

The System of Belief Inventory: A Validation Study in Turkish Cancer Patients

Behice Erci¹ · Ümmühan Aktürk¹

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Abstract This study was conducted with the purpose of assessing validity and reliability of the System of belief inventory, which was developed to evaluate the System of belief inventory of cancer patients in Turkish society. In the present study, the result of the KMO test was determined to be 0.71, and that of Bartlett's test was 988.269; both tests were observed to be significant at $p < 0.001$. The Cronbach α reliability coefficient of the System of belief inventory was determined to be 0.98, and the α values of the System of belief inventory subgroups were 0.98–0.93.

Keywords Cancer · The System of belief inventory · Nursing · Construct validity

Introduction

The use of the term “belief system” can be extremely confusing. Psychologists, political scientists, and anthropologists tend to use the term in rather different senses. Belief systems are structures of norms that are interrelated and that vary mainly in the degree in which they are systemic. What is systemic in the belief system is the reciprocal relationship between several beliefs. Belief systems are the stories we tell ourselves to define our personal sense of reality. Every human being has a belief system that they use and it is through this mechanism that we individually, “make sense” of the world around us. Human being, we tend to use all these belief systems to varying degrees to cope with events in our lives (Usó-Doménech and Nescolarde 2015).

✉ Ümmühan Aktürk
ummuhan_akturk@hotmail.com

Behice Erci
behicerici@hotmail.com

¹ Department of Public Health Nursing, School of Health, Inonu University, 44280 Malatya, Turkey

Religion, medicine, and health care have been related in one way or another in entire population groups since the beginning of recorded history (Koenig et al. 2012a, b). Religion is also an organized system of beliefs, practices, and symbols designed to facilitate closeness to the transcendent and to foster an understanding of one's relationship and responsibility to others in living together in a community (Koenig et al. 2012a, b).

Religious Muslim Population in Turkey

According to the International Religious Freedom Report, 99% of Turkey's population is Muslim (International Religious Freedom Report 2013).

The intimate nature of cancer and cancer treatment call for oncology nurses to develop a deeper understanding of the cultural practices and health beliefs of Muslim patients (Rasool 2015). For instance, in Islam, health is viewed as one of the greatest blessings that God (Allah) has bestowed on people. Illness, suffering, and dying are a part of life and a test from God, and death is part of the travel to meet God (Loving 2012). Not only the patient who suffers will be rewarded in the hereafter, but also his family who bear with him the ordeal; thus, saving a life and caring for someone is considered one of the highest obligations in Islam (Albar 2007). People's attitudes to cancer and its treatment are influenced by the patient's and his family's faith, belief systems, societal traditions, and cultural taboos and stigmatism. Islamic beliefs and practices always remind humans to be prepared for death, as death cannot be delayed when the time has come. For Muslims, the ultimate hope for endless life rests with the merciful God (Wortmann and Park 2008). Muslims extremely believe that God is the eventual healer of any physical and psychological illness. The same time, Muslims are obligated to seek treatment whenever possible and should not terminate life (Albar 2007). For Muslims, denying the possibility of a miracle is a sin and may be attributed as an expression of disbelief in God's power (Alibhai and Gordon 2004).

Cancer is one of the primary health problems in almost every country of the world in terms of morbidity and mortality rates (Kara and Fesci 2004). According to World Health Organization (WHO) data for 2012, 14.1 million people in the world are diagnosed with cancer every year and it is estimated that this number will reach 22 million within the next 20 years; moreover, the annual number of deaths caused by cancer is projected to increase from 8.2 to 13 million in the same period. Furthermore, 32.6 million people have been living with a diagnosis of cancer in the last 5 years (WHO 2012).

Recent research indicates that religion, spirituality, and prayer is a factor that positively affects coping strategies, mental health during cancer (Boscaglia et al. 2005; Choumanova et al. 2006; Cotton et al. 1999; Narayanasamy 2003; Puchalski 2001; Romero et al. 2006). When the relationship between religious beliefs-spiritual and cancer is examined in the literature, patients with high beliefs and spiritual levels have low risk of developing cancer or are likely to have a better prognosis (MacArthur et al. 2007; Wrensch et al. 2003), the psychological well-being of cancer is better and the quality of life is higher (Winkelman et al. 2011), the depression symptoms are less and the meaning of life is higher (Balboni et al. 2007).

No study on the System of belief inventory of patients with cancer undergoing chemotherapy in Turkish society has been found in the literature. Thus, the use of the System of belief inventory for cancer patients in Turkey is important to determine their culture-specific perceptions and enable intercultural comparisons. For these reasons, information on the System of belief inventory levels of individuals will guide for nurses to both plan and assess spiritual care.

Objective

This study was conducted with the purpose of assessing validity and reliability of the System of belief inventory, which was developed to evaluate the System of belief inventory of cancer patients in Turkish society.

Materials and Methods

Design of the Study

The study method aimed to adapt the System of belief inventory for Turkish society and determining its validity and reliability.

Time and Place of the Study

The study included cancer patients undergoing chemotherapy in the Oncology Outpatient Department of the Malatya State Hospital.

Population and Sample of the Study

The population of the study consisted of patients who presented to daytime treatment units at the Oncology Outpatient Department of the Turkish State Hospital. One hundred and thirty-seven adult cancer patients who had the ability to communicate, were undergoing chemotherapy, and were aware of their diagnosis were included in the study. In the study, attempts were made to contact the whole population (145 patients) without any sample selection. However, 137 patients could ultimately be reached.

The inclusion criteria for the patients were as follows:

- Ability to communicate;
- Undergoing chemotherapy.

Data Collection Tools

In the study, the data were collected using a questionnaire and the System of belief inventory.

Questionnaire This was developed by the researchers and included 22 items on patients' socio-demographic characteristics, chemotherapy drug use, and knowledge about the disease.

Application of Data Collection Tools

In the study, data were collected from chemotherapy patients in the waiting room and nurse interview room of the Chemotherapy Centre of Malatya State Hospital Oncology Outpatient Department between the hours 08:00 and 16:00 on weekdays. The face-to-face interview method was used. Data collection forms were filled out by reading the questions to patients; the answers were marked on the forms by the researchers. The interview with each participant to collect the data took 15–20 min.

The System of Belief Inventory-15R

The System of belief inventory (Kash et al. 1995; Holland et al. 1998) was the focus of the study and its development (Kash et al. 1995; Holland et al. 1998). The System of belief inventory is a tool designed to elicit main religious beliefs (beliefs on transcendence and transcendent meaning of human life) as well as attendance to religious practices (Beliefs subscale, 10 items), and support received by the religious community (Support subscale, 5 items: 3, 5, 7, 9, 13). The score of each item is constituted by a 4-point (from 0 to 3) Likert scale. Each item is scored on a 4-point scale, ranging from “strongly disagree” to “strongly agree”. The score for the total the System of belief inventory ranges from 0 to 45, with higher numbers indicating more religiosity. Total score ranges between 0 and 30 for the Beliefs subscale and between 0 and 15 for the Support subscale, with higher scores indicating higher levels of religiousness. The score for the whole questionnaire is easily obtained by summing the two subscale scores.

Translation Procedures

For the instrument used in the present study, back-translation was used to translate the Turkish version back into English. The translation was carried out by two Turkish people, who worked independently on the translation. They were both teachers of English. We compared the two translated versions and discussed them to reach a consensus regarding the initial translation. The initial translation into Turkish was back-translated into English by two different, independent, bilingual translators, whose native language was Turkish. The back-translation was compared with the original system of belief inventory.

Internal Consistency

Total item correlations, Cronbach's α assessments and factor analysis were used to assess the internal consistency of the scale. Total item correlation signifies whether each item in the scale can be added within the scale. The Cronbach's α reliability coefficient, in contrast, indicates the internal consistency and homogeneity of items in the scale. A high Cronbach's α signifies consistency between the scale items and demonstrates that the scale consists of items examining elements of the same feature (Tezbaşaran 2008). In the literature, it has been suggested that the correlation coefficient should be greater than 0.25 when selecting items (Akgül 2005; Büyüköztürk 2012; Çimen et al. 2005), and it has been indicated that if Cronbach's α has a value of 0.70 or higher, the assessment instrument is sufficient for used in research (Alpar 2006; Tezbaşaran 2008).

Data Collection

The data were collected by the researchers after informing consent the participants and by conducting face-to-face interviews with them at Malatya State Hospital between June 2016 and September 2016. The data collection lasted for 15–20 min for each participant.

Assessment of the Study Data

The data obtained from the study were assessed using Cronbach's α reliability coefficient, Pearson product–moment correlation coefficient, factor analysis, Bartlett's test of sphericity, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy.

Ethical Principles of the Study

Permission was obtained to adapt the System of belief inventory, which was developed by Jimmie C. Holland. Moreover, ethical approval was received from the Malatya Clinical Trials Ethics Committee to conduct the study. Written permission was also obtained from the Head Physician of Malatya State Hospital before the study. The patients were informed that they were free to participate in and withdraw from the study before filling out the data collection form; their verbal consent was received.

Study Limitations

The study was conducted only with cancer patients undergoing chemotherapy to provide homogeneity, which posed a limitation. For this reason, it is recommended to apply the reliability of scales to individuals with another chronic disease. Furthermore, the sample mainly consisted of the patients with a secondary education level and a low–moderate income level in the Ambulatory Chemotherapy Centre of a hospital. Thus, it is necessary to investigate the convenience of the scale for different populations. Finally, the psychometric convenience of the scale should also be assessed in larger populations.

Results

The characteristics of the participants are as follows: It was determined that 48.2% of the patients were in the age group of 45–61 years and 29.2% were in the age group of 28–44 years; 56.9% were female; 83.9% were married; 43.1% were primary school graduates; 69.3% had a moderate level of income; 86.1% were unemployed; 45.3% were housewives; and 27.0% were unemployed. It was also determined that 38.7% of the patients had 4–6 children, 86.9% were receiving care, and 75.1% were provided care by their spouses. According to the information obtained from the patient files, 35% of the patients had been diagnosed with breast cancer, while 14.6% had been diagnosed with gastric-oesophageal cancer and colorectal cancer; moreover, 57.7% had been diagnosed with cancer within the previous 0–6 months, 73.7% had no cancer metastasis, 36.5% were in the 2nd and 3rd stages of cancer, 54.7% were undergoing chemotherapy in combination with surgical treatment, 41.6% were in the cycle 1–4 of cancer treatment, and 62% had no chronic disease other than cancer.

The KMO (adequacy of samples) and Bartlett's test of sphericity analyses (size of sample testing) were performed to assess whether or not the sample was adequate and convenient (Çokluk et al. 2010). Results for the "varimax" rotation technique were examined to obtain the common factor variance values of items, principal component analysis results and interpretable factors. When a correlation matrix is separated into factors, the estimated KMO value is moderate at 0.60, good at 0.70, very good at 0.80, and excellent at 0.90 (Şencan 2005). In the present study, the results of the KMO measure of sampling adequacy and Bartlett's test of sphericity were 0.71 and 988.269, respectively; both tests were observed to be significant at level of $p = 0.000$. Table 1 shows the results of the item—total score correlation and factor analysis, which reveal the extent of the correlation between the scale items and the entire scale.

The KMO was 0.71, indicating that the sample was enough to perform a satisfactory factor analysis and that the sample size was sufficient for psychometric testing of a 15-item

Table 1 Results of the Kaiser–Meyer–Olkin measure of sampling adequacy and Bartlett’s test of sphericity

Test		Results	
Kaiser–Meyer–Olkin measure of sampling adequacy		0.71	$p = 0.000$
Bartlett’s test	Approx. Chi-square	988,269	
	df	66	
	Sig.	0.000	

scale. The first action of the factor analysis was a principal component analysis revealing 2 factors with an eigenvalue of higher than 1.0 (Table 2). Any items in the scale load on 1 factor. The 2 factors together explained 60.89% of the variance.

According to Table 3, the Cronbach’s α coefficient was determined as 0.98 for the System of belief inventory scale, 0.98 for the subscale of Beliefs and practices, and 0.93 for the subscale of support.

Discussion

The Turkish version of the System of beliefs inventory of Holland et al. (1998) was presented to a representative sample. The instrument achieved good psychometric results (Holland et al. 1998).

In the present study; the mean \pm SD of the System of belief inventory Scale scores of the only groups of patients for the “the System of belief inventory scale” scale was 34.75 ± 13.7 for Muslim patients. For the “beliefs and practices” subscale, it was 23.21 ± 0.7 for Muslim patients. For the “Support” subscale, it was 11.54 ± 0.3 for Muslim patients (Table 3).

In the study of Ripamonti et al. on cancer patients, the mean \pm SD of the System of belief inventory Scale scores of the different groups of patients (known groups validity) for the “beliefs and practices” subscale was 25.4 ± 4.8 for churchgoers, 18.1 ± 6.3 for believers non-churchgoers, and 3.4 ± 3.5 for non-believers. For the “Support” subscale, it was 9.7 ± 3.4 for churchgoers, 4.9 ± 3.2 for believers non-churchgoers, and 0.8 ± 1.4 for non-believers (Ripamonti et al. 2010).

In the study of Holland et al. research on Life-threatening illness, the mean \pm SD of the System of belief inventory Scale scores of the different groups of patients for the “the System of belief inventory Scale” scale was 20.9 ± 11.3 for Lay (Global), 34.16 ± 7.5 for religious (Global), and 24.1 ± 11.9 for Lay and religious (Global). For the “beliefs and practices” subscale, it was 16.32 ± 8.6 for Lay (Global), 23.6 ± 5.2 for religious (Global) and 18.3 ± 8.5 Lay and religious (Global). For the “Support” subscale, it was 4.6 ± 3.9 Lay (Global), 10.5 ± 3.0 for religious (Global), and 2.8 ± 4.4 Lay and religious (Global) (Holland et al. 1998).

In the present study, the Cronbach’s α coefficient was determined as 0.98 for the System of belief inventory Scale, 0.98 for the subscale of Beliefs and practices and 0.93 for the subscale of Support (Table 3). In the study of Holland et al., the Cronbach’s α coefficient was determined as 0.84 for the System of belief inventory Scale, 0.92 for the subscale of Beliefs and practices, and 0.89 for the subscale of Support (Holland et al. 1998). In the study of Baider et al. (2001), the Cronbach’s α coefficient was determined as 0.88 for the System of belief inventory Scale, 0.98 for the subscale of Beliefs and practices, and 0.86 for the subscale of Support. In the study of Ripamonti et al. (2010), the Cronbach’s α

Table 2 Factor loadings, Cronbach's α , and item-total correlations of items of the scale ($n = 137$)

Scale	Factor loadings		Cronbach's α	Item-total correlation	Mean \pm SD
	Factor 1	Factor 2			
1* Religion is important in my day-to-day life	0.897		0.984	0.866	2.71 \pm 0.75
2* Prayer or meditation has helped me cope during times of serious illness	0.891		0.983	0.922	2.67 \pm 0.77
4* I feel certain that God in some form exists	0.807		0.983	0.941	2.59 \pm 0.86
6* I believe God will not give me a burden I cannot carry	0.873		0.982	0.965	2.65 \pm 0.80
8* During times of illness, my religious or spiritual beliefs have been strengthened	0.888		0.982	0.948	2.64 \pm 0.81
10* I have experienced a sense of hope as a result of my religious or spiritual beliefs	0.882		0.982	0.958	2.65 \pm 0.80
11* I have experienced peace of mind through my prayers and meditation	0.860		0.983	0.911	2.63 \pm 0.81
12* One's life and death follows a plan from God	0.774		0.984	0.877	2.68 \pm 0.83
14* I believe God protects me from harm	0.875		0.984	0.839	2.36 \pm 0.95
15* I pray for help during bad times	0.890		0.984	0.830	2.35 \pm 0.97
3** I enjoy attending religious functions held by my religious or spiritual group		0.876	0.984	0.834	2.66 \pm 0.81
5** When I need suggestions on how to deal with problems, I know someone in my religious or spiritual community that I can turn to		0.882	0.982	0.846	2.59 \pm 0.87
7** I enjoy meeting or talking often with people who share my religious or spiritual beliefs		0.873	0.983	0.965	2.65 \pm 0.80
9** When I feel lonely, I rely on people who share my spiritual or religious beliefs for support		0.886	0.982	0.961	2.65 \pm 0.80
13** I seek out people in my religious or spiritual community when I need help		0.884	0.985	0.790	2.21 \pm 0.96
Cronbach's α			0.984		
Variance = 60.89%					
Eigenvalue = 4.71					

* Denotes items loading on subscale I (Beliefs and practices)

** Denotes items loading on subscale II (Social support)

*** $p < .0001$

coefficient was determined as 0.94 for the subscale of Beliefs and practices and 0.89 for the subscale of Support. In the study of Grulke et al. (2003), the Cronbach's α coefficient was determined as 0.98 for the System of belief inventory Scale, 0.97 for the subscale of Beliefs and practices, and 0.94 for the subscale of Support.

According to the expression of Holland et al. (1998), it was designed based on observations and conversations of a multi-disciplinary research group (clergy, mental health and

Table 3 System of belief inventory in relation to selected measures: means (M), standard deviation (SD), Cronbach's α

Scale	Score range	Mean \pm SD	Cronbach's α
The System of belief inventory			
The subscale beliefs and practices	0–30	23.21 \pm 0.7	0.98
The subscale social support	0–15	11.54 \pm 0.3	0.93
The System of belief inventory total	0–45	34.75 \pm 13.7	0.98

health professionals) with patients regarding their religious and spiritual beliefs and coping with cancer with the aim to speak a common language (Holland et al. 1998).

This scale will be helpful to identify and support the religious and spiritual beliefs of the physicians and nurses who care for the cancer patients, thus helping to cope with the physical symptoms caused by the diagnosis and treatment of the cancer disease and reducing the negative psychological symptoms (such as anxiety and depression) (Holland et al. 1998; Baider et al. 2001; Ripamonti et al. 2010).

We also believe that the System of belief inventory is the result of a multidisciplinary assessment in cancer patients of the needs of the patients. The scale will be useful both in the daily clinical activity and in the research setting also in Turkey. Regardless this brief, three factor scale is quite reliable and should find use in medical settings.

Conclusion

As a result of the statistical analyses, it was determined that the System of belief scale had validity and reliability and could be used in the Turkish patients with cancer. The Turkish version of the adapted the System of belief scale has shown statistically acceptable levels of reliability and validity. It is recommended that this scale should be further evaluated both in different regions of Turkey, larger groups representing various and in diverse populations. Once a valid and reliable scale is ready to be used, it can be used to measure outcomes in an intervention study and, as mentioned above, be tested in different cultures.

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References

- Akgül, A. (2005). Statistical analysis methods in medical research SPSS applications. Ankara Emek Offset Ltd.
- Albar, M. A. (2007). Seeking remedy, abstaining from therapy and resuscitation: An Islamic perspective. *Saudi Journal of Kidney Diseases and Transplantation*, 18(4), 629–637.
- Alibhai, S. M., Gordon, M. (2004). Muslim and Jewish perspectives on inappropriate treatment at the end of life. *Archives of Internal Medicine*, 164(8), 916–917.
- Alpar, R. (2006). *Introduction to applied multivariate statistical methods*. Ankara: Nobel.
- Baider, L., Holland, J. C., Russak, S. M., & Kaplan De-Nour, A. (2001). The system of belief inventory (SBI-15): A validation study in Israel. *Psycho-Oncology*, 10, 534–540.
- Balboni, T. A., Vanderwerker, L. C., & Block, S. D. (2007). Religiousness and spiritual support among advanced cancer patients and associations with end-of-life treatment preferences and quality of life. *Journal of Clinical Oncology*, 25, 555–560.
- Boscaglia, N., Clarke, D. M., Jobling, T. W., & Quinn, M. A. (2005). The contribution of spirituality and spiritual coping to anxiety and depression in women with a recent diagnosis of gynecological cancer. *International Journal of Gynecological Cancer*, 15(5), 755–761.

- Büyüköztürk, Ş. (2012). *Data analysis handbook for social sciences*. Ankara: Pegem Academy.
- Choumanova, I., Wanat, S., Barrett, R., & Kopman, C. (2006). Religion and spirituality in coping with breast cancer: Perspective of Chilean women. *The Breast Journal*, 12(4), 349–352.
- Çimen, S., Bahar, Z., & Öztürk, B. M. (2005). Reliability and validity of the AIDS attitude scale. *Zonguldak Health School Health Education Research Journal*, 1(1), 1–12.
- Çokluk, O., Şekercioğlu, G., Büyüköztürk, Ş. (2010). SPSS and LISREL: Application of multivariate statistics for the social sciences [in Turkish]. Ankara: Pegem.
- Cotton, S. P., Levine, E. G., Fitzpatrick, C. M., et al. (1999). Exploring the relationships among spiritual well-being, quality of life, and psychological adjustment in women with breast cancer. *Psycho-Oncology*, 8(5), 429–438.
- Grukke, N., Bailer, H., Blaser, G., Geyery, M., Bra, E., Hler, Z., et al. (2003). Measuring religious attitudes: Reliability and validity of the German version of the systems of belief inventory (SBI-15R-D) in a representative sample. *Mental Health, Religion & Culture*, 6(3), 203–213.
- Holland, J. C., Kash, K. M., Passik, S., Gronert, M. K., Sison, A., Lederberg, M., et al. (1998). A brief spiritual beliefs inventory for use in quality of life research in life-threatening illness. *Psycho-Oncology*, 7, 460–469.
- Kara, B., & Fesci, H. (2004). Self-care and quality of life in cancer. *Hematology-Oncology*, 6(4), 124–129.
- Kash, K. M., Holland, J. C., Passik, S. D., Lederberg, M. S., Sison, A. C., & Gronert, M. K. (1995). The systems of belief inventory (SBI): A scale to measure spiritual and religious beliefs in quality of life and coping research (abstract). *Psychosomatic Medicine*, 67, 62.
- Koenig, H. G., King, D. E., Carson, V. B. (2012a). A history of religion, medicine, and healthcare. In *Handbook of religion and health* (2nd ed., pp. 15–35). New York: Oxford University Press.
- Koenig, H. G., King, D. E., & Carson, V. B. (2012b). *Handbook of Religion and Health* (2nd ed.). New York: Oxford University Press.
- Lovering, S. (2012). The crescent of care: A nursing model to guide the care of muslim American patients. *Diversity and Equality in Health and Care*, 9, 171.
- MacArthur, A. C., Le, N. D., Abanto, Z. U., & Gallagher, R. P. (2007). Occupational female breast and reproductive cancer mortality in British Columbia, Canada, 1950–94. *Occupational Medicine*, 57(4), 246–253.
- Narayanasamy, A. (2003). Spiritual coping mechanisms in chronic illness: A qualitative study. *British Journal of Nursing*, 11, 1461–1470.
- Puchalski, C. M. (2001). The role of spirituality in health care. *Baylor University Medical Center Proceedings*, 14(4), 352–357.
- Rasool, G. H. (2015). Cultural competence in nursing Muslim patients. *Nursing Times*. Retrieved from <http://www.nursingtimes.net/roles/nurse-educators/cultural-competence-in-nursing-muslim-patients/5083725.fullarticle>.
- Ripamonti, C., Claudia Borreani, C., Maruelli, A., Proserpio, T., Pessi, A. M., & Miccinesi, G. (2010). System of belief inventory (SBI-15R): A validation study in Italian cancer patients on oncological, rehabilitation, psychological and supportive care settings. *Tumori*, 96, 1016–1021.
- Romero, C., Kalidas, M., Elledge, R., Chang, J., Liscum, K. R., & Friedman, L. C. (2006). Self-forgiveness, spirituality, and psychological adjustment in women with breast cancer. *Journal of Behavioral Medicine*, 29(1), 29–36.
- Şencan, H. (2005). Reliability and validity in the social and behavioral measurements [in Turkish]. Ankara: Outstanding Publishing.
- Tezbaşaran, A. A. (2008). Likert-type scale preparation manual (3rd ed., e-book 2008). http://www.academia.edu/1288035/Likert_Tipi_Olcek_Hazirlama_Kilavuzu. Accessed 17 Dec 2016.
- Turkey. (2013). According to the International Religious Freedom Report. http://photos.state.gov/libraries/turkey/1131523/Documents/TURKEY_2013_INTERNATIONAL_RELIGIOUS_FREEDOM_REPO_RT_TR.pdf. Accessed 17 Dec 2016.
- Usó-Doménech, J. L., Nescolarde, S. J. (2015). What are belief systems? <http://www.vub.ac.be/CLEA/FOS/cfp/what-are-belief-systems.pdf>. Accessed 17 Dec 2016.
- Winkelmann, W. D., Lauderdale, K., & Balboni, M. J. (2011). The relationship of spiritual concerns to the quality of life of advanced cancer patients: Preliminary findings. *Journal of Palliative Medicine*, 14, 1022–1028.
- World Health Organisation, GLOBOCAN 2012: Estimated cancer incidence, mortality and prevalence worldwide in 2012. http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx. Accessed 17 Dec 2016.
- Wortmann, J. H., & Park, C. L. (2008). Religion and spirituality in adjustment following bereavement: An integrative review. *Death Studies*, 32, 703–736.
- Wrensch, M., Chew, T., & Farren, G. (2003). Risk factors for breast cancer in a population with high incidence rates. *Breast Cancer Research*, 5(4), 88–102.