

Spiritual Beliefs, Illness Controllability and Subjective Wellbeing of Breast Cancer Patients

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Abstract

The present study examines the relationship of spiritual beliefs (karma or action, generosity, surrender to almighty, altruism) and illness controllability beliefs (self, doctor, supernatural) with subjective well-being and health outcomes of women patients (N = 100) suffering from breast cancer. Participants were drawn from various medical centers and hospitals located in Varanasi city. These participants were given the measures of spiritual beliefs, illness controllability beliefs, life satisfaction, and health outcomes. Analysis showed a positive association of beliefs in “Karma” and “altruism” with “life-satisfaction” and “positive health outcomes” (e.g., hope, functional wellbeing, treatment satisfaction), and negatively with “pain” and “severity” of illness. “Self” and “doctor-control” showed a positive association with “life-satisfaction”, “hope”, “functional-wellbeing”, and “treatment- satisfaction” and negative with “pain” and “severity”. Beliefs in “Karma” and ‘altruism”, and “self” and “doctor-control” emerged as significant predictors of “life-satisfaction” and “positive health outcomes” of women patients.

Keywords: Spiritual Beliefs; Illness Controllability; Subjective Wellbeing; Health Outcomes; Breast Cancer

Introduction

Over the last two decades, health professionals consistently suggest spirituality as an essential component of health care especially in the management of cancer (Forouzi, Tirgari, Safarizadeh, & Jahani, 2017; Schreiber & Brockopp, 2012; World Health Organization, 2008). Studies indicate that psychological resources such as spirituality, religiosity, optimism, posttraumatic growth, etc. may eliminate the adverse consequences of negative life events on health (Dalal, 2000; Dalal & Pandey, 1988; Ryff & Singer, 1998; Schwarzer, & Leppin, 1989). Spirituality makes harmony with the universe strives for answers about infinity and comes into focus when a person faces emotional stress, terminal illness, or death (Berdyayev, 1939; Chaffers, 1994; Mac Quarrie, 1972). Though, little work has assessed the role of spirituality on women's response to breast cancer.

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Spirituality

Spirituality has multifaceted nature. Researchers have proposed different definitions of spirituality on a substantial or functional basis. *Substantially* spirituality has been observed in terms of relationship with an unseen deity or God, a higher power (Fish & Shelly, 1988), some other conception of a transcendent reality (Wuthnow, 1998), a personal concept involving one's attitudes and beliefs related to God (O'Brien, 2003). It centers upon sacred contents or components that usually encompass God-related or divine phenomena. Barnum (1996) associated it with the well-intentioned forces and relates to the experiences of soul growth and a connection with a

higher power (Thoresan,1998), while Larson, Swyers, and McCullough (1997) express spirituality as a search for what is sacred or holy in life, coupled with a transcendent (greater than self) relationship with God or higher power or universal energy.

Functionally spirituality has been considered as a quality that goes beyond religious affiliation, strives for inspiration, reverence, awe, meaning, and purpose, even in those who do not believe in God (Murray & Zenter, 1989). It focuses upon what spirituality does (Karma) or how it subjectively and existentially affects individuals or groups. A popular verse of Bhagavad Gita (Goyandka, 2006) advises “detachment” from the fruits or results of actions performed in the course of one's duty. Being dedicated to work has to mean “working for the sake of work, generating excellence for its own sake”. If people always calculate the consequences of the work done then such work is not detached. It is not generating excellence for its own sake but working only for the extrinsic reward (e.g., from Supreme Power/God) that may or may not result (p. 30). Such cognitive and behavioral examples of spirituality lead to sound health by enhancing psychological resistance to adverse physical and social conditions and promoting health and positive psycho-physiological functioning (Srivastava & Krishna, 2007).

Spiritual beliefs are governed by two attributional systems. A secular system that understands human action to be caused by personality traits (internal) and another a religious system that identifies supernatural factors (external) to be largely responsible for problems people face in their life (Lupfer, Brock & De Paola, 1992). The type of beliefs an individual possesses influences the choice of coping behavior one uses to confront stressful situations. Spiritual individuals attribute expectations of God's control either by direct intervention or by indirect control through other people such as physicians (Miner & McKnight, 1999). Spiritual beliefs help an individual in

maintaining a sense of control and esteem in a stressful situation (Spilka, Shaver & Kirkpatrick, 1985). In traditional Indian society, people spontaneously engage in causal search in their everyday life and believe Karma, God, and Fate as important causes of many happenings in one's life including illness and suffering (Dalal, 2000).

Illness-Controllability Beliefs

From the perspective of social learning, illness controllability beliefs and behavioral expectancies are considered an important multiplicative determinant of healthy behavior (Bandura, 1982; Wallston, 1992). People's socio-cultural embeddings influence every aspect of their life, including their beliefs regarding health and illness. Several studies have examined the role of individual's belief about illness causation and control in the consequences of illness among women suffering from the cancer of cervix and diabetes (Awasthi, Mishra, & Shahi, 2006; Awasthi & Mishra, 2010, 2011, 2013; Awasthi, Mishra, & Singh, 2018; Mishra, Awasthi, & Singh, 2004). In cancer patients, “doctor control” was found to reduce psychological and interpersonal consequences as well as the pain of illness and enhance hope for a positive outcome of illness. Belief in individual causation enhanced physiological consequences, and belief in supernatural causation enhanced psychological consequences and pain among patients. For diabetic patients, supernatural and environmental causations led to interpersonal consequences. “Self-control” reduced physiological and psychological consequences as well as the pain of the illness and increased hope for positive outcomes of illness. “Doctor-control” reduced psychological consequences and enhanced hope for positive outcomes of illness.

Research on a variety of illness groups has suggested that internal and external control beliefs are proven to be important predictors of psychosocial adjustment and well-being of patients

suffering from chronic illness (Horne, 2003; Horne, Weinman & Hankins, 1999). Studies of patients with heart disease, cancer, and AIDS indicate that for those who believe themselves able to control symptoms, health care, and treatment make better adjustments than those who believe that what happens is totally beyond their control (Taylor, Helgeson, Reed, & Skoken, 1991). In individuals experiencing physical illnesses, a sense of control has been related to positive psychological outcomes (Shapiro, Schwartz, & Astin, 1996). For example, self-control experienced by cancer patients generally increases the level of self-esteem, quality of life, and positive mood (Cunningham, Lockwood, & Cunningham, 1990; Lewis, 1982). These findings consent us to contemplate a similar pattern of relationship between spiritual and illness-control beliefs with Subjective wellbeing and health outcomes in the case of breast cancer women patients.

Subjective Wellbeing

Subjective well-being (SWB) focuses on people's appraisals of their affective and cognitive lives-evaluations (Diener, 2000), which describes people's perspective of spiritual beliefs and their relationship with subjective health and well-being (Daaleman, Cobb, & Frey, 2001). Affective evaluations are usually divided into pleasant affect and unpleasant affect (Diener & Emmons, 1984), and cognitive evaluation is referred to as life satisfaction (Andrews & Withey, 1976). Studies reveal that spiritual beliefs exert directly a positive and substantively influence on the subjective well-being of an individual's health (Blazer & Plamore, 1976; Koenig, Kvale & Ferrel, 1988; Levin, Chatters & Taylor, 1995). These beliefs enhance various aspects of well-being in four ways i.e., 1) establishment of a personal relationship with a divine other, 2) provision of systems of meaning and existential coherence, 3) promotion of patterns of religious organization and 4) personal lifestyle (Ellison, 1991).

Daaleman (1999) observed the relationship of spiritual and religious beliefs with subjective well-being in medical outpatients. Spiritual and religious beliefs provided them with a system of meaning and existential understanding and they identified with more cognitive (life satisfaction) than the affective perception of well-being. Research conducted by Looby (2008) regarding direct and indirect effects of subjective well-being, physical activity, depression, and spiritual belief on adherence to antiretroviral therapy, indicated that SWB created a direct effect on adherence behavior whereas spiritual beliefs created direct and indirect effects through SWB.

Spirituality and Health Outcomes

The relationship among spirituality, spiritual well-being, physical well-being, functional well-being, mood, and adjustment style was investigated in a recent study (Levine & Targ, 2008) among women diagnosed with breast cancer. Spirituality and spiritual well-being were significantly positively correlated with functional well-being than physical well-being, but items about meaning and peace tended to correlate significantly with physical well-being. Spirituality also correlated significantly with several active coping styles but not with avoidance coping. A combination of social well-being and several questions about peacefulness accounted for approximately 18 percent of the variance in scores for physical well-being (greater physical well-being). However, a combination of social well-being and the spiritual scales accounted for approximately 40 percent of the variance in functional well-being (greater functional well-being). The results of this study confirm the importance of spirituality and positive health outcomes in both physical and functional well-being.

A growing amount of literature suggests that spirituality/religiosity may provide positive insights in patients suffering from chronic illness (Lepherd, 2013). Aside from the beneficial effects,

it is important to be aware of the negative influence spirituality/ religiosity may have on SWB and the health outcomes of patients. For example, a study conducted by Exline, Yali, and Lobel (1999) revealed negative religious coping to be associated with greater affective distress, including greater anxiety, depression, and lower self-esteem.

Negative and uncontrollable life events have been proposed to be among the most important motivators of supernatural control beliefs in some studies (Malinowski, 1948/1984; Vyse, 1997). For example, economical difficulties and uncertain life situations have been connected with supernatural beliefs (Keinan, 1994, 2002; Padgett & Jorgenson, 1982). Likewise, people have been shown to put their faith in religious/spiritual beliefs in times of crises (Pargament, 2002). It seems that negative life events may reduce a sense of control and therefore lead to an increased desire for control in supernatural factors. Research has pointed out that people with a strong need for control hold more supernatural beliefs than others (Zebb & Moore, 2003), especially in stressful situations (Keinan, 2002).

A glance at the studies discussed above indicates that very little work has been done linking spiritual and illness controllability beliefs to SWB and health outcomes. The association among different kinds of beliefs, SWB, and health outcomes has not been examined in the context of cancer. In the present study, an attempt was made to analyze the relationship of spiritual and illness controllability beliefs with SWB and health outcomes in a sample of women patients of breast cancer.

The present study focuses on breast cancer because it is identified as the most common female cancer worldwide and constitutes the main cause of medical and psychological morbidity. It is estimated that by 2030 the global burden of breast cancer will increase to over 2 million new cases per year. India is facing an increasing cancer epidemic, with a large augment in the cases of women with

breast cancer (Ferlay et al. 2010; W.H.O., 2008). It accounts for about 25 percent to 33 percent of all cancers in Indian women. Fatality rates of women cancer patients can't be lowered and their positive psychological growth is impossible unless the positive beliefs of health improve the beneficial health outcomes of cancer patients. Studies show that a large number of women integrate spirituality as a component to manage their health problems related to breast cancer (Cotton, Levine, Fitzpatrick, Dold, & Targ, 1999; Johnson & Spilka, 1991). Guided by the above-mentioned picture, the present study attempts to analyze some psychological aspects of breast cancer patients. In the light of general findings reported in this field of research, it was hypothesized that

1. Beliefs in “Karma” and “altruism” would be positively related to life-satisfaction, “hope”, “functional well-being”, and “treatment satisfaction” and negatively to “pain” and “severity” as compared to beliefs in “modesty” and “surrender to almighty”.
2. Belief in “self” and “doctor” control would be associated with greater life satisfaction, hope, functional wellbeing, and treatment satisfaction as compared to belief in “supernatural” control.

Method

Participants

The study was carried out with 100 women breast cancer patients. The sample was drawn from various medical centers and hospitals of Varanasi city, but largely from the S. S. Hospital, BHU. Their cancer was in the second stage. All were under medication for at least six months, but none were hospitalized. The age of women ranged from 30 years to 70 years. Sample generally belonged to middle-class families. The socio-economic status of participants was determined based on their family income, level of education, and husband's occupation. Educated and uneducated patients who

came from urban and rural settings were contacted. Their education varied from grade 5th to post-graduation level. Uneducated women were not able to read and write. 33% of Cancer patients had a monthly family income lower than 10000, 44% of the sufferers had a monthly family income ranging from 10000 to 40000, and 23% had family income greater than 40000. The educated sample comprised of a maximum of high school-educated participants (42%) and a minimum of graduates and above level (8%). The procedures applied in the study were non-invasive and non-intrusive physically or psychologically. Nonetheless, the study was carried out as per guidelines provided by the Ethics Committee of the Faculty of Science, Banaras Hindu University. The women patients, who willingly volunteered and consented for participation in the study, were included in the sample. They were assured of the confidentiality of their responses and ensured to feel free to refrain from at any point of time during the study if they did not feel like involving themselves in it.

Measures

Spiritual Belief Measure

It was developed for the study, which consisted of 31 items related to beliefs in Karma, altruism, modesty, and surrender to the Almighty extracted from factor analysis. Karma and altruism represented “good deeds oriented spiritual beliefs”. Modesty and surrender to almighty represented “generosity oriented spiritual beliefs”. These factors explained 42.30 percent of the variance in the scores. The factor loading of all the items included in the list was 0.40 and above. This enabled the removal of 4 items from the lists. The first factor consisted of 8 items and was closely related to belief in surrender to Almighty (explained 11.97 percent of variance), the second factor showed belief in Karma related 7 items (explained 10.61 percent of variance) whereas the third factor contained 6 items reflecting altruism dimension of spiritual belief (explained 10.03

percent of variance) and the fourth factor included 6 items reflecting the belief in modesty (explained 9.71 percent of variance). Finally, the overall measure consisted of 27 items representing four categories of spiritual belief measure. Against each item a five-point scale was given, integer responses ranged between 1 to 5 (“very much” = 5, “very little” = 1). The participants were required to mark one of the five points that they considered most appropriate (in terms of its degree of importance). The score ranges from 27 to 135 on this measure.

Illness Controllability Belief Measure

It consisted of 3 items that assessed the degree to which the participant believed that the disease was controllable by “self”, “supernatural forces” or a “doctor” (Awasthi, Mishra & Shahi, 2006). Each item was rated on a five-point scale, ranging from “not at all” (1) to “very much” (5). The score ranges from 3 to 15 on this measure. Test-retest reliabilities of the scales were .90, .93, .91 respectively.

Satisfaction with Life Measure (SWB)

This measure was developed by Pavot and Diener (1993). It consists of 5 items, each rated on a seven-point scale (“strongly disagree”=1, “strongly agree”=7). The scores range is 5 to 35. The participants are asked to mark one of the seven points that they consider most appropriate (in terms of the degree of importance) for a given item. The alpha coefficient for the scale is 0.87 and test-retest reliability is 0.82. This scale has been widely used to assess Subjective- Well-being in cross-cultural studies.

Health Outcome Measure

The measure consists of 5 items that assessed the health outcomes in terms of patients' feeling of pain, hope, severity (see Awasthi, et al, 2006) functional well-being, and treatment satisfaction for their illness. Each item was rated on a 5-point scale (“not at all”=1, “very much”=5). The score ranged from 5

to 25. The test-retest reliability of the scales were .91, .85, .84, .96 and .92 respectively (Awasthi, Agarwal, & Shahi, 2017).

Results

The results were analyzed in terms of the computation of mean scores, standard deviations, and correlations. Multiple regression analysis was conducted to examine the amount of contribution

of spiritual and illness controllability beliefs, which were conceptualized as predictors. Subjective wellbeing and health outcomes were used as criterion variables.

Spiritual and Illness-Controllability Beliefs, Life-Satisfaction, and Health Outcomes

Means and standard deviations on different measures employed in the study are given in Table 1.

Table 1: Mean scores of Women Patients on various Measures of Spiritual and Illness Controllability Beliefs and Health Outcomes

MEASURES	Mean	Standard Deviation
Spiritual Beliefs		
Karma	22.2	5.16
Altruism	17.49	3.01
Modesty	17.47	4.21
Surrender to Almighty	19.04	4.90
Illness Controllability Beliefs		
Self-Control	2.83	1.24
Doctor's Control	3.59	1.30
Supernatural-Control	2.78	1.28
Life-Satisfaction		
	20.38	4.14
Health Outcomes		
Pain	3.14	1.16
Hope	3.45	1.04
Severity	3.25	1.15
Functional Wellbeing	3.63	0.95
Treatment Satisfaction	3.61	1.10

Correlations of Demographics with Life-Satisfaction and Health Outcomes

Table 2 presents the values of correlation of demographics with subjective wellbeing and health outcomes. Age and income did not show significant associations with life satisfaction and health-outcomes measures. The residence was positively correlated with life-satisfaction, hope (p .05), functional well-being, and treatment satisfaction measures (p .01), and negatively with pain and severity (p .01), which indicated that rural patients showed lesser life satisfaction, hope, functional well-being, and treatment satisfaction

and greater pain than urban patients. The direction of correlation of education with life-satisfaction, hope, functional well-being, and treatment satisfaction measures was positive (p .01). Uneducated patients showed lesser life satisfaction, hope, functional well-being, and treatment satisfaction than educated patients. Pain and severity were negatively correlated with education (p .01), which indicated that uneducated patients experienced greater pain and severity of illness than educated patients.

Table 2: Correlations of Demographics with Life-Satisfaction and Health Outcomes Measures

DEMOGRAPHICS	Life-Satisfaction	Health Outcomes				
		Pain	Hope	Severity	Functional Wellbeing	Treatment Satisfaction
Age	-0.107	-0.025	-0.046	-0.035	0.028	0.036
Residence	0.316**	-0.366**	0.242**	0.184	0.265**	0.375**
Education	0.422**	-0.296**	0.571**	-0.603**	0.455**	0.539**
Income	0.083	0.016	0.004	0.050	0.100	-0.118

*p£.05, **p£.01

Note regarding Coding: Education: Uneducated = 1 Educated = 2
Residence: Rural = 1 Urban = 2*Correlations of Spiritual and Illness Controllability Beliefs with Life-Satisfaction and Health Outcomes*

The values of correlation of spiritual and illness controllability beliefs with life satisfaction and health outcome measures are presented in Table 3. Analysis revealed belief in Karma to be positively correlated with SWB, hope, functional well-being, and treatment satisfaction measures (p£.01). Correlations of belief in altruism with life satisfaction, hope, treatment satisfaction (p£.05), and functional well-being measures (p£.01) were positive. Measures of pain (p£.05) and severity (p£.01) were negatively correlated to belief in altruism. Belief in modesty and surrender to almighty was negatively correlated to life satisfaction, hope, functional well-being, and

treatment satisfaction measures (p£.01). Belief in modesty was positively correlated to severity measure (p £.01).

Self-control and doctor-control were positively correlated with life-satisfaction, hope, functional well-being, and treatment satisfaction measures (p £.01) and negatively correlated with severity of illness (p£.01). On the other hand, supernatural control was negatively correlated with life-satisfaction, hope, functional well-being, and treatment satisfaction measures (p£.01). Though it was also positively correlated with severity, but the relationship was not significant.

Table 3: Correlations of Spiritual and Illness Controllability Beliefs with Life-Satisfaction and Health Outcomes Measures

MEASURES	Life-Satisfaction	Health Outcomes				
		Pain	Hope	Severity	Functional Well-being	Treatment Satisfaction
Spiritual Beliefs						
Karma	0.53**	0.04	0.42**	-0.12	0.41**	0.54**
Altruism	0.22**	-0.25**	0.36**	-0.37**	0.25**	0.29**
Modesty	-0.42**	0.04	-0.55**	0.33**	-0.48**	-0.49**
Surrender to Almighty	-0.44**	-0.15	-0.47**	0.13	-0.47**	-0.55**
Illness Controllability beliefs						
Self-control	0.44**	-0.10	0.55**	-0.36**	0.31**	0.37**
Doctor's control	0.38**	-0.08	0.51**	-0.21**	0.55**	0.61**
Supernatural- control	-0.25**	-0.02	-0.49**	0.015	-0.31**	-0.52**

*p£.05, **p £.01, Note regarding Coding: Education: Uneducated = 1 Educated = 2, Residence: Rural = 1, Urban = 2

Multiple Regression Analysis

Multiple Regression Analysis was attempted using Spiritual and illness controllability beliefs as predictor variables and life-satisfaction (Table 4) and health outcomes (Table 5) as criterion variables. Patients' educational and residential backgrounds have shown significant associations with life satisfaction and health outcomes (see Table 2), they were also considered as predictors. Since no theoretical hierarchy of the variables was established, a stepwise regression analysis was

carried out.

Findings revealed that belief in Karma and education accounted for approximately 35 percent of the variance in the scores on the life-satisfaction measure ($F_{2,97} = 25.83$, $p \leq .01$). Belief in Karma explained approximately 28 percent ($F_{1,98} = 39.80$, $p \leq .01$), and education contributed approximately 6 percent of the variance in the scores. Belief in Karma ($b = 0.54$, $p \leq .01$) and education ($b = 0.26$, $p \leq .01$) made positive predictions and enhanced life-satisfaction of patients.

Table 4: Stepwise Regression Analysis Predicting Life-Satisfaction from Demographics, Spiritual and Illness Controllability Beliefs

Serial No.	Predictor Variables	Multiple R	R2	R2 adj.	R2 change	β	df	F Ratio
Life-Satisfaction								
1.	Karma	0.537	0.289	0.282		0.54	1, 98	39.798**
2.	Education	0.590	0.348	0.334	0.059	0.26	2, 97	25.832**

* $p \leq .05$, ** $p \leq .01$

In the prediction of pain, residence and education accounted for approximately 22 percent of the variance in the scores ($F_{2,97} = 13.78$, $p < .01$). Residence contributed approximately 13 percent ($F_{1,98} = 15.11$, $p < .01$), and education contributed approximately 9 percent to variance in the scores. Residence ($b = -0.37$, $p \leq .01$) and education ($b = -0.30$, $p \leq .01$) emerged as negative predictors of pain, which indicated that urban and educated women patients experienced less pain as compared to rural and uneducated patients.

Results revealed that education, beliefs in modesty, and supernatural control accounted for approximately 45 percent to variance in the scores on hope measure ($F_{3,96} = 26.12$, $p \leq .01$). The highest contribution was made by education, which accounted for approximately 33 percent of the variance in the scores ($F_{1,98} = 47.42$, $p \leq .01$) and made positive predictions ($b = 0.57$, $p \leq .01$). Belief in modesty contributed approximately 9 percent to the variance and supernatural control contributed approximately 4 percent of the variance in the scores. Predictions made by belief in modesty ($b = -$

0.35 , $p \leq .01$) and supernatural control ($b = -0.23$, $p \leq .01$) were in negative directions.

Education and doctors' control accounted for approximately 40 percent of the variance in the scores on severity measure ($F_{2,94} = 32.33$, $p \leq .01$). The highest contribution was made by education, which accounted for approximately 36 percent of the variance in the scores ($F_{1,98} = 56.12$, $p \leq .01$). Doctors' control contributed approximately 4 percent to variance in the scores. The predictions made by education ($b = -0.60$, $p \leq .01$) and doctors' control ($b = -0.24$, $p \leq .01$) were in negative directions.

For the predictions of functional well-being, results indicated that doctors' control and belief in surrender to Almighty explained approximately 36 percent of the variance in the scores ($F_{2,97} = 27.72$, $p \leq .01$). Doctors' control explained approximately 32 percent ($F_{1,98} = 45.95$, $p \leq .01$), and belief in surrender to Almighty accounted for approximately 4 percent of the variance in the scores. Doctors' control ($b = 0.57$, $p \leq .01$) emerged as positive

predictor, while belief in surrender to Almighty ($b=0.27$, $p\leq .01$) emerged as negative predictor of functional well-being.

On the treatment satisfaction measure, doctors' control, belief in surrender to Almighty, and education accounted for approximately 48 percent to variance in the scores ($F_{3,96} = 29.28$, $p\leq .01$).

Doctors' control contributed approximately 37 percent, belief in surrender to Almighty contributed approximately 8 percent and education contributed approximately 3 percent to variance in the scores. Doctors control ($b=0.61$, $p\leq .01$) and education ($b=0.21$, $p\leq .01$) emerged as positive predictors. Belief in surrender to Almighty made negative predictions ($b=-0.33$, $p\leq .01$).

Table 5: Stepwise Regression Analysis Predicting Health Outcomes from Demographics, Spiritual and Illness Controllability Beliefs

S. No.	Predictor Variables	Multiple R	R ²	R ² adj.	R ² change	β	df	F Ratio
Pain								
1.	Residence	0.366	0.134	0.125		-0.37	1, 98	15.111**
2.	Education	0.470	0.221	0.205	0.088	-0.30	2, 97	13.771**
Hope								
1.	Education	0.571	0.326	0.319		0.57	1, 98	47.420**
2.	Belief in Modesty	0.643	0.413	0.401	0.087	-0.35	2, 97	34.186**
3.	Supernatural Control	0.670	0.449	0.432	0.036	-0.23	3, 96	26.115**
Severity								
1.	Education	0.603	0.364	0.358		-0.60	1, 98	56.120**
2.	Doctors' Control	0.632	0.400	0.388	0.036	-0.24	2, 96	32.329**
Functional well-being								
1.	Doctors' Control	0.565	0.319	0.312		0.57	1, 98	45.946**
2.	Belief in Surrender to Almighty	0.603	0.364	0.351	0.044	-0.23	2, 97	27.717**
Treatment Satisfaction								
1.	Doctors' Control	0.610	0.372	0.365		0.61	1, 97	57.951**
2.	Belief in Surrender to Almighty	0.672	0.451	0.440	0.079	-0.33	2, 96	39.846**
3.	Education	0.691	0.478	0.461	0.027	0.21	3, 95	29.279**

* $p\leq .05$, ** $p\leq .01$

Discussion

In the present study, an attempt was made to examine the relationship of spiritual and illness controllability beliefs with life satisfaction and health outcomes of women patients. The following sections will throw light on the findings of the study in some detail.

Spiritual Beliefs, Life-Satisfaction, and Health Outcomes

The findings revealed that belief in Karma and altruism enhanced life-satisfaction, "hope", "functional well-being", and "treatment satisfaction" and reduced "pain" and "severity" of patients as compared to beliefs in "modesty" and "surrender to almighty". These results are in support of studies, which indicate spirituality as preventing physical and mental health problems

(Glanter, 1997; Pargament, 1997) and enhancing health and well-being among patients living with chronic illnesses such as HIV/AIDS (Szaflorski et al., 2006), coronary heart disease, blood pressure, strokes, and cancer (Cotton et al., 1999; Johnson & Spilka, 1991). It seems that spiritual beliefs enhance subjective wellbeing and perception of positive health outcomes of cancer patients and may be considered as one of the prominent aspects of psychological wellbeing of women cancer patients.

It may be noted that to a large extent cancer can't be fully cured like diabetes, coronary heart disease, high blood pressure, arthritis, etc. Hence spiritual beliefs might be particularly relevant in this case. It seems that beliefs in karma and altruism are beneficial in the case of cancer to bring positive health-related outcomes. Beliefs in surrender to Almighty and modesty may be explicit to severe cases of cancer. These beliefs may be valuable when patients evaluate their disease as restrained happening. For instance, some patients might have obtained substitute meaning out of their emotional anguish. Some beliefs may escort to avoid a range of physical and psychosocial distress and reinforce patients' adjustment to different domains of life (Asmundson, Larsen & Stein, 1998).

These results are consistent with the findings of other studies (Ali, 2005; Fryback & Reinhart, 1999), which indicated that people suffering from a chronic illness described spirituality as an important factor in their health and well-being. Studies indicate that those who are spiritual tend to have a more positive outlook and a better quality of life. A study of patients with advanced cancer revealed that patients, who found comfort from their spiritual beliefs were more satisfied with their lives, were happier, and had less pain as compared to those who did not hold such beliefs (Yates et al., 1981). The study of men with prostate cancer (Tate & Forchheimer, 2002) and HIV/AIDS (Tevsat, 2006) similarly reported a positive association

among spirituality, quality of life, and life satisfaction. It seems that spiritual beliefs provide a buffer against the depressogenic effects of stressful life events (Kendler, Gardner, & Prescott, 2004). Studies reveal that individuals' beliefs regarding life-threatening circumstances and their management lead to desired behavioral changes. Inaccurate beliefs of chronic conditions and illness management regimes serve as barriers to compliance and appropriate self-care (Kamel, Badaway, el-Zeiny, & Merdan, 2000; Nwoga, 1994).

Studies also reveal a protective role and beneficial impact of spirituality on the physical and psychological health of patients in life-threatening illness (e.g., long survival, positive health behaviors, less distress) (Glanter, 1990; Ironson, Stuetzle, & Fietcher, 2006; Pargament, 1997), enhancement in the will to live (Tsevat, Sherman, & McElwee, 1999), feeling of life betterment (Szaflorski et al., 2006). One of the explanations for this positive association can be that spirituality may foster other aspects of the concepts of self/self-perception, e.g., personal mastery can be a salient dimension of psychological wellbeing (Simoni & Ortiz, 2003).

Results of the present study revealed that belief in Karma and education made predictions in positive directions for the subjective well-being of patients. Belief in Karma emerged as one of the significant predictors for enhancing the life satisfaction of cancer patients. These results are consonant with other Indian studies carried out with orthopedic (Dalal & Pandey, 1988), tubercular (Dalal & Singh, 1992; Dalal, 2000), heart (Agarwal & Dalal, 1993) cancer, and diabetic (Awasthi & Mishra, 2007, 2008, 2011, 2013; Awasthi et al., 2006; Awasthi, Mishra, & Singh, 2018) patients, which report patients' beliefs in "Karma", "God's will", and "external control" as major influences on patients' psychological health. Findings revealed God's will as negatively and Karma as positively associated

with psychological recovery. These beliefs assist patients in dealing with the severe consequences of their health problems and making peaceful adjustments to life-threatening conditions. In conventional Indian Society, people's belief in Karma, God, and fate is considered to be vital determinants of numerous events in one's life including illness and afflictions. The findings of these studies are in congruence with the present findings as belief in Karma and education positively predicted subjective well-being of patients and belief in surrender to Almighty negatively predicted functional well-being and treatment satisfaction of these patients. Thus, belief in Karma enhances subjective wellbeing, functional wellbeing, and treatment satisfaction, and reduces pain and severity of illness as compared to belief in surrender to Almighty and modesty, is an important finding of the study.

Illness Control, SWB, and Health Outcomes

The hypothesis that belief in “self” and “doctor” control would enhance life satisfaction, hope, functional wellbeing, and treatment satisfaction, and reduce pain and severity as compared to belief in “supernatural” control was partially supported by the findings. This was substantiated by negative correlations of self and doctor control with pain and severity, and their positive correlations with subjective wellbeing, treatment satisfaction, and functional wellbeing. Patients who believed in “self” and “doctor” control also felt that the outcome of illness would not only be less painful and less severe but also were satisfied with the treatment and experienced a greater level of functional wellbeing. Studies conducted with patients with heart disease, cancer, and AIDS indicated that patients, who believed in self-control, experienced less severity of illness and were able to control them, taking proper care of their health and adhering to treatment nicely. With self-control belief, patients make better adjustment with illness than those who believed that what

happened was totally beyond their control (Awasthi, Mishra, & Singh, 2018; Taylor, Helgeson, Reed, & Skokan, 1991; Thompson, Sobolew-Shubin, Galbraith, Schawnakovsky, & Cruzen, 1993).

Findings support the literature, which states that one of the most critical variables involved in an individual's psychological health and well-being is belief in self-control (Shapiro et al., 1996) and self-efficacy, which uphold the self-efficacy model (Bandura, 1982, 1997). The role of self-control belief in encouraging self-esteem, quality of life, positive mood, cognitive self-control coping mechanism, and reducing maladaptive escapism and solace seeking has been shown in many studies (e.g., Cuningham et al., 1990; Lewis, 1982). Psychological functioning appears to be determined by an individual's belief about self-control that promotes positive psychological outcomes in terms of psychological adaptation to the illness.

In this study, belief in “doctors' control” not only made a significant contribution to functional well-being and treatment satisfaction but also to severity. The role of doctors' attention and empathy in lessening patients' distress has often been accounted for in studies of cancer patients (e.g., Parchman & Burge, 2004; Zachariae, et al, 2003). There is also the indication that “doctor-control” belief promotes greater compliance and adherence to treatment, and results in less severe physical and psychosocial consequences of illness (Levinson, Rotter, Mulloly, Dull, & Frankle, 1997). It appears that patients holding “doctor-control” beliefs are more likely to engage in recommendations suggested by their doctors, which may have resulted in their perception of functional well-being and treatment satisfaction and reduced level of the severity of illness. It reveals that patients receive their doctors' recommendations concerning treatment sincerely. Doctors' understanding of patients and their eagerness to assist them engender

trust in them. Patients' positive attitude towards “doctor's control” on illness gets reflected in their perceived positive health outcomes of illness.

The findings of our study indicated that educated patients perceived less severity and pain and believed in greater hope for positive health outcomes of illness as compared to uneducated women. This indicated a significant link between education and residence with the perception of positive health outcomes. Much of the work on the effect of education has been focused on health education intervention programs. Findings generally reveal a positive effect of such programs to the extent that individualized health education has been considered as an effective means of management of health problems. Evidence reveals that educated people can provide useful information about health problems and also suggest practical ways for handling them (Samarel, Tulman, & Fawcett, 2002).

Due to the attainment of formal education people can apply their existing cognitive abilities to a variety of situations. Education makes people feel more at ease so that educated people can control and manage the affairs of their life more effectively than those who have not been to school (Mishra & Dasan, 2004). In this sense, formal education leads to general “empowerment”, which gets manifested in individuals' functioning in personal, social, economic, and other domains of life. That formal education can enhance one's perception regarding positive health outcomes is another evidence for the general empowerment function of education. It seems that educated patients had fewer expectations and more realistic perceptions of health outcomes from others than those who were uneducated.

Finding also revealed that urban patients experienced less pain of illness than rural women. In most of the studies, QOL of rural cancer patients is indicated to be worse than the urban patients

(Tian, Chen, Wu, & Meng, 2004). Rural patients face more physical and psychological challenges because of their lower levels of education and economic conditions than urban patients. On the other hand, some studies have reported no evidence of poorer well-being of cancer patients of rural settings when compared with the patients of urban settings (Burris & Andrykowski, 2009; Shugarman, Sorbero, Tian, Jain, & Ashwood, 2008).

The findings of the study seem to have some practical implications. They indicate that during cancer, spiritual and illness controllability beliefs of patients may affect subjective wellbeing and health outcomes of illness. The effectiveness of subjective wellbeing and health outcomes cannot be understood without understanding the patients' belief system. Hence, assessment of patients' belief systems, subjective wellbeing, and health outcomes should be made an integral part of all psychological intervention programs. The finding concerning belief in “doctors' control” bears great promise for doctor and patient participation in community health activities. An open and accepting relationship of doctors with their patients can go a long way in the management of cancer.

In this study, we have explored some important psychological dimensions of breast cancer women patients associated with their health outcomes and subjective wellbeing. Nevertheless, there are some limits of the study to be kept in mind for future research. It may be noted that we had made the criterion-based selection of women in our sample, which limits the generalization of findings. Thus, the findings can be applied only to those women who are suffering from breast cancer. It may be worthwhile to do a similar study with women who are suffering from different types of cancer such as the cervix, ovary, and other chronic illnesses like diabetes, coronary artery disease, obesity, etc. Since the concerns with breast cancer are up to a certain extent gender-specific, there is a need to work with

males and females patients of different age groups other than breast cancer.

References

- Ali, A. J. (2005). *Islamic perspective on management and organization*. Cheltenham: Edward Elgar.
- Asmundson, G. J., Larsen, D. K., & Stein, M. B. (1998). Panic disorder and vestibular disturbance: an overview of empirical findings and clinical implications. *Journal of Psychosomatic Research, 44* (1), 107–20.
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being*: New York: Plenum Press.
- Awasthi, P. Agrawal B. & Shahi, U. P. (2017). *Spiritual Beliefs and Subjective Wellbeing in Chronic Illness*. Unpublished Document, Department of Psychology, B.H.U., Varanasi, India.
- Awasthi, P. & Mishra, R. C. (2007). Role of coping strategies and social support in perceived illness consequences and controllability among diabetic women. *Psychology and Developing Societies, 19* (2), 179-197.
- Awasthi, P. & Mishra, R. C. (2008). A comparative study of chronic illness beliefs of cancer and diabetic women. *Journal of Indian Health Psychology, 3* (1), 27-49.
- Awasthi, P. & Mishra, R. C. (2010). Illness beliefs and their relationships with social support In women cancer patients. *Indian Journal of Applied Psychology, 36*, (2), 317-327.
- Awasthi, P. & Mishra, R. C. (2011). Social support as a factor in perceived illness consequences, controllability, and outcome beliefs of diabetic women. *Social Science International, 27* (1), 1-14.
- Awasthi, P. & Mishra, R. C. (2013). Can social support and control agencies change illness consequences? Evidence from cervix cancer patients. *Open Journal of Medical Psychology, 2*, 115-123.
- Awasthi, Mishra, & Singh (2018). Health Promoting Lifestyle, Illness Control Beliefs and Well-Being of the Obese Diabetic Women. *Psychology and Developing Societies, 30*(2), 154-175.
- Awasthi, P., Mishra, R. C. & Shahi, U. P. (2006). Health beliefs and behaviour of cervix cancer patients. *Psychology and Developing Societies, 18*(1), 37-58.
- Bandura, A. (1982). Self-efficacy mechanisms in human agency. *American Psychologist, 37*, 122–147.
- Bandura, A. (1997). *Self-Efficacy: The exercise of control*. New York: Freeman.
- Barnum, B. (1996). *Spirituality in Nursing: From Traditional to New Age*. New York, Springer Publishing Company.
- Berdyayev, N. (1939). *Spirit and reality*. London: The Centenary Press.
- Blazer, D., & Palmore, E. (1976). Religion and Aging in a Longitudinal Panel. *The Gerontologist, 16*(1), 82-85.
- Burris, J. L. & Andrykowski, M. (2009). Disparities in Mental Health between Rural and Non rural Cancer Survivors: A Preliminary Study. *Psycho-Oncology, 19* (6), 637-647.
- Chaffers, J. (1994). *Spirituality—the missing “i” in mass product (i) on: Or why “mass quality” need not be an oxymoron*. Conference proceedings of the Association of Collegiate Schools of Architecture European Conference: The Urban Scene and the History of the Future, London.
- Cotton, S. P., Levine, E. G., Fitzpatrick, C. M., Dold, K. H. & Targ, E. F. (1999). Exploring the relationships among spiritual well-being, quality of life, and psychological adjustment in women with breast cancer. *Psycho-Oncol, 8*(6), 429-438.
- Cunningham, A. J., Lockwood, G. A. & Cunningham, J. A. (1990). A relationship between perceived self-efficacy and quality of life in cancer patients. *Patient Education and Counseling, 17*, 71-88.
- Daalman, T. P. (1999). Belief and subjective wellbeing in outpatients. *Journal of Religion and Health, 38* (3), 219-228.
- Daaleman, T. P., Cobb, A. K., & Frey, B. B. (2001). “Spirituality and Well-Being: An Exploratory Study of the Patient Perspective.” *Social Science and Medicine, 53*, 119-27.
- Dalal, A. K. (2000). Living with a chronic disease: Healing and psychological adjustment in Indian society. *Psychology and Developing Societies, 12* (1), 67-81.
- Dalal, A. K., & Pandey, N. (1988). Psychological recovery of the accident victims with a temporary and permanent disability. *International Journal of Psychology, 23*(1-6), 25-40.
- Dalal, A. K., & Singh, A. K. (1992). Causal beliefs and recovery from surgery. *Psychology and Health, 6* (3), 193-203.
- Diener, E. (2000). Subjective well-being. The science of happiness and a proposal for identifying meaning and perceived level of satisfaction within the context of work. *Work, 16*, 219–226.
- Diener, E., & Emmons, R. A. (1984). The independence of positive and negative effects. *Journal of Personality and Social Psychology, 47*, 1105-1117.
- Ellison, C. G. (1991). Religious involvement and subjective well-being. *Journal of Health and Social Behavior, 32*, 80–99.
- Exline, J. J., Yali, A. M. & Lobel, M. (1999). When God disappoints: Difficulty forgiving God and its role in negative emotion. *Journal of Health Psychology, 4*, 365–379.
- Ferlay, J., Shin, H. R., Bray F., Forman, D., Mathers, C. & Parkin, D. M. (2010). Estimates of worldwide burden of cancer in 2008:

- GLOBOCAN 2008. *International Journal of Cancer*, 127, 2893–2917.
- Fish, S., & Shelly, J. (1988). *Spiritual Care: The Nurse's Role*. Downer's grove, Illinois: InterVarsity Press.
- Forouzi, M. A., Targari, M., Safarizadeh, M. H., & Jahani, Y. (2017). Spiritual Needs and Quality of Life of Patients with Cancer. *Indian Journal of Palliative Care*, 23 (4), 437–444.
- Fryback, P. B. & Reinert, B. R. (1999). Spirituality and people with potentially fatal diagnoses. *Nursing Forum*, 34 (1), 13–22.
- Galanter, M. (1990). Cults and zealous self-help: A psychiatric perspective. *American Journal of Psychiatry*, 147 (5), 543–551.
- Goyandka, J. (2006). *Srimad Bhagavadgita*. Gorakhpur: Gita Press.
- Horne, R. (2003). Treatment perceptions and self-regulation. In Cameron, L. D., Leventhal, H., (Ed.), *The self-regulation of health and illness behavior* (pp. 138-153). New York: Routledge.
- Horne, R., Weinman, J., & Hankins, M. (1999). The Beliefs about Medicines Questionnaire: The development and evaluation of a new method for assessing the cognitive representation of medication. *Psychology & Health*, 14, 1–24.
- Ironson, G., Stuetzle, R., & Fietcher, M. A. (2006). An increase in religiousness/spirituality occurs after HIV diagnosis and predicts slower disease progression over 4 years in people with HIV. *Journal of General Internal Medicine*, 21, 62–68.
- Johnson, S. C. & Spilka, B. (1991). Coping with breast cancer: the roles of clergy and faith. *Journal of Religion and Health*, 30, 21–33.
- Kamel, N. M., Badaway, Y. A., el-Zeiny, N. A., & Merdan, I. A. (2000). Diabetics' knowledge of the disease and their management behavior. *East Mediterranean Health Journal*, 5, 974–983.
- Kendler, K. S., Kuhn J. W., & Prescott, C. A. (2004). Childhood sexual abuse, stressful life events, and risk for major depression in women. *Psychological Medicine*, 34, 1475–1482.
- Keinan, G. (1994). Effects of stress and tolerance of ambiguity on magical thinking. *Journal of Personality and Social Psychology*, 67, 48-55.
- Keinan, G. (2002). The Effects of Stress and Desire for Control on Superstitious Behavior. *Personality and Social Psychology Bulletin*, 28, 102–108.
- Koenig, H. G., Kvale, J. N. & Ferrel, C. (1988). Religion and Well-Being in Later Life. *The Gerontologist*, 28 (1), 18-28.
- Larson, D. B., Swyers, J. P., & McCullough, M. E. (1997). *Scientific Research on Spirituality and Health: A Consensus Report*. Rockville, Md.: National Institute for Healthcare Research.
- Lepherd, L. (2014). Spirituality in men with advanced prostate cancer: it's a holistic thing... it's a package. *Journal of Holistic Nursing*, 32 (2), 89-101.
- Levin, J. S., Chatters, L. M. & Taylor, R. J. (1995). Religious Effects on Health Status and Life Satisfaction among Black Americans. *The Journals of Gerontology*, 50B (3), S154–S163.
- Levine, E.G., & Targ, E. (2002). Spiritual correlates of functional well-being in women with breast cancer. *Integrative Cancer Therapy*, 1 (2), 166–174.
- Levinson, W., Rotter, D. L., Mullooly, J. P., Dull, V. T. & Frankel, R. M. (1997). Physician–patient communication: the relationship with malpractice claims among primary care physicians and surgeons. *Journal of American Medical Association*, 277 (7), 553-559.
- Lewis, F. (1982). Experienced personal control and quality of life in late-stage cancer patients. *Nursing Research*, 31, 113-119.
- Looby, A. (2008). Childhood attention deficit hyperactivity disorder and the development of substance use disorders: Valid concern or exaggeration? *Addictive Behaviors*, 33(3), 451-463.
- Lupfer, M. B., Brock, K. F. & Depaola, S. (1992). The Use of Secular and Religious Attributions to Explain Everyday Behavior. *Journal for the Scientific Study of Religion*, 31 (4), 486.
- MacQuarrie, J. (1972). *Paths in spirituality*. London: SCM Press.
- Malinowski, B. (1948/1984). *Magic, science, and religion*. Garden City, NY: Doubleday.
- Miner, M. H., & McKnight, J. (1999). Religious attributions: Situational factors and effects on coping. *Journal for the Scientific Study of Religion*, 38 (2), 274-286.
- Mishra, R.C., & Dasen, P. (2004). The influence of schooling on cognitive development: A review of research in India. In B.N Setiadi, A. Supratiknya, W.J. Lonner Y.H. Poortinga (Eds.), *Ongoing themes in psychology and cultur* (pp. 207-222). Yogyakarta, Indonesia: Kanisius.
- Mishra, R. C., Awasthi, P., & Singh, S. K. (2004). Illness causation beliefs and perceived illness consequences in diabetic women. *Psychological Studies*, 4 (2), 238-244.
- Murray, R. B., & Zentner, J. P. (1989). *Nursing Concepts for Health Promotion*. London: Prentice Hall.
- Nwoga, I. A. (1994). Traditional healers and perceptions of the causes and treatment of cancer. *Cancer Nursing*, 17, 470–478.
- O'Brien, M.E. (2003). *Prayer In Nursing: The Spirituality of Compassionate Caregiving*. Sudbury, MA. : Jones & Bartlett Publishers.
- Padgett, V. R., & Jorgenson, D. O. (1982). Superstition and economic threat: Germany, 1918-1940. *Personality and Social Psychology Bulletin*, 8, 736-741.
- Parchman, M. L. & Burge, S. K. (2004). The patient-physician relationship, primary care attributes, and preventive services. *Family Medicine*, 36 (1), 22-27.

- Pargament, K. I. (1997). *The Psychology of Religion and Coping - Theory, Research, Practice*. New York: The Guilford Press.
- Pargament, K. I. (2002). The bitter and the sweet: An evaluation of the costs and benefits of religiousness. *Psychological Inquiry*, 13, 166-181.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5, 164-172.
- Ryff, C. D., & Singer, B. (1998). Human health: New directions for the next millennium. *Psychological Inquiry*, 4(1), 69-85.
- Samarel, N., Tulman, L. & Fawcett, J. (2002). Effects of two types of social support and education on adaptation to early-stage breast cancer. *Research in Nursing and Health*, 25 (6), 459-470.
- Schreiber, J. A., & Brockopp, D. Y. (2012). Twenty-five years later-what do we know about religion/spirituality and psychological well-being among breast cancer survivors? A systematic review. *Journal of cancer survivorship*, 6 (1), 82-94.
- Schwarzer, R., & Leppin, A. (1989). Social support and health: A meta-analysis. *Psychology and Health : An International Journal*, 3 (1), 1-15.
- Shapiro, D. H., Schwartz, C. E. & Astin, J. (1996). Controlling ourselves, controlling our world: Psychology's role in understanding positive and negative consequences of seeking and gaining control. *American Psychologist*, 51, 1213-1230.
- Shugarman, L. R., Sorbero, M. E., Tian, H., Jain, A. K. & Ashwood, J. S. (2008). An exploration of urban and rural differences in lung cancer survival among medicare beneficiaries. *American Journal of Public Health*, 98 (7), 1280-1287.
- Simoni, J. M. & Ortiz, M. (2003). Mediation models of spirituality and depressive symptomology among HIV-positive Puerto Rican Women. *Cultural Diversity and Ethnic Minority Psychology*, 9, 3-15.
- Spilka, B., Shaver, P. R. & Kirkpatrick, L. A. (1985). A General Attribution theory for the psychology of religion. *Journal for the Scientific Study of Religion*, 24 (1), 1-20.
- Srivastava, A. K., & Krishna, A. (2007). Psycho-physiological mechanism of spirituality-health relationship: theoretical conceptualization. *Journal of Indian Health Psychology*, 2(1), 1-9.
- Szafarski, M., Ritchey, P. N., Leonard, A. C., Mrus, J. M., Peterman, A. H., Ellison, C. G., McCullough, M. E. & Tsevat, J. (2006). Modeling the effects of spirituality/religion on patients' perceptions of living with HIV/AIDS. *Journal of General Internal Medicine*, 21 (5), S28-S38.
- Tate, D. G., & Forchheimer, M. (2002). Quality of life, life satisfaction, and spirituality: Comparing outcomes between rehabilitation and cancer patients. *American Journal of Physical Medicine and Rehabilitation*, 18 (6), 400-410.
- Taylor, S. E., Helgeson, V. S., Reed, G. M. & Skokan, L. A. (1991). Self-generated feelings of control and adjustment to physical illness. *Journal of Social Issues*, 47, 91-109.
- Tsevat, J., Sherman, S. N., McElwee, J. A., et al. (1999). The will to live among HIV- infected patients. *Ann Intern Med*, 13, 194-8.
- Tsevat, J. (2006). Spirituality/Religion and Quality of Life in Patients with HIV/AIDS. *Journal of General Internal Medicine*, 21 (5), S1-S2.
- Thompson, S. C., Sobolew-Shubin, A., Galbraith, M. E., Schawnakovsky, L. & Cruzen, D. (1993). Maintaining perceptions of control: finding perceived control in low-control circumstances. *Journal of Personality and Social Psychology*, 64 (2), 293-304.
- Thoresan, R. J. (1998). Spirituality in medical practice. *Archives of Dermatology*, 134, 1443- 1446.
- Tian, J., Chen, Z., Wu, B. & Meng, X. (2004). Comparison of quality of life between urban and rural gastric cancer patients and analysis of influencing factors. *World Journal of Gastroenterology*, 10 (20), 2940-2943.
- Vyse, S. A. (1997). *Believing in magic: The psychology of superstition*. New York: Oxford University Press.
- Wallston, K. A. (1992). Hocus-pocus, the focus isn't strictly on locus: Rotter's social-learning theory modified for health. *Cognitive Therapy and Research*, 16, 183-99.
- World Health Organization (2008). *World Cancer Report*. WHO Press: Geneva.
- Wuthnow, R. (1998). *After heaven: Spirituality in America since the 1950s*. Berkeley: University of California Press.
- Yates, J. W., Chalmer, B. J., St James, P., Follansbee, M. & McKegney, F. P. (1981). Religio in patients with advanced cancer. *Medical and Pediatric Oncology*, 9, 121-128.
- Zachariae, R., Pedersen, C. G., Jensen, A. B., Ehrnrooth, E., Rossen, P. B. & Maase, H. (2003). Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. *British Journal of Cancer*, 88 (5), 658-665.
- Zebb, B. J. & Moore, M. C. (2003). Superstitiousness and perceived anxiety control as predictors of psychological distress. *Journal of Anxiety Disorders*, 17, 115-130.