Asian Journal of Scientific Research

ISSN 1992-1454

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Asian Journal of Scientific Research 6 (4): 819-823, 2013
ISSN 1992-1454 / DOI: 10.3923/ajsr.2013.819.823

Validity and Reliability of Thai Hospice Quality of Life Index-revised Version for Cancer Patients

[1]C. Awikunprasert and [2]W. Sittiprapaporn
[1]Faculty of Management Science and Information Technology, Nakhonphanom University, Thailand
[2]Faculty of Medicine, Mahasarakham University, Mahasarakham, Thailand

Corresponding Author: W. Sittiprapaporn, Faculty of Medicine, Mahasarakham University, Mahasarakham, Thailand

ABSTRACT

The validity and reliability of the questionnaire is very important before distributing to the participants of any study. In this study, the Thai version of Hospice Quality of Life Index-Revised (HQOLI-R) was translated and modified by five experts and tested in a pilot study with forty participants before the final editing of the questionnaire. After finding the validity and the reliability of the HQOLI-R, it was used to examine the use of music and a selective exercise program to enhance health and quality of life and health in cancer patients. After translation and cross-cultural adaptation, the Thai version of HQOLI-R is a veiled and can be used as a patient administrative instrument to evaluate the quality of life in cancer patients in Thailand.

Key words: Cancer, hospice, quality of life, Thai, psychological battery

INTRODUCTION

Cancer is a chronic disease of major public health problem that threatens human life because they require long term treatment with serious side effects. The treatment and its side effect have significantly caused economic impact on human resources and social development of the countries (Ferrell *et al*., 1998; Kane *et al*., 1985). WHO (2006) has estimated, by the year of 2020, more than 11 million people would dead with cancer throughout the world. Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues. By passing the blood and lymph systems, cancer cells can spread to other parts of the body (Kane *et al*., 1985). Cancer types can be grouped into broader categories. The main categories of cancer include: Carcinoma, Sarcoma, Leukemia, Lymphoma and Myeloma and Central nervous system cancers (Renz *et al*., 2005). Cancer is a disease associated with mental health. The spiritual protection and proactive positive thinking will help us to survive the war with cancer. The pardon does not know anger and bitter heart allows the body tension and acid conditions increases to learn to love and a spirit of remission learn to relax and enjoy life (Spence *et al*., 2010). Without enough oxygen in an environment, cancer cells cannot expand its growth. Routine exercise and few deep breaths help the body get the chest up into oxygen and into the cellular level.

According to statistics of Bureau of Policy and Strategy (2007), Ministry of Health found that mortality rate of patients with cancer is growing every year and the number one cause of death in Thailand since 2003. In 2008, National Cancer Institute estimated that Thailand will have 120,000 new cancer patients. In addition, it will increase to another 50% in the next 10 years (Elliott and Palcher, 2007). According to the previous studies, the validity and reliability of the

questionnaire is very important before distributing to the participants. In this study, the Thai version of Hospice Quality of Life Index-Revised (HQOLI-R) were translated and modified by five experts and tested in a pilot study with forty participants before the final editing of the questionnaire. The HQOLI-R was used to examine the use of music and a selective exercise program to enhance health and quality of life and health in cancer patients as soon as it was proved the validity and the reliability.

MATERIALS AND METHODS

Research design: Subjects were adults who were living in their homes, receiving hospice care and were diagnosed with stage 1 to 4 of terminal cancer. A total of 40 subjects participated in the study. The quality of life was measured by the 28-items Hospice Quality of Life Index-Revised (HQOLI-R) (McMillan and Weitzner, 1998), which included psychophysiological well-being, functional well-being and social/spiritual well-being.

Study sampling and participants: Population in this study were cancer patients who had been diagnosed by doctors as cancer in stage 1 to 4 or the spread of disease to other body systems and had been whether to treat drug chemotherapy, radiation therapy or surgery, which was intended to maintain order. Sample late stage cancer patients were received treatment and care of patients at the late stage disease in Arokhayasala, Kampamong temple, Sakon Nakhon province, Thailand.

Instrumentation: Hospice Quality of the Life Index-Revised (HQOLI-R) was measured by the Hospice Quality of Life Index-Revised (HQLI-R) for hospice patients. The HQLI-R is a self- report questionnaire using a Likert scale of 0 to 10 with a total of 28 items designed for hospice patients with cancer. Questions pertain to various aspects of quality of life including physical, relationship, psychological, spiritual and financial issues. The questionnaire is in three main categories which form the three subscales of the index: (a) functional (i.e., daily actives, social life, concentration ability, enjoyable activity): (b) psychophysiological (i.e., anger, pain, nausea, sex life, worry, anxiety) and (c) social/spiritual (i.e., meaning in life, physical contact, family support, relationship with God). Higher scores on the HQLI-R indicate a higher perceived quality of life with a maximum of 280 points. The first subscale, functional well-being, has a maximum of 70 possible points. Psychophysiological well-being, the second subscale, has a possible 130 points and the final subscale, social/ spiritual well-being has a possibility of 80 points. The HQLI-R is reported in the literature to have good content validity (R = 0.83). Subscale are considered reliable and overall reliability is quite high (R = 0.88) (McMillan and Mahon, 1994; McMillan, 1996).

Procedure: The overall purposes of this study were to examine the validity and reliability of the hospice quality of life index (HQOLI-R) in Thai version. To develop and test the validity of HQOLI-R, it was performed the back translation method. Back translation was employed and through independent translators translating back into the English language. There were two teams working together. Each team composed of one physician and one sport scientist. Two copies of translation in English version were compared to the original by a native English speaker. Original and back translated documents can be compared and modified for high quality of translation.

RESULTS

The questionnaire was respond by 18 male (45%) and 22 female (55%) cancer patients, with an average age of 52.95 years (the range of age 33-73 years) (Table 1). The field test of the pre-final version of HQOLI-R in Thai was done at Chonburi Cancer Center, Thailand by forty

Table 1: The characteristics of cancer patients for questionnaire validation (n = 40)

Characteristics	Frequency	%
Sex		
Male	18	45.0
Female	22	55.0
Status		
Single	6	15.0
Married	26	65.0
Divorce	2	5.0
Separate	2	5.0
Others	4	10.0
Education		
Primary school	13	32.5
Junior high school	2	5.0
Senior high school	8	20.0
Bachelor	16	40.0
Post-graduated	1	2.5
Occupation		
Merchandise	11	27.5
Government officer	6	15.0
Company employer	12	30.0
Business	4	10.0
Owner	7	17.5
Cancer level		
1	9	22.5
2	12	30.0
3	13	32.5
4	6	15.0

patients in September, 2010. The results of this study showed that the Thai version of HQOLI-R achieved total levels of reliability with of Cronbach's alpha coefficients being 0.91 total from 29 items in perspective of HQOLI-R. However the results showed that the Cronbach's alpha coefficients of the questionnaire of 29 items was reliable (0.91).

For psycho-physiological perspective, in the total of 40 patients, 8 out of 12 developed items show positive outcome, with mean values from 5.3 to 7.5. For example, the patients show higher scores in pain relief, less loneliness, no problem to breath, sleep and sex life. However, the scale shows low in the rest of the items such as anxiety about their living environment and constipation with mean value 3.1 to 4.7. According to the functional and social/spiritual category, the patients have very good outcomes in the activities of their routines. For example, they have good social life, very independent and high concentration. Moreover, they also show high scales in the relationship and interaction with their friends, families and health care teams, as well as spiritual. They have positive physical and emotional contact with surrounding, faithful religious belief and positive meaning in life. The scales in both functional and social/spiritual item scores higher than 6.0.

DISCUSSION

The refinement of the HQOLI-R has been conducted to enhance its validity. The original HQOLI-R was developed based on the careful review of the literature and was then submitted to a panel of experts (McMillan and Mahon, 1994). The original was revised and the revision was

submitted to factor analysis to confirm the factor structure (McMillan, 1996; Spence *et al*., 2010; McMillan and Weitzner, 1998). The HQOLI-R in Thai version was revised again based on personal data from Chonburi Cancer Center patient subjects. This process has provided as the initial evidence for the validity of the current version of the HQOLI-R; however, empirical evidence was needed to support the validity of the latest revision. To test the validity of QOL, back translation technique was applied, which was followed from the previous studies (Ferrell *et al*., 1998; Schenker, 2009; Borer *et al*., 2009). The back translation provided the equivalent understanding on the meanings and contents between English and Thai versions. The final product after back translation was also compared with the original copy by a native English speaker.

The results in this study showed acceptable reliability, with r value equals to 0.92 after data analysis from the subscales of HQOLI-R scores. Cronbach's alpha coefficients were used as the standard to measure the reliability; the sufficient reliability is 0.7. Two items were not qualified in the collected data, since their corrected values were under 0.2. The 13th and 29th items were eliminated to reach the standard Cronbach' coefficients alpha, more than .7. The results of the present study showed that the Thai version of HQOLI-R achieved good levels of validity and reliability, with the range of Cronbach's alpha coefficients of 0.92 (Beyerstein, 1999).

The original HQOLI-R is a 29 item self report questionnaire developed to assess the overall HQOLI-R of hospice patients, including heart disease and cancer. Every item is rated on a 0-10 scale with total score ranking from 0-290. The Cronbach's alpha coefficients for the total scale were acceptable high 0.88 (Kane *et al*., 1985; McMillan and Mahon, 1994). In 7 month duration, the HQOLI-R scores between 255 hospice cancer patients with 32 health adult were compared. For the cancer patients who are dying, the HQOLI-R is the standard method to identify the areas of greatest concerned, including functional, psychophysiological and social/spiritual perspectives (McMillan and Mahon, 1994; McMillan, 1996; Beyerstein, 1999). The scores of HQOLI-R might be very subjective, can change over times by patient's physical illness and emotional conditions from the external factors including family and friends. With the scores of HQOLI-R, it could be observed and understand the physical and emotional well beings of the patients and also how the environmental factors can influence the HQOLI-R scores (Renz *et al*., 2005; Elliott and Palcher, 2007).

CONCLUSION

After translation and cross-cultural adaptation, the Thai version of HQOLI-R is a veiled and can be used as a patient administrative instrument to evaluate the quality of life in cancer patients in Thailand.

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