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Research Article

PREDICTING LIFE QUALITY AND LIFE EXPECTANCY FROM SPIRITUALITY AND SOCIAL SUPPORT IN CANCER PATENTS

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ABSTRACT
Cancer is one of the most worrying diseases among people. In fact, life of people changes by becoming aware of this malign disease, and one attempts to adapt the patients with this situation. This study aims to predict life quality and life expectancy from spirituality and social support in cancer patients. The study method is correlation. Statistical population of this study consists of 200 cancer patients going to Imam-Hussein, Imam-Khomeini and Mofid hospitals in 2014 which is examined through sampling. Data descriptive statistics is used for analyzing and Pearson correlation coefficient and stepwise regression analysis are used for inferential section. Obtained results of statistical analysis suggest that there is a significant positive relation between tendency to spirituality and social support with life quality and life expectancy in cancer patients.

Keyword: *Life Quality, Life Expectancy, Spirituality, Social Support*

INTRODUCTION
In spite of considerable progresses of medical science, cancer is still considered as the most important illness of current century and second cause of death after cardiovascular diseases. Worldhealth organization (WHO) has estimated that every year more than 10 million people are recognized by variety of cancers (Dow, 2006). Based on presented statistics from WHO in 2005 among total 58 million deaths around the world 6.7 million (i.e. 13 percent) is caused by cancer and based on statistics published from the same organization until 2030, 13.4 % of deaths in Iran will be due to cancer (Qaleqasemi *et al.,* 2011). Although today diagnosing cancer is no longer meant to be as definite death, however, many studies in western country and some Asian countries implies that such diagnosis gives rise to deep emotional problems such as depression for the patient and its family (Akechi *et al.,* 2001). This disease changes the path of patient life and brings about many problems in physical, mental, social, economic and familial dimensions (Smeltze *et al.,* 2003). Studies have shown that between 50 to 85 percent of cancer patients simultaneously suffer from some psychiatric disorder (Pirll, 2004). Depression, despair, anger and sometimes suicidal tendency can be seen in such patient too much. Due to threatening nature of cancer, diagnosis of this disease cause that spiritual need of patient increase considerably. Cancer diagnosis triggers a significant spiritual crisis in the patient, in brief; one can say that a spiritual distress emerges in the patient (Qaleqasemi *et al.,* 2011).

Theoretical Basics
WHO defines the life quality by obvious cases relating to life criteria such as physical and mental health, social health and environment.Based on this comprehensive definition, life quality has close relation with mental, physical social state as well as beliefs and environment (Hadidchi, 2009). Maslow & McCall have examined the life quality through tangible dimension and they opine that by taking tangible aspects of life quality into account one can better analyze this concept (Qaffari & Omidi, 2009). Phillips examines the concept of life quality in individual and collective dimensions through objective and subjective parameters. For Philips, the individual life quality in objective dimensions calls for essential needs and access to material resources for meeting citizens social desires and in subjective dimension it requires independence of action in following cases:

1- Increase of mental wellbeing including seeking desire, satisfaction, purposefulness in life and personal development.
2- Growth and self-actualization in the path of happiness and love

3- Participation in a wide level in social activities

One of the most important issues in the cancer is decreasing psychological problems of such patients and boosting their life quality after contracting this disease. Currently in addition to medical and physical treatments one attempt to address affective and psychological pains and sufferance too, so that they can turn back to their life after disease. In fact boosting life quality is an issue which is at the first place of confronting against such disease (Hadidchi, 2009).

Mechanism of compatibility of chronic diseases such as cancer is the expectancy and it is defined as a multidimensional and powerful and complicated factor in effective recovering and adaptation. By view of Berg and Benzein, the hope helps the patients physiologically and emotionally so that they can tolerate disease crisis (Benzein *et al.*, 2005). In other references, the hope is mentioned as a predictor of serious disease recovery process (Cohen, 2003).

Many studies show that there is a relation between expectancy and spiritual health (Lark, 2007), simultaneously the results of study of Cohen and Mickle have shown that cultural differences influence on results of relation between spiritual health and expectancy. Study of Volon *et al.*, has not shown any significant relation between hope and carrying out religious actions such as prayer. However in the study of Penrude & Mors, Chang & le people who consider themselves as religious had higher hope scores comparing with those not considering themselves as religious (Mascaro *et al.*, 2004).

Social support is the extent in which the patient enjoys from affection, help and attention of family members, friends and others (Brummet, 2005). This support can be emotional, instrumental and informational support. The studies have revealed that by boosting the level of perceived social support, level of death would decrease and contracting physical and mental diseases declines. Findings shows that decline of level of perceived social support is associated with increase of times of hospitalization in chronic patients. Social support can influence on some dimensions of life quality and it is related to it. Yan & Sellick opine: there is a relation between life quality and social support. They indicated that among chronic patients as the social support is higher, their life quality is better. Kiz *et al.*, in their study have opined that there is a relation between emotional and instrumental support with life quality (Heidarzadeh *et al.*, 2013).

Meaning of Life and Spirituality in Cancer Patients

Since this disease is of threatening nature and increases the danger of patient death, life meaning and spirituality are of high importance for cancer patients. Life shocking events, such as cancer cause that view of the patient changes about the meaning of life. According to Park & Folkman theory, cancer patients for further adaptation may attempt for situational and universal meaning and ability to reaching this adaptation equals with better mental moderation and less mental unease. For some people, life meaning has spiritual aspects. Many patients have expressed the religion and spirituality as a strategy for tolerating diagnosis and treatments (Torkmoghaddam, 2009).

Results of McClane *et al.*, study revealed that spiritual health has a significant influence on end-of-life despair in cancer patients. M. Bakhshian *et al.*, indicated that spiritual health is related to life quality of patients with M.S. for cancer patients who are at the final stages of their disease, spiritual and religious tranquility may be even more important than physical and mental health. Similarly, Ripentrop *et al.*, in their study have indicated that more than 90 percent of patients used to believe to a higher power. Strabridge *et al.*, in their study have found that people attending in religious places more than once a week, have 24% less death probability than control group (Halkoaha, 2010).

Row & Allen (2004) argue that there is relation between religious and adaptation in cancer patients in particular in managing disease symptoms. Presence of strong religious beliefs is related to decrease pain and decrease in social isolation as well as high level of life satisfaction. Fernsler & Miller in 1999 in their study on intestine cancer patients have found that repercussions of cancer on patients with higher spiritual health are lower.

Mc-Clain *et al.*, in 2003 have indicated that "existential" subset of spiritual health is related to end-of-life despair, tendency toward suicide and "religious" subset of spiritual health is only related to despair and it may prohibit the patient from suicide.

Role of Prayer in Spiritual Health of Cancer Patients

Among religious and spiritual resources, the most resource which is used is prayer. Prayer is related to life meaning and spiritual health. Prayer is an appropriate solution for patient adaptation. Prayer is a spiritual activity and for many people it is a religious activity. In religion encyclopedia, prayer is defined as relation to god and spiritual being. Dossi emphasized that prayer does not depend to a specific religion and it is not confined in a time and place limitation. Prayer can be healing and soothing. Prayer includes praise and worship of god, confession, demand, intercession, mourn and thanksgiving (Fatemi *et al.*, 2006).

Prayer is carried out in many either cultural or religious traditions. Reminding the meaning of prayer and the manners in which the presence of God can be experienced brings about a rich source for patients. Once someone is physically weak and is hospitalized, contemplating can enable it to travel to another place which this place may be healing and curing, and gives risetranquility and it cause that the patient takes part in prayer activity.

Prayer allows the patient to have a close relation with God. Individual prayer and praying for others provide patients with power. Similarly, these patients also request others to pray for them and this is empowering for them (Torkmoqadam, 2009).

MATERIALS AND METHODS

Methodology

Considering the nature of subject of current research which is the relation of spirituality and social support with life quality and life expectancy of cancer patient, the methodology of study is correlation approach. Statistical population of this study consists of all cancer patients going to Imam Hussein, Imam Khomeini and Mofid hospital in 2014.

In this study, 200 cancer patients going to these three hospitals are examined through convenience sampling as study statistical sample. Following tools are used for collecting required information in this current study:

1. Individual specification questionnaire
2. Family Social support questionnaire in chronic illnesses
3. Adult's hope scale
4. WHO short scale of evaluating life quality (WHOQOL-BREEF).
5. Spiritual intelligence questionnaire

Descriptive statistics are used for analyzing data including average, standard deviation, minimum and maximum and Pearson correlation coefficient and stepwise regression analysis is used for inferential analysis.

RESULTS AND DISCUSSION

Result of Data Analysis

Research descriptive results

In this step, demographic attributes of statistical sample are examined. At first, general specifications of respondents are examined and later the opinions of respondents regarding each question are studies. Firstly, gender of participants is examined. As it is shown in the table 4-1, 110 respondents i.e. 55% are female and 90 respondents i.e. 45 % are male.

Table 4-1: Frequency distribution of respondents in terms of gender

Gender	frequency	Percentage
Male	90	45
Female	110	55
Total	200	100

For displaying these frequencies their diagrams are depicted and is reported as figure 1-4.

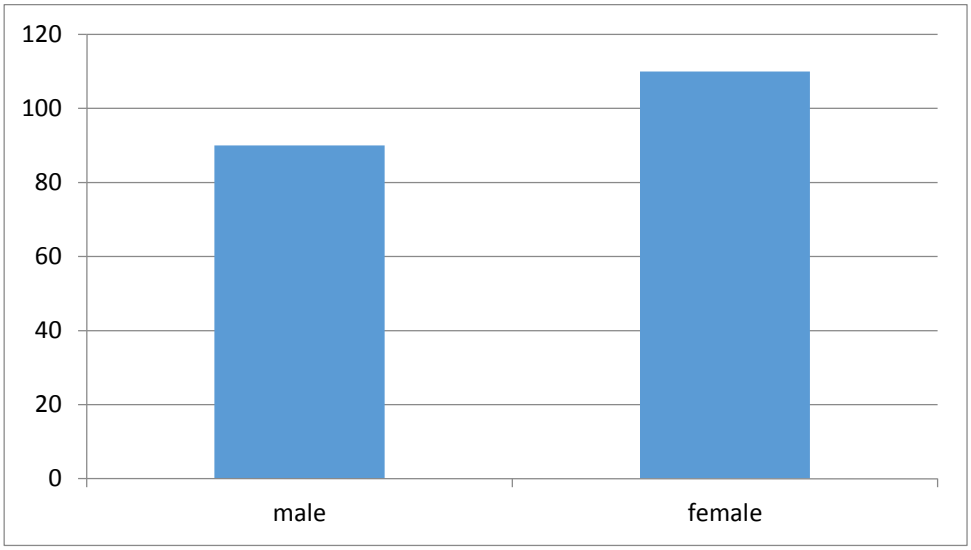

Figure 4-1: Sample gender frequency

In the following marital status of sample group is examined which its results are shown in table 2-4. As it can be observed, respondents are divided into two groups in terms of marital status. 151 respondents of sample group or 75.5 % are married and 64 of them i.e. 24.5 are single.

Table 4-2: Frequency distribution of sample group in terms of marital status

Marital status	frequency	Percentage
Married	151	75.5
Single	54	24.5
Total	200	100

For displaying these frequencies their diagrams are depicted and is reported as figure 2-4.

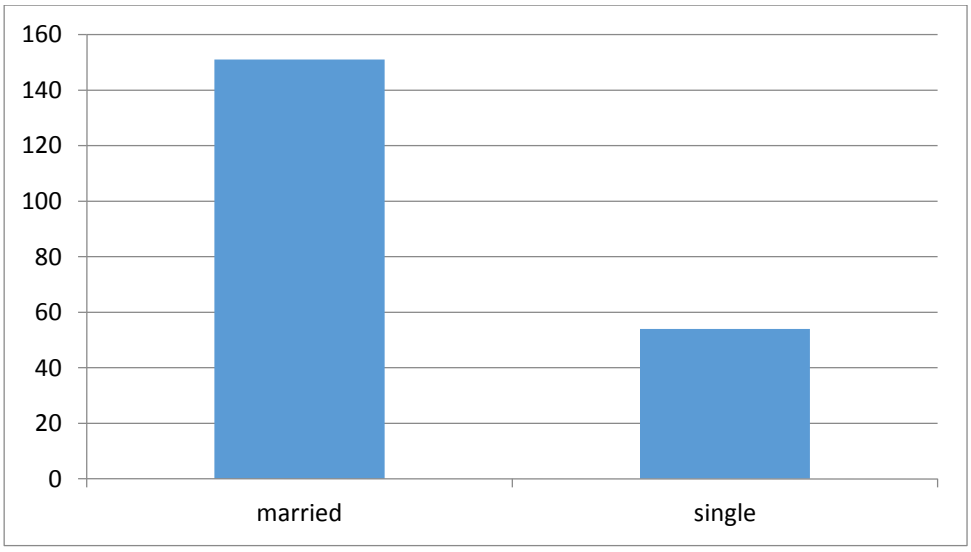

Figure 2-4: Marital status frequency of sample group

In the following, duration of contracting disease is examined in the sample group which its results are reported in table 3-4. Based on findings of table (3-4) one can observe that most members of sample

group or 64 % are contracted cancer between 2-5 years and lesser population i.e. 36 % suffer from cancer during 5-8 years.

Table 3-4: Frequency distribution of respondents in terms of duration of suffering from the disease

Duration of contracting	frequency	Percentage
2-5 years	128	64
5-8 years	72	36
total	200	100

For displaying mentioned frequencies about duration of contracting the disease their diagram is depicted and it is reported as figure 3-4.

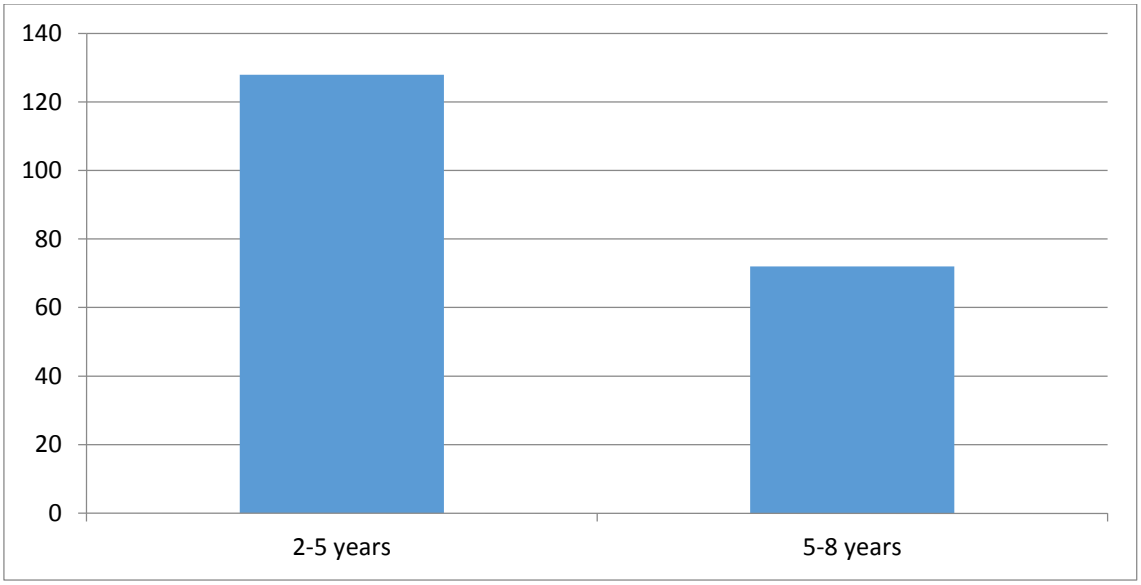

Figure 3-4: Frequency of duration of suffering from disease in sample group

In the following the age of sample group of descriptive statistics is examined which its results is reported in table 4-4. On this basis, sample group is divided into four age groups.

Table 4-4: Frequency distribution of respondents in terms of age

Age	frequency	Percentage
18 to 28 years old	15	7.5
29 to 38 years old	71	35.5
39 to 48 years old	88	44
Older than 48	26	13
Total	200	100

Based on findings of table 44 one can note that most respondents with 44 % are in age group of 39 to 48 years old and the least population with 7.5 percent is group of 18 to 28 years old. For displaying mentioned frequencies about sample group age group their diagram is depicted and it is reported as figure 4-4.

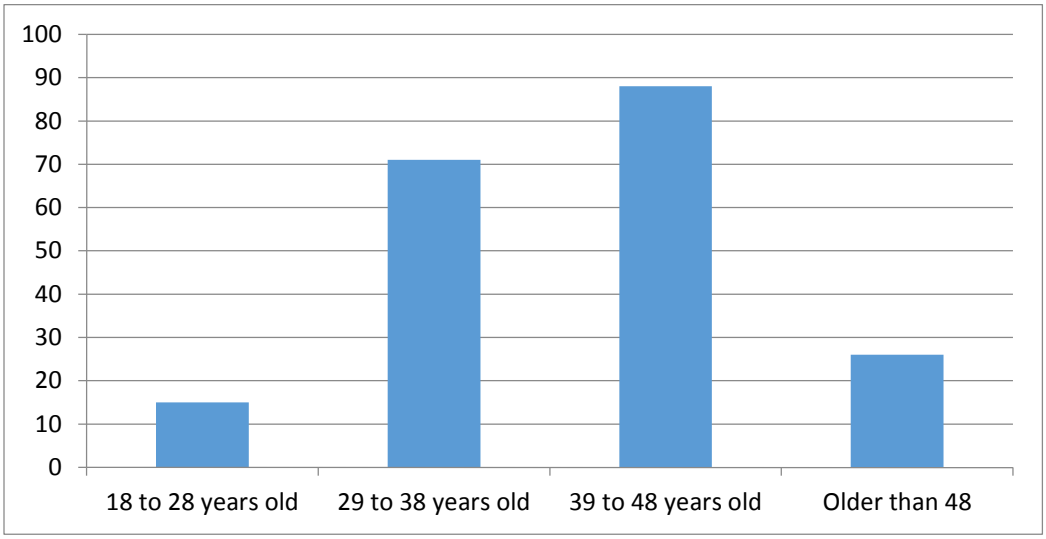

Figure 4-4: Frequency of sample group age group

In the following the education of sample group is examined. Sample group is divided into 5 groups in term of respondents' education degree.

Table 4-5: Frequency distribution of respondents in terms of education degree

Degree	Frequency	Percentage
Under diploma	38	19
Diploma	72	36
Associate degree	30	15
Bachelor	40	20
M.S.	20	10
Total	200	100

Based on findings f table (4-5) one can note that 36 respondents in sample group i.e. 48.4 percent have bachelor degree and 10 of them i.e. 14.4 percent have M.S. degree.
For displaying mentioned frequencies about sample group education degree their diagram is depicted and it is reported as figure 4-5.

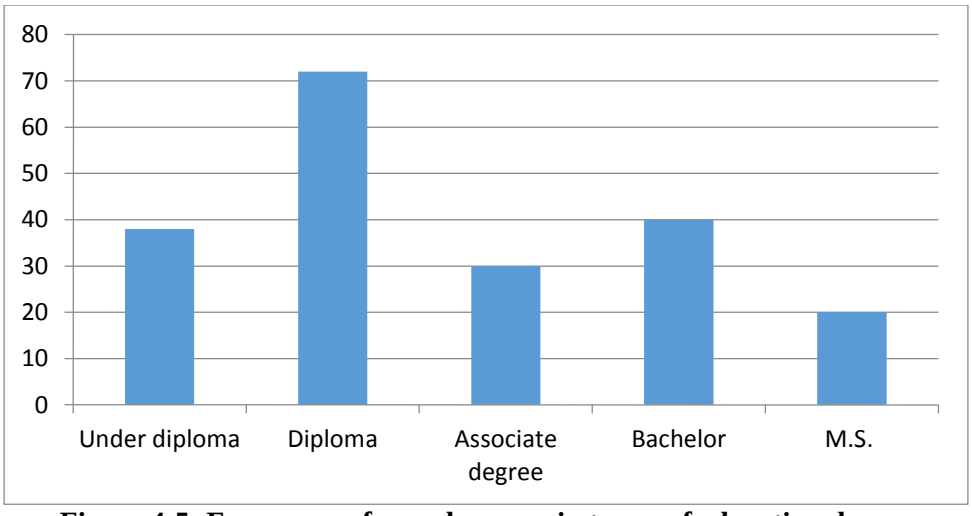

Figure 4-5: Frequency of sample group in terms of education degree

In the following, the sample group is examined in terms of cancer type which its results are reported in table 4-6.

Table 4-6: Frequency distribution of respondents in terms of cancer type

Cancer type	frequency	Percentage
Breast cancer	68	34
Lung cancer	38	19
Stomach cancer	54	27
Blood cancer	32	16
colorectal cancer	8	4
total	200	100

Based on findings of table 4-6, it can be noted that 68 respondents or 34 % have breast cancer and 8 of them or 4 % are with colorectal cancer.

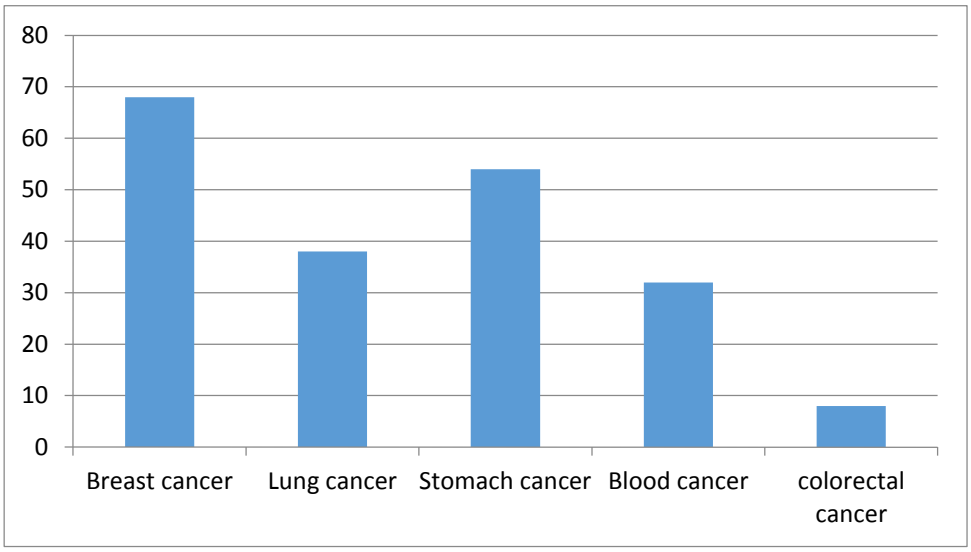

Figure 4-6: Frequency of sample group in terms of cancer type

In the following, scores obtained from study questionnaires are statistically examined which its results are reported in table 4-7.

Table 4-7: distribution of spirituality variable scores

Indexes	Quality life	Social support	Life expectancy	Spirituality
Average	52	158	27.60	197.5
Standard deviation	4.95	7.05	5.89	4.51
minimum	26	79	12	29
Maximum	78	237	48	116
Group size	200	200	200	200

In table 4-7 it can be noted that average of raw scores obtained from life quality questionnaire is 52 with standard deviation of 4.95. Thelowest observed score of life quality is 26 and the highest score is 78.
Average of raw scores from social support questionnaire is 158 with standard deviation of 7.05. The lowest score of social support is 79 and the highest score is 237.
In table 4-7 it is observed that average of raw scores obtained from life expectancy questioner is 27.60 with standard deviation of 5.89. The lowest score of life expectancy is 12 and the highest score is 48.

As it can be seen in table 4-7 average of raw scores of spirituality questionnaire is 197.5 with standard deviation of 4.51. The lowest observed score in spirituality is 29 and the highest score is 116.

Inferential Statistical Analysis

Main hypothesis: There is a significant positive relation between tendency toward spiritualty as well as social support and life quality and expectancy.

With the aim of examining the study hypothesis as the significant positive relation of tendency to spirituality and social support with life quality and life expectancy in cancer patients, Pearson correlation coefficient is used. In table 4-11 the results of these calculations are reported.

In table 4-8 it can be observed that all obtained correlation coefficients are significant at the level of P<0.01. On this basis, one can note that the main hypothesis of research is confirmed, i.e. there is a significant positive relation between tendency toward spiritualty as well as social support and life quality and expectancy.

Table 4-8: Results of correlation coefficient between research variables

Variables	Spirituality	Social support	Life quality	Life expectancy
Spiritualty	1			
Social support	0.681	1		
Life quality	0.414	0.210**	1	
Life expectancy	0.364	0.202**	0.40**	1
P<0.01 **	N=200			

Subsidiary Hypothesis 1: there is a significant relation between tendency toward spirituality and life quality of cancer patients.

It can be seen in the table 4-8 that the relation between life quality and tendency to spirituality is obtained 0.414 which is significant at the level of P<0.01. On this basis, one can note that the first subsidiary hypothesis of research is confirmed, in other word, there is a significant relation between tendencies toward spirituality and life quality of cancer patients.

Subsidiary Hypothesis 2: there is a significant relation between social support and life quality of cancer patients.

It can be seen in the table 4-8 that the relation between life quality and social support is obtained 0.210 which is significant at the level of P<0.01. On this basis, one can note that the secondsubsidiary hypothesis of research is confirmed, in other word, there is a significant relation between social support and life quality of cancer patients.

Subsidiary Hypothesis 3: there is a significant relation between tendency toward spirituality and life expectancy of cancer patients.

It can be seen in the table 4-8 that the relation between life expectancy and tendency to spirituality is obtained 0.364 which is significant at the level of P<0.01. On this basis, one can note that the third subsidiary hypothesis of research is confirmed, in other word, there is a significant relation between tendencies toward spirituality and life expectancy of cancer patients.

Subsidiary Hypothesis 4: there is a significant relation between social support and life expectancy of cancer patients.

It can be seen in the table 4-8 that the relation between life expectancy and social support is obtained 0.202 which is significant at the level of P<0.01. On this basis, one can note that the fourth subsidiary hypothesis of research is confirmed, in other word, there is a significant relation between social support and life expectancy of cancer patients.

Considering the fact that in this study there are two criteria variable, stepwise regression analysis is used for examining the possibility of predicting them by independent variables.

The results of predicting life quality from tendency to spirituality and social support is reported in the table 4-9.

Table 4-9: Results of regression analysis for predicting life quality from spiritually and social support

step	Previous variable	b	β	t	p	R	$R^2.adj$	F	p
first	Tendency toward spirituality	0.33	0.414	6.39	0.000	0.414	0.166	40.86	0.000
First (exit)	Social support		-0.13	-1.52	0.129				

As it can be seen from table 4-9, analysis of this hypothesis is finished in one step. Tendency toward spirituality is a variable which is participated in the regression equation at the first step, beta coefficient of this variable is obtained equal to 0.414which with value t (6.39) is significant at the level of p<0.004. Social support also is a variable which exits from the equation at the first step and is put out due to weakness of the relation. On this basis, calculations of this hypothesis are finished in one step.
Determination coefficient of regression model is obtained equal to 0.166 which with value f (40.86) is significant at the level of p<0.0001. On this basis, one can note that tendency toward spirituality can predict the life quality of cancer patients.
Results of predicting life expectancy from tendency toward spirituality and social support are reported in table 4-9.

Table 4-10: Results of regression analysis for predicting life expectancy from spirituality and social support

step	Previous variable	b	β	t	p	R	$R^2.adj$	F	p
first	Tendency toward spirituality	0.512	0.364	5.5	0.000	0.36	0.128	30.3	0.000
First (exit)	Social support		0.086	-0.95	0.34				

As it can be seen from table 4-10, analysis of this hypothesis is finished in one step. Tendency toward spirituality is a variable which is participated in the regression equation at the first step, beta coefficient of this variable is obtained equal to 0.364 which with value t (5.5) is significant at the level of p<0.000. Social support also is a variable which exits from the equation at the first step and is put out due to weakness of the relation. On this basis, calculations of this hypothesis are finished in one step.
Determination coefficient of regression model is obtained equal to 0.128 which with value f (30.3) is significant at the level of p<0.0001. On this basis, one can note that tendency toward spirituality can predict the life expectancy of cancer patients.

Discussion and Conclusion

Obtained results show that the relation between life expectancy with tendency to spirituality is obtained 0.364 which is direct and significant. The relation between life expectancy and social support is obtained 0.202 which is direct and significant. Based on hypothesis of researchers such Pahlivan *et al.*, (2011), life-threatening diseases such as cancer give rise to despair and aloneness and they change the life style of patient and their family. Perceived social support from family helps in getting along with the disease. These researchers have found direct relation between despair and aloneness and negative relation between despair and aloneness and perceived social support from family.
In another study, Kedzi, Gimah, Ina and Izeh in 2010 have found that circle of close friends, social support and extent of social participation have direct and positive relation with self-evaluated health. Perceived social support has inverse relation with negative emotions and mitigates the depressive mood-related cardiovascular riskand probably decreases death risk. Similarly, Their & Amir in 2010 have concluded that there is an inverse and significant relation between level of depression, anxiety, stress and

life quality of breast cancer patients. In this manner that life quality of patients with more depression, anxiety and stress is significantly lower than patients with less depression, anxiety and stress. However, this is true about not only cancer patients, but also regarding other diseases. As the results of study have indicated the relation between life quality and expectancy is mutual.

Similarly, statistical analysis has shown that hypothesis of this study have been confirmed and there is a positive and significant relation between tendency toward spirituality and social support with life quality and life expectancy in cancer patients.

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