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DETERMINANTS OF TRADITIONAL, COMPLEMENTARY, AND ALTERNATIVE MEDICINE (TCAM) CHOICES : A SYSTEMATIC REVIEW

Zainal Abidin*, Prastuti Soewondo

Department of Public Health Sciences, Faculty of Public Health, Universitas Indonesia, Indonesia

*Corresponding author's e-mail: dokter.zein99@gmail.com

ABSTRACT

Background: Traditional, complementary, and alternative medicine (TCAM) is one of the treatment methods that have existed for a long time. The use of TCAM as treatment is increasing in many countries. Extensively, TCAM is used to treat various diseases, especially patients with two or more chronic diseases. TCAM as treatment is chosen by the community based on their HBM (Health Belief Model). This study aims to look at the reasons patients choose to seek treatment at TCAM.

Methods: Systematic review with journal tracking through 3 database source, ProQuest, Scopus and Springer Link. We use the keywords “determinants” AND “traditional, complementary, and alternative medicine” for journals published in the last five years. Then we conduct critical appraisal of the selected journals.

Results: From the five selected studies, we found that health satisfaction variables are the strongest reason in TCAM choice as treatment. They visit health modalities to improve their well-being or health status. Some believe and agree that TM is more safety, more convenient, more effective, cheaper, and easier to use. The use of TCAM is related to patient satisfaction, TCAM knowledge, outsiders influence, positive perception, higher education, and more than 1 chronic illness. All these factors explain the model of peoples belief to health services.

Conclusions: Patient satisfaction was strongly predictor of TCAM choices. Their well-being have perceived more better after using TCAM services. The socio-demographic and socioeconomic variables are modifying factors that doesn't always influence patient decision. All these determinants enrich the HBM theory as follows patient satisfaction, patient knowledge, socio-demographic, socioeconomic, and distrust as barrier.

Keywords: Traditional, complementary, and Alternative Medicine (TCAM); choice; health.

INTRODUCTION

Traditional medicine has an important role in primary healthcare in the society, especially those who have difficult to access modern health services. In 2005, WHO declared the term of Traditional, Complementary and Alternative Medicine or TCAM was defined as “health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being.”[1,2]. However, TCAM is more commonly considered as the outside of medical science [3]. The practice of traditional medicine [TM] is strongly influenced by culture and traditions of the society. In practice of complementary medicine, intervention of healthcare is used in same time with conventional medicine. While alternative medicine becomes the next option after using conventional medical practice.[4]

From many studies, the use of TCAM is increasing in the global population from various countries. This is due to accessibility, affordability, security, efficacy, and government policies. The study in Italy, Germany, Canada, France, the use of TCAM ranges from 70% to 90%, while the African region of TCAM usage reaches 70% to 95%.[4,5] Especially, an increase occurred, for example in Norway from 9.8% to 18.2% in 2012, in the UK from 10.0% in 2004 to 23.6% in 2011, in South Africa from 0.1% in 2008 to 24.0% in 2011, and in the United States from 16.2% in 2007 to 21.0% in 2012.[6] The average use of TCAM was 26.4% in the latest study. East Asian countries (China, Philippines, Republic of Korea) use TCAM more than 50%.[6]

TCAM is widely used for various types of the diseases. In Africa, TCAM is more used by people with HIV/AIDS, although the government give free antiretroviral to them.[7] TCAM is more used by patients with non-communicable disease and mental disorders in Thailand, Cambodia, and Vietnam because they feel more satisfied and well-being.[8] In Saudi Arabia, TCAM is used as a complementary option in the treatment of breast cancer to improve the quality of life of patients.[9] In Sweden, there is no interaction or side effects using combination of conventional medicine and traditional medicine in the treatment of Inflammatory Bowel Disease [IBD].[10] In Singapore, TCAM is also used by patients with cardiovascular disease, local cancer, diabetes mellitus, and epilepsy due to the influence of family and friends.[11] In a hospital survey in Japan, allergy rhinitis patients also use TCAM for treatment due to safety, comfort, and low prices.[12]

The use of TCAM as treatment is associated with a positive attitude that chronic diseases can be cured with TCAM, they believe that TCAM providers have professional competence, and they also get the information from other patient who has good experience using TCAM.[13] Some patients were dissatisfied with conventional medicine, having bad experiences in the past, and the family tradition of using TCAM are very important reasons for the TCAM choice.[14] The use of TCAM was perceived and believed more effective, more safety, more comfortable, and lower costs.[12,15,16] It is about the belief from itself of the choice decision using a type of treatment, in psychosocial sciences called health behavior.[17]

However, TCAM has the lack of research and evidence based medicine.[18] Even some conflicts happen between the use of TCAM with conventional medicine [CM] concern safety in use, were associated with direct risks and indirect risks.[19,20] So, it becomes interesting point to review deeply the patients reason choose TCAM as the main treatment, or as complementary treatment with conventional medicine, and as an alternative treatment. The objectives of this study is looking at the patients reasons choose TCAM as treatment.

METHODS

Search Strategy

We conduct systematic review using PRISMA-P 2015 (*Preferred Reporting Item for Systematic Review and Meta-Analysis - Protocol 2015*). We search published journals in the three database centers; Scopus, ProQuest, and Springer Links that explain the use of TCAM as treatment.

Search of data was done on May 14, 2018. We use the keywords "*determinants*" AND "*traditional complementary and alternative medicine*" for journals published in the last 5 years, from January 1, 2013 to April 30, 2018. We collected only free-full text. And we add restrictions for the public health article.

Inclusion and Exclusion criteria

We determined the inclusion criteria were reported in english, published article 2013/01/01 to 2018/04/30, free-full text article, determinants of TCAM choices, and human population. While the exclusion criteria from the articles were reported not english, published article before 2013/01/01, TCAM policy, education, and concept, prevalence of TCAM, herbal research and healthcare strategy.

Searching Results

Using the keywords "*determinants*" AND "*traditional complementary and alternative medicine*", from the three database we get 136 articles. Then we filter for the last 5 years article, so we get 87 articles. Then we limit only public health article, and we get 17 articles relevant the search restrictions.

After reading one by one of the titles and abstracts of the article, we conclude taking 5 journals that we will present in the systematic review, because most eligible discussing about the determinants of TCAM. Another articles discuss the prevalence of TCAM use, TCAM policies, integration of TCAM and CM, TCAM education to students, guidance on the use of TCAM as treatment, healthcare strategy by PPPM (Predictive, Preventive and Personalized Medicine), person-centered medicine paradigm, integrated treatment innovation, and the benefits of spices or herb. And we read the full text thoroughly the research results of the article.

Figure 1. The Flowchart of PRISMA Protocol 2015

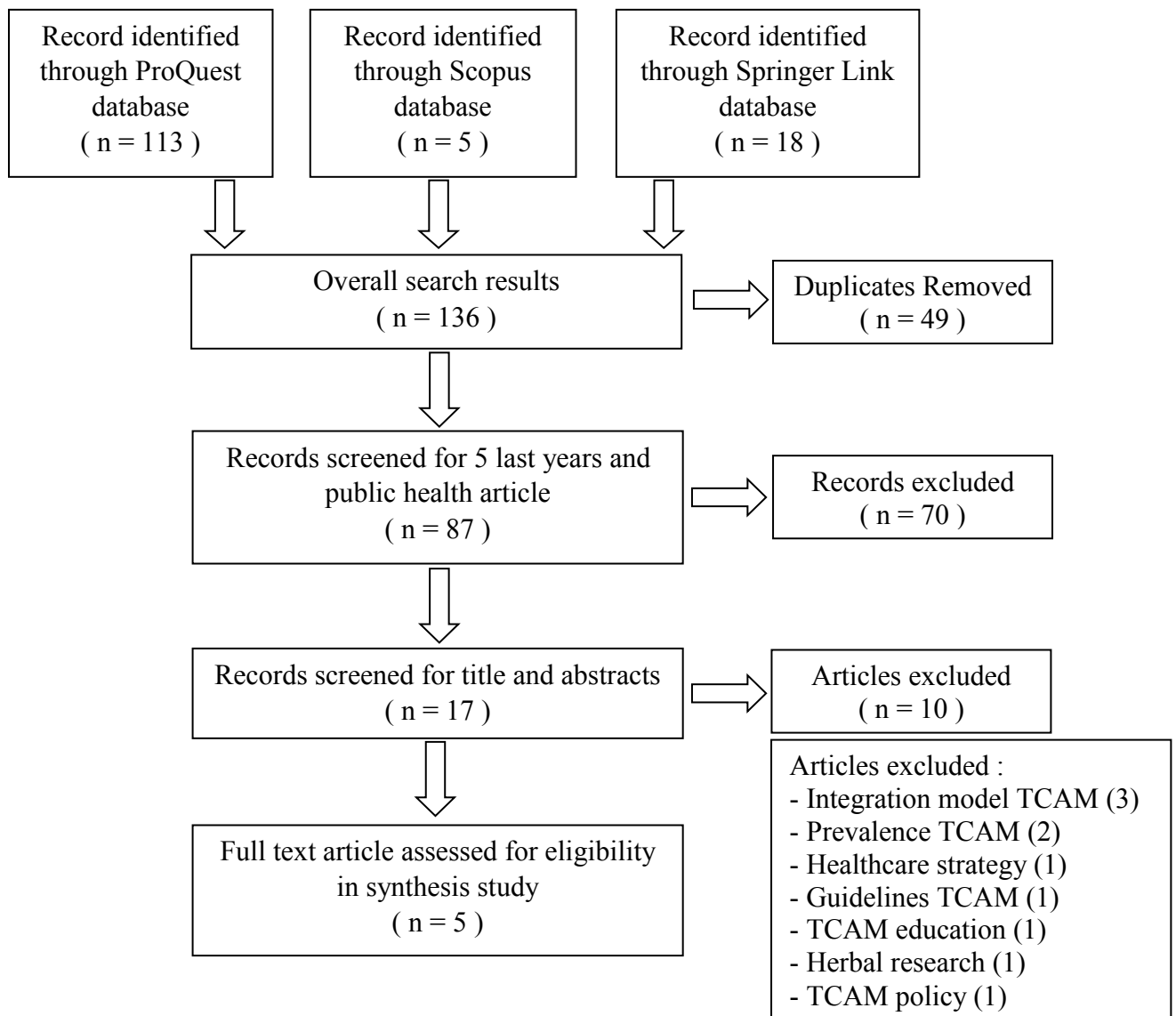




Table 1. Results of Systematic Review

No	Title	Author	Year	Sample	Intervention	Findings
1	Preference and willingness to pay for traditional medicine services in rural ethnic minority community in Vietnam	Tran, B. Xuan, et.al.	2016	A cross-sectional study was conducted randomly using 1.250 samples	By face-to-face interviewed using a structured questionnaire were measured participant's satisfactions on which 10 questions.	The respondents were highly satisfied with all criteria of quality of the traditional medicine services. And two thirds of respondents have a preference for traditional medical care over modern medicine (culture). The strong predictor preference traditional medicine is perceived health improvement. That was positively associated with higher education, knowledge on traditional medicine and its ease to use; whereas it was negatively associated with longer distance to commune health stations (accessability and affordability)
2	Prevalence and factors associated with the use of alternative (folk) medicine practitioners in 8 countries of the former Soviet Union	Stickley, A., et.al.	2013	The final study sample consisting of 18.428 individuals using multi-stage random sampling.	Face-to-face interviews are conducted by trained fieldworkers in the respondents' homes.	Respondents with a high education level were significantly less likely to use an alternative (folk) medicine practitioner than those with low education. About knowledge and awareness, patient who distrust doctors were significantly more likely to use alternative (folk) medicine practitioners compared to those who trust doctors.
3	The utilization of traditional, complementary and alternative medicine for non-communicable diseases and mental disorders in health care patients in Cambodia, Thailand and Vietnam ^{[1][2]}	Peltzer, K., et.al.	2016	The sample size included 4800 in total three countries.	Trained research assistants conducted interviews using the I-CAM-Q	The determinant wererural or urban residence (socio-demographic) influences accesability and affordability, older age (ages), being female (sex), higher formal education level, and having two or more chronic conditions was associated with the use a TCAM practices.



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4	An Empirical Study on Traditional, Complementary and Alternative Medicine Usage among Malaysian Cancer Patients	Nagashekhara, M., et.al.	2015	A simple random was used to select 354 cancer patients	Patients completed the questionnaire while they were waiting at the outpatient clinic to be seen by their physician.	There were a significant relationship found between patient's satisfaction with the conventional treatment and usage of TCAM. TCAM knowledge and healthcare professional's influence have a significant relationship with usage of TCAM (outside influences). Most of the TCAM users agreed that using TCAM to cure cancer, suppress the progression of cancer, prevent cancer from reoccurring, improve physical and emotional well-being, counter symptoms from cancer, reduce side-effects from medical treatment and complement the effects of the present medication (patient awareness).
5	Prevalence and Determinants of Traditional, Complementary and Alternative Medicine Provider Use among Adults from 32 Countries	Peltzer, K., et.al.	2016	A cross-sectional survey included 55,081 adults from ISSP data, using multi-stage stratified random sampling	Partly face-to-face interviews, partly computer-assisted personal interviewing with standardized questionnaire	Respondents rated their TCAM satisfaction with 80% or more were from Australia, in Europe in Denmark, Slovenia, Spain and Switzerland, in Asia, in Taiwan (China) and USA, while lower than 60% TCAM satisfaction was found in Europe in Bulgaria, Croatia, and Poland, in Asia in Russia and Japan, and in Chile. In multivariate analysis found sociodemographic variables (middle age, female sex, lower educational status, not having a religious affiliation, and lower economic indicators) and health variables (perceived poor or fair health status, being unhappy and depressed, having a chronic condition or disability, and having positive attitudes towards TCAM) were associated with TCAM provider use.

RESULT

From three databases tracking, we found 136 journals. Using PRISMA-P, there were 5 articles that appropriate the criteria (figure.1). We calculated the sample size of each studies and we account there were 79.913 adults. We also observe location of research and find 44 countries spread of Europe, Africa, America, Australia, in Asia like Vietnam, Malaysia, Thailand, and Cambodia. . All the research use cross sectional study. The samples were taken in multi-stage stratified random sampling to simplify representative sampling. For data collection using interview techniques, most using face-to-face interviewing and partly using computer-assisted personal interviewing. There were 3 studies using structured questionnaire, 1 study using standardized questionnaire, and 1 study using I-CAM-Q (*International questionnaire to measure use of complementary and alternative medicine*). Informed consents were obtained from respondents before interview.

The determinants found about socioeconomic, socio-demographic, awareness, knowledge, culture, accessibility, affordability, education level, sex, ages, participant's satisfactions, and outsidess influence. From the five selected studies, we found that patient satisfaction variables are the strongest reason in TCAM choice as treatment. Because patients are afraid of the illness, they will visit to health modalities that can improve their well-being or health status. Some believe and agree that TM is more safety, more convenient, more effective, cheaper, and easier to use.

The use of TCAM is related to patient satisfaction, TCAM knowledge, outsidess influence, positive perception, higher education, and more than 1 chronic illness. There is no relationship between using TCAM with age, gender, access distance, culture, government policy, socioeconomic, or socio-demographic. The use of TCAM as a treatment is increasing in many countries.

One study only discusses the reasons why TM is used, does not examine the reasons for TCAM as complementary and alternative. In the study mentioned that perceived health improvement is the most powerful reason to choose TCAM as a treatment. It also relates to higher education, knowledge on traditional medicine and its ease to use, but is not related to longer distance to commune health stations. And respondents have willingness to pay the cost of using the treatment.[21]

DISCUSSION

This review discusses the determinants associated with TCAM choices. The patients decision to choose the treatment type is strongly influenced by psychosocial aspects or health behavior..[17] Thus, the Health Belief Model [HBM] develops as a cognitive model in which health behavior is determined by threat of the disease to individual [*perceived threat of the disease*].[17,22]

According to psychologists group, there are five components in HBM; risk of perceived susceptibility to disease, perceived severity of disease, perceived benefits of taking action, possible loss of action or perceived barrier to action and motivation for healthy living or health motivation. Thus, high vulnerability, high severity, high benefits, high motivation and low barriers will enable to make health decisions.[17] Bandura (1997) adds a feature of self-efficacy concept as the influence of people belief on his own strength.[22,23]

In this study, the determinant of patient knowledge was obtained from information through television, newspaper, social media (9,7%) and personal advice from family, neighbors, friends (26,3%), and TCAM practitioners (90,3%) that can influence perception against the threat of disease (*perceived threat of the disease*), being aware the risk of disease vulnerability [*perceived susceptibility to disease*] and the disease is getting worse [*perceived severity of disease*) So, they have *cues to action*..[5,24]

Some studies have reviewed at the determinant of socio-demographic (e.g. age, sex, residence) and socioeconomic (e.g. wealth, occupation, education) relating to the use of TCAM, but others studies have no relationship. Both of them are *modifying factors* that does not always influence the patient decision.[6,8,21,25]



The determinant patient satisfaction found from the explanation of respondents that perceived health improved after using TCAM. One of study mentioned approximately 91.6 % of respondents reported that they perceived an improvement in their health status given the use of traditional medicine. Almost two thirds of participants (66.3 %) claimed that they were “*much better, but not completely cured*”. It was a favorable decision for them (*perceived benefits of taking action*). [21] The patients sense have a spirit for more healthy in their life [21,25].

One study mentioned that patients with high education preference using alternative (folk) medicine practitioner cause distrust doctors that inhibit taking decision in health (*perceived barrier to action*). Another barriers are likes lack of information or explanation about the benefits of TCAM in treatment. [26]

There is three papers discussing that satisfaction was most important influence of the TCAM choices. Even there was rated 80% patient satisfaction has been reported in one study from 32 countries. But two other papers describe the determinants of TCAM use that the patients want to improve their health status.

CONCLUSION

Patient satisfaction was strongly predictor of TCAM choices. Because patients sense better health status after given TCAM services. They believe in and agree to use TCAM safer, more convenient, more effective, easier and cheaper, so they are not afraid to use it. Information obtained from various sources to improve their TCAM knowledge, especially from TCAM practitioners has strong influence on taking health decision. Socio-demographic and socioeconomic do not have an important influence on TCAM choices. In addition the reviews found that there are some TCAM determinants enrich the HBM theory as follows patient satisfaction, patient knowledge, socio-demographic, socioeconomic and distrust as barrier.

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