

RESEARCH ARTICLE

Predictors of Complementary and Alternative Medicine Use by Breast Cancer Patients in Bandung, Indonesia

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Abstract

Background: The study aimed to assess complementary and alternative medicine (CAM) use and their associated factors with breast cancer patients in Bandung, Indonesia. **Materials and Methods:** In total, 330 breast cancer patients were administered questionnaires on their CAM use and CAM predictive factors including socio-demographic parameters, clinical data and quality of life, trust in physicians, trust in hospitals, satisfaction and informational needs. Data were analyzed using univariate analysis and multivariate log regression analysis. **Results:** Overall 33.3% of patients reported use of CAM. Lower income, lower education, presence of metastasis, prolonged diagnosis, less trust in physician were found to be highly associated with CAM use. **Conclusions:** CAM use by breast cancer patients can be interpreted as an attempt to explore all possible options, an expression of an active coping style, or expression of unmet needs in the cancer care continuum. Physicians need to openly discuss the use of CAM with their patients and identify whether they have other unmet supportive needs.

Keywords: Breast cancer - complementary and alternative medicine use - predictors - Indonesia

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Introduction

The National Center for Complementary and Alternative Medicine (NCCAM) defines complementary and alternative medicine (CAM) as diverse medical and healthcare systems, practices and products that are not generally considered as part of conventional medicine (WHO, 2014). Despite advances in medical treatment of breast cancer that improved cure rate, the incidence of breast cancer is increasing and it remains a leading cause of death (De Martel C et al., 2012). At the same time, there is a fact of increasing rate of CAM use of patient with breast cancer. In the USA while health insurance system runs well, the CAM use was reported to 90% of the breast cancer patients and 44, 6% of those in Japan (Wong et al., 2010; McLay et al., 2012)

From clinical perspective, it is important to identify factors that encourage large numbers of patients with breast cancer to use CAM, solely or concomitantly with conventional medical treatments, as breast cancer patients frequently face situations that are subjectively less controllable and more frightening than other chronic of life threatening disease. Previous studies suggested that the rate of CAM use depends on sociodemographic characteristics of patients, breast cancer related clinical characteristic, regional and cultural factors and patients pattern coping with the disease (Solner et al., 2000; Paltiel

et al., 2001)

Few studies have also been conducted to examine the relationship between the unmet informational needs and the use of CAM in patients with breast cancer, although the topic of unmet needs has been a recurrent on in CAM-related studies. In patient with breast cancer, informational support provides a sense of control over the illness and enhances patient's quality of life when information meets their needs. Accordingly, unmet needs for information may cause distress in patients, thus possibly affecting their pattern of use of medical services. It is thus important that the degree of patient need for information is examined as a possible predictor of CAM use.

In Indonesia to date, almost no studies have been reported examining the use of CAM and their relevant factors that influenced breast cancer patients to use CAM. Unlike in the USA and Japan, Indonesian breast cancer patient frequently use CAM as a main treatment, despite the CAM use as a concomitant treatment with conventional treatment. It is worthwhile to examine the current status of CAM use in patients and to develop the best policy for them. To do this, it is important to collect baseline data that can be generalized for breast cancer patients in varying stages. This should be also accompanied by access to comprehensive cancer care to achieve a better understanding of the factors affecting CAM use and relevant reasons.

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Based on the above underlying situation, this study conducted to examine factors affecting CAM use, including socioeconomic, clinical, and individual factors and to identify any association factors between informational needs and CAM use in breast cancer patients.

Materials and Methods

In this study, data collected from patients with breast cancer who were treated at West Java Cancer Center in Bandung during the period of July 2014 to July 2015. Quota sampling was used. Patients were interviewed by trained interviewers at their treatment centers. Inclusion criteria were 1) Age over 18 years old 2) An established diagnosis of cancer 3) Period of over 4 months since the diagnosis of cancer 4) Current treatments or follow up and 5) Written informed consent for study participation. Detailed procedures have been described elsewhere. In total, 330 breast cancer patients completed the interview. Clinical data through a retrospective analysis of patients medical records, was obtained including histology type and SEER stage of the breast cancers. The current study

approved by the institutional review board (IRB) of Hasan Sadikin General Hospital, Bandung, Indonesia.

A questionnaire survey was designed to collect data on CAM use and potential predictors (sociodemographic and clinical factors, quality of life, the degree of trust in physicians and hospital, degree of satisfaction with conventional medicine and degree of need for information). As a control we conduct in-depth interview with breast cancer patient who never use CAM, with similar criterion as above.

CAM was defined based on NCCAM taxonomy and included alternative medical system, mind and body interventions, natural products, manipulative and body-based methods and energy therapies. The specific CAM modalities were traditional Chinese medicine, herbalism, acupuncture, prayer, special diets and dietary supplements (NCCAM, 2011)

Patients were asked about their experience using CAM. Patient responses were collected as dichotomized variable. Sociodemographic factors were to include age, gender, education income, marital status and health insurance status. Clinical factors included the type of cancer, SEER stage, treatment, time since the diagnosis

Table 1. Characteristics of Breast Cancer Patients with Complementary and Alternative Medicine Use

Characteristic	Number of Users (n=110)	Number of Control (n=220)	Total (n=330)	p(x2)
Age (year), IQR	46 (11,5)	45 (4)	45 (7)	0,001 ^s
Education				
Elementary School	28 (25%)	0 (0)		<0,001*
Middle School	13 (12%)	18 (8%)		
High School	65 (59%)	172 (78%)		
College	4 (4%)	30 (14%)		
Marital Status				0,123 [#]
Married	105 (95%)	217 (99%)	322 (98%)	
NotMarried (single,divorced,widowed)	5 (5%)	3 (1%)	8 (2%)	
Monthly Household Income, Frekwensi (%)				<0,001*
<2.000.000 IDR	99 (90%)	1 (1%)	100 (33%)	
2000.000-5000.000 IDR	9 (8%)	24 (11%)	33 (10%)	
>5.000.000 IDR	2 (2%)	195 (88%)	197 (60%)	
National Health Insurance				1,000 [#]
BPJS (Government Insurance)	108 (98%)	215 (98%)	323 (98)	
Medicaid/none/others	2 (2%)	5 (2%)	7 (2)	
SEER Stage				<0,001*
Local	2 (2%)	42 (19%)	44 (13%)	
Regional	97 (88%)	174 (79%)	271 (82%)	
Distant	11 (10%)	4 (2%)	15 (5%)	
Time since diagnosis				<0,001 [#]
<12 months	22 (20%)	195 (89%)	217 (66)	
12-36 months	85 (77%)	24 (11%)	109 (33)	
>36 months	3 (3%)	1 (1%)	4 (1)	
Trust in physician				<0,001 [#]
Very	7 (6%)	212 (96%)	219 (66%)	
Some what	101 (92%)	8 (4%)	109 (33%)	
Not at al	2 (2%)	0 (0%)	2 (1%)	
Trust in hospital				0,333 [#]
Very	0 (0)	0 (0)	0 (0)	
Some what	109 (9%)	220 (100%)	329 (100%)	
Not at al	1 (1%)	0 (0)	1 (0)	
Satisfaction in medical service				0,036 [#]
Very	0 (0)	0 (0)	0 (0)	
Some what	107 (97%)	220 (100%)	327 (99%)	
Not at al	3 (3%)	0 (0)	3 (1)	

IQR= Interquartile range; * chi-quadrat test; [#]Fischer exact test; ^sWilcoxon rank sum test; IDR = Indonesian Rupiah

Table 2. Predictors of Complementary and Alternative Medicine Use

Variable	Crude OR (CI 95%)	Adjusted OR (CI 95%)
Age (year)	1.04 (1.01 ; 1.08)	1.06 (0.99 ; 1.15)
Education		
Elementary/Middle School	6.67 (3.59;12.37)	8.03 (1.32 ; 1.56 ; 1.13)
High School/College	Reference	Reference
Marital Status		
Married	0.29 (0.07;1.24)	
Not Married (single/divorced, widowed)	Reference	
Monthly Household Income		
<5 million IDR	421.2(97.88;1812.46)	
>5 million IDR	Reference	
SEER Stage		
Local/Regional	0.17 (0.05 ; 0.54)	
Advanced	Reference	
Time since diagnosis		
<12 months	0.03 (0.02 ; 0.06)	
>12 months	Reference	
Trust in physician		
Very	0.00 (0.00;0.01)	0.0005(0.0000;0.0029)
Somewhat/Not at all	Reference	Reference

and current disease status. Additionally, quality of life was measured using EQ5D to measure five dimensions of patient quality of life (mobility, self-care, usual activities, pain/discomfort and anxiety/depression) using a 3-point scoring system (1= no problem, 2=some problems and 3= severe problems). The EQ5D has been validated for Indonesian Subjects. We classified response to the EQ5D into two categories: patient with and without problem (Kim et al, 2005)

The degree of trust in physicians and hospital was measured using Likert Scale and responses were classified into three categories: very satisfied, satisfied and not satisfied.

The overall degree of satisfaction with conventional cancer care was measured with Likert Scale and responses were then dichotomized (satisfied or very satisfied versus others) for further analyses.

The degree of patient need for information of cancer was measured using a subscale of the Comprehensive Needs Assessment Tool (CNAT), which has been validated for Indonesian Subject. Patients were instructed to evaluate items on a 4-point scale (never needed, slightly needed, moderately needed and highly needed) based on the past months experience. Responses were classified for further analysis into binary variables never needed versus needed (Shim et al., 2011)

Chi-squared test was used to analyze differences in the rates of CAM use between the categories of selected demographic and clinical variables (age, education, marital status, monthly income, national health insurance, cancer stage and time since diagnosis). Additionally, univariate analysis was performed for factors predicting CAM use. The variables found to be significantly associated with CAM use in the univariate analysis into a multiple logistic regression model. The criteria for variable entry was set at $p = 0,025$. Age, education, monthly income, SEER stage of breast cancer and time since diagnosis was included in a basic predictive model. EQ5D, trust in physicians and hospitals, overall degree of satisfaction with the conventional cancer care and degree of patient

need for information were also analyzed individually for their associations with the CAM use, following adjustment of variables in the basic model. Data from patients with missing values were excluded from the multiple logistic regression models.

Results

Table 1 summarized baseline characteristics of all patients. All respondents were at age around 45 years old between two groups. The rate CAM use was relatively higher in the group with lower education and monthly income below 2,000,000 IDR. It was also relatively higher in patient who had metastasis, those with a longer duration since diagnosis, those who had a lower overall degree of satisfaction of cancer treatment offered by physician.

A Univariate analysis was performed for the variables presented in Table 1. This was followed by a multivariate analysis showing a significant association with CAM use.

After controlling for basic factors in the multivariate analysis age and the degree of trust in physicians, education of respondent with elementary/middle school strongly associated with the used of CAM with OR 8,03 compare than respondent with high school /college.

After controlling age and level of education, the degree of trust in physicians was strongly associated with the used of CAM. A lower degree of trust in physicians was associated with more frequent use of CAM.

Discussion

We conducted the current multicenter study to extensively analyzed factors affecting the rate of CAM use in breast cancer patients. The study result showed that socio-demographic factor affected the CAM use was not consistent with the previous studies, since in developing countries the patients with lower income and lower education are usually afraid for seeking conventional treatment due to lack of knowledge and prefer to use CAM as main therapy. They usually used conventional therapy

after using CAM and not satisfied with the CAM results. CAM was not used as complement therapy but took role of conventional therapy as an effort to avoid surgery and chemotherapy. In Australia and Europe, patients use CAM as an attempt to explore all possible option to help healing, promote emotional health rather than cure cancer (Klafke et al., 2012). This study showed a contrast result to other studies. In our studies women with higher education were less likely to use CAM than those who had a lower education. This was similar to Navo, et al. (2004) study that higher education level will be more careful in using CAM. Women with higher education level will be more knowledgeable and cautious on the interaction of the medicine consumed. In our study, if there are cases of well educated women patient using CAM, it will be related to spiritual therapy, such as Yoga, Prayers and Reiki (energy healing). This study also revealed that women with breast cancer with a higher income were less likely to use CAM than those who had a lower income, which in contrast with similar previous studie in Europe and America (Ashikaga et al., 2002; Owen et al., 2009).

In term of the relationships between health insurance and CAM use, the study showed no relationship between women who had private health insurance or national insurance with the CAM use.

Trust in physician was strongly correlated with CAM use. The reason of using CAM more often reported by breast cancer patients with poorer emotional functioning and medical issues. CAM communication from healthcare providers patients should be shared to patients and open communication that safe and holistic care can be provided (Baum et al, 2006; Owen et al, 2009). Weiger et al. (2002) suggested that healthcare provider should share with patients on the current empirical evidence showing CAM that may be helpful in terms of cancer-related symptoms relief but it may not shown to be effectiveness at slowing disease progression or curing cancer.

In conclusion, this study showed that, the patient trust level to doctor was an important factor to use CAM, beside the level of education. The CAM use in patients with breast cancer can be interpreted as an attempt to explore all possible option, an expression of an active coping style or an expression of unmet needs in the cancer care continuum. In any case physicians should openly address the use of CAM and should identify whether there are other unmet supportive needs with their patients. Additionally, there should be sufficient communication between physicians and patients which is essential for forming trusting physicians–patient relationship. Therefore, patients can be more comfortable to question doctors. CAM use, such as meditation, yoga and others that were not related to medical therapy, was still considered as it spiritually makes patient calmer and more comfort in experiencing therapy.

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