of this study, it is clear that cancer is considered as a stressor situation for patients and caused many mental health problems such as anxiety and depression in all stages of cancer continuum. And each of religiosity and psychological resilience were contributed statistically significant directly to the product of the breast cancer mental health.

These results emphasized the importance of developing each of religiosity and psychological resilience among cancer patients in Arabic Countries to increase their mental health. These results have a future direction in the field of counseling and psychotherapy for cancer patients, to plan counseling interventions that aimed to decrease psychological distress and mental disorders among cancer patients.

Author Contributions

Nawal A Al Eid, Mohammed MJ Alqahtani and Boshra A Arnout were responsible for the conceptualization and acquisition of the data. Mohammed MJ Alqahtani and Boshra A

Arnout were responsible for the methodology. Mohammed MJ Alqahtani and Boshra A Arnout were responsible for the writing, review, and/or revision of the manuscript. Nawal A Al Eid, Khaldoun Marwa, Hajar S Alswailem, and Al Anoud Al Toaimi were responsible for the administrative, technical, or material support. Nawal A Al Eid was responsible for the study supervision.

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