Original Article

Factors Predicting the Sense of Coherence in Thai Women with Breast Cancer after Treatment in University Hospital

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Objective: To study factors predicting the sense of coherence [SOC] in Thai women with breast cancer after treatment in one university hospital.

Materials and Methods: This cross-sectional research studied 132 patients with breast cancer who attended at Ramathibodi Hospital between March 2012 and April 2013. Three instruments were 1) the personal information and disease and treatment questions, 2) the social support questionnaires, and 3) the SOC-13 (short form questionnaires). Cronbach's alpha coefficient for the social support was 0.88, and for the SOC questionnaires was 0.75. Data were analyzed by descriptive and multiple regression using enter technique.

Results: The present study showed that social support (b = 0.44, p<0.001), time after treatment (b = -0.46, p = 0.022), and symptom distress (b = -0.80, p = 0.007) could predict the SOC in 27.1%, whereas age and education level could not predict the SOC in breast cancer patients.

Conclusion: Results from the study can be used as evidence-based to promote social support especially in patients who had symptom distress in early period after treatment to improve the SOC in breast cancer patients.

Keywords: Sense of coherence, Breast cancer, Factors predicting

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The number of women with breast cancer have been increasing during the last 10 years and is now the most frequent cancer in Thai women[(1)]. From the reports of the National Cancer Institute of the new breast cancer occurrence have been increased form 37% in 2009 to 39.29% in 2013[(1)]. These women spend a lot of effort to cope with the cancer diagnosis and to manage the treatment side effects until the suffering is under control[(2,3)]. In addition, they had to keep a positive attitude with the cancer and its treatment. This means that they had to use their internal strength to pass the worse situation of their lives. Sense of coherence [SOC] is a concept used in assessing an individual's orientation and internal strengths. Originally, it was developed by Antonovsky, the American-Israeli medical sociologist[(4)]. He introduced his salutogenic theory "sense of coherence" as a global orientation to view the world and the individual environment as comprehensible, manageable, and meaningful, claiming that the way people view their life has a positive influence on their health[(4,5)]. Women with breast cancer, confronted with many symptoms, have distress not only from cancer but also from the side effects of their treatment. These women must put much effort to view the anguish from the disease and the treatment as comprehensible, manageable, and meaningful. To know which factors influences the SOC in breast cancer patients after treatment is necessary for health care providers to promote the SOC in breast cancer patients survivors (Figure 1).

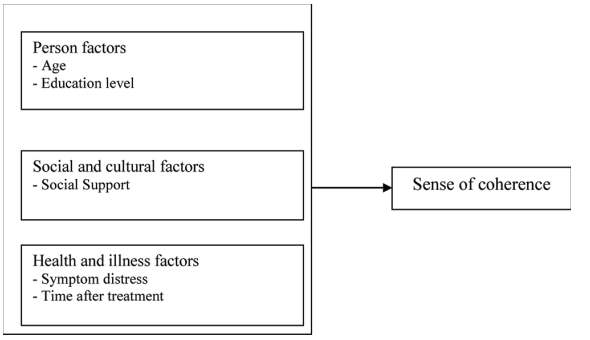

Figure 1. Factors of the SOC.

Objective

The purposes of the present study were to examine

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the social support, the SOC, and factors predicting the SOC in women with breast cancer after treatment.

Materials and Methods

This cross-sectional research studied 132 breast cancer patients treated at Ramathibodi Hospital between March 2012 and April 2013. Sample sizes were determined by using Cohen's table[6]. Then, the power 0.80, alpha 0.01, with five variables, medium correlation (r = 0.44) from previous study[7,8] were utilized to calculate the sample sizes. One hundred twenty-six participants would be required. Calculating an attrition rate of 5% would give us a requirement of 132 participants.

Instruments

The instruments were 1) the personal disease and treatment data, 2) social support questionnaires developed by Toljamo and Hentinen (2001)[9], and 3) SOC-13 (short form questionnaires) developed by Antonovsky (1987)[4,5].

Data information were:

1. The personal information, and disease and treatment questions were developed from literature review by the principal investigators.

2. The social support questionnaires were developed by Toljamo and Hentinen (2001)[9] to assess five support resources for chronic illness. Those were 1) emotional and instrumental support, 2) informational support, 3) peer support, 4) negative support, and 5) financial support. It included 12 items, each item divided into 5-point Likert scale items. The score range from 1 (no or never support) to 5 (strongly support). Two items are formulated "negatively", therefore, they have reverse scoring. Scores were summed and averaged. The higher scores reflected the higher social support.

The social support questionnaires were originally developed by Toljamo and Hentinen[9] to measure social support in diabetes patients in Finland. It was translated to Thai by Leelacharas and Orathai in 2005[10], using in chronic illness and cervical cancer patients. It was verified by the back-translation procedure to demonstrate the accuracy of the Thai language questionnaires. The social support had well established content validity by Thai Nursing Faculty. The social support, used in hypertension patients, has a Cronbach's alpha coefficient of 0.72[10], and in cervical cancer patients has a correlation coefficient of 0.73. The reliability of the social support questionnaires in the present study was 0.88.

3. The SOC-13 (short form questionnaires) was developed by Antonovsky (1987)[4] to assess patients' perception of life (comprehensibility), feeling that resources are available to cope with the situation (manageability), and motivational/emotional element of importance and commitment (meaningfulness). It consists of 13 items. Patients were asked to select a response, on a 7-point semantic differential scale with two anchoring phases. Each of the 13 items of the SOC questionnaire is 7-point Likert scale items. The score ranges from 1 (very seldom or never) to 7 (very often). Five items are formulated "negatively" therefore, have reverse scoring. Scores were summed and averaged. The higher scores reflected the higher SOC.

The SOC was translated to Thai by Hanucharurnkul et al in 1989[11]. It was verified by the back-translation procedure to demonstrate the accuracy of the Thai language in reflecting the intend meaning of the English version by a bilingual assistant professor majoring in language education. The SOC has a well-established content validity by master and doctoral nursing students of the Thai Nursing Faculty. The SOC-13 has been used by Thai investigators in cervical cancer patients with Cronbach's alpha coefficient of 0.81[3]. Reliability for the SOC in the present study was 0.75.

Protection of human rights

Before collecting data, investigators submitted the study to the Committee on Human Subjects of Ramathibodi Hospital. Data collection began after the study was approved. These procedures followed the Helsinki Declaration of 1975, as revised in 2000.

Statistical analysis

Data were analyzed by SPSS for Window version 21 with the statistics as the following: 1) The social support and the SOC in women with breast cancer after treatment were analyzed by mean, median, standard deviation, and range. 2) Factors predict the SOC in women with breast cancer after treatment were analyzed by multiple regression using enter technique. Multiple regression analysis used five independent variables; age (years), education level (less than graduate level = 0 and more than or equal to graduate level = 1), time after treatment (years), symptom distress (score 0 to 10), and social support (score 12 to 60) to predict one dependent variable (sense of coherence), with the significant level at 0.05.

Results

The present study showed the median age of

women with breast cancer after definite treatment was 56 years. Median of the years after treatment was five years. Median of symptom distress was 1, with the possible range between 0 to 10. The median score of social support was 52 (range 22 to 60) and the average score of the SOC was 65.02 (SD of 10.67, range 44 to 91). Fifty-one (38.6%) participants had education level less than graduate and 81 (61.4%) had at least a graduate level education. Data information are shown in Table 1.

Result demonstrated that factors predicting the SOC in women with breast cancer after treatment were social support (b = 0.438, p = 0.000), time after treatment (b = -0.460, p = 0.022), and symptom distress (b = -0.801, p = 0.007). These variables could predict the SOC in 27.1%. Meanwhile age and education level could not predict the SOC. Data information are shown in Table 2.

Discussion

Results of the present study confirm that women with breast cancer who had high social support and less symptom distress had high SOC. For the social support, the result was congruent with previous studies[7,8,12,13]. These previous studies found that social support was highly correlated with the SOC and could predict SOC. This is because when patients had social support, it meant that patients had emotional and instrumental support from family member and friends, informational support, peer support, negative support, and financial support. These supports encourage individual to comprehend, manage, and find meaning in the disease and cope with the treatment side-effects. It can be claimed that the way people view their life has a positive influence on their health. This would help cope with the suffering period while accepting the cancer diagnosis, receive treatments, and their side-effects[14]. Health care providers should develop a psychosocial clinic to support breast cancer patients from receiving diagnosis through becoming cancer survivors. Even though there is adequate informational support and group support from university hospital, there is still a need for such a psychosocial clinic, which should be created for those cancer patients to get support from first diagnosis until post treatment and becoming survivors.

Result from the present study also demonstrated that symptom distress could predict the SOC. This result was congruent with a previous study by Jeges and Varga (2006)[14]. This can be explained that when they had suffering from distress symptoms, the patients have limited resources to deal with the encountered stressors. The time after treatment could predict the SOC. This can be explained that when time pass, breast cancer patients can adjust themselves and improve their SOC in view of the disease and treatment positive results and diminishing side-effects. For this issue, health care providers should assess and relief the symptom distress even in the post treatment. Symptom management should be the focus for relieving the residual side-effects from the disease and the treatment.

Education level and age could not predict the SOC. The result could be explained that the majority of the participants had high education (equal and more than graduate 61.4%), so they can mobilize the resources to cope with their disease and treatment successfully. However, age could not predict the SOC either. The result is not congruent with previous study. This might be due that the average age of the participants were 56.55 years (SD 9.87). These participants were in the middle age with high education level and fulfilled with life experience, which they can cope with the disease

Table 1. Characteristic of women with breast cancer after treatment (n = 132)

Variables	Possible range	Actual range	Median	Mean	SD
Age (year)	-	25 to 82	56	56.55	9.87
Symptom distress	0 to 10	0 to 10	1	2.54	2.88
Years after treatment	-	1 to 25	5	6.27	4.64
Sense of coherence	13 to 91	44 to 91	-	65.02	10.67
Social support	12 to 60	22 to 60	52	50.58	8.31

Table 2. Factors predict the sense of coherence in women with breast cancer after treatment (n = 132)

Variables	b	SE b	Beta	R	R^2	F change	p-value
Age	0.158	0.090	0.140	0.056	0.003	0.404	0.082
Education level (less than graduate = 0)	-0.405	0.419	-0.074	0.082	0.007	0.463	0.335
Time after treatment	-0.460	0.198	-0.200	0.304	0.093	12.125	0.022
Symptom distress	-0.801	0.291	-0.216	0.405	0.164	10.816	0.007
Social support	0.438	0.102	0.341	0.521	0.271	18.532	<0.001

SE = standard error

Constant = 40.196, R square = 27.1%

and treatment side-effects with the same positive meaning. They may have the ability to a) define life events as less stressful (comprehensibility), b) mobilize resources to deal with encountered stressors (manageability), and c) possess the motivation, desire, and commitment to cope (meaningfulness) in the same way. So, it cannot predict the SOC in breast cancer patients.

Conclusion

It can be concluded that social support and symptom distress were strong predictors of the SOC in women with breast cancer after treatment. Health care team should promote social support especially in patients who had symptom distress early after treatment to improve the SOC in breast cancer patients.

What is already known on this topic?

The association between the SOC, social support, and quality of life in breast cancer patients have been studied in Thailand. The correlation between SOC, social support, and quality of life is high. The factors predicting of the SOC in chronic illness and breast cancer patients in Thailand are unknown.

What this study adds?

This is the first study of factors predicting the SOC in chronic illness and breast cancer patients in Thailand.

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Potential conflicts of interest

The authors declare no conflict of interest.

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