

# Knowledge and Skills Among Health Care Providers of Complementary and Alternative Medicine “Herbal Medicines” Within Oncology Health Care Setting

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## Abstract

**Introduction:** Herbal Medicine is one of many forms of complementary and alternative medicine (CAM) which is used in the treatment of cancer and the management of its symptoms. **Objectives:** Complementary and alternative medicine (CAM) has become widespread in many areas of the world, its uses vary from one place to another depending on the native’s background and cultural believes. Herbal medicine is considered as one of the most CAM types used to treat cancer disorders. The aim of this review is to explore the essential knowledge and skills of utilizing herbal medicine by health care providers in the benefit of cancer patients. **Methods:** A comprehensive search was done by using Science Direct, CINHALL, PubMed, and Google Scholar. Twenty two articles were met the inclusion criteria, the articles were found between 2006-2013. Articles represent the phenomena of interest. **Results:** There are nine competencies that should be considered by any oncology health care institution to improve health care provider knowledge and skills toward herbal medicine. These competencies are: ability to utilize knowledge from different resources, communication skills, time management skills, risk management, ability to deal with cultural and ethnic diversity, evidence-based practice, knowledge about institution/ country rule and regulations, knowledge on medical herbs indication, contraindication, side effect, and possible interactions, predictors for herbal medicine users. **Conclusion:** all health care provider who are attentive to utilize herbal medicine in their treatment approach should master herbal medicine related competencies before considering using it on patients. In addition, these competencies must be revalidated on regular basis. Oncology health care institutions are required to set guidelines and build regulations to control herbal medicine uses to ensure safe practice. On the international level, health regulation authority such as the FDA should set group of guidelines including legal responsibilities to control herbal medicine practice.

## Keywords

Herbal, Cancer, Complementary and Alternative Medicine, Skills and Knowledge

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## 1. Introduction

Herbal Medicine is one of many forms of complementary and alternative medicine (CAM) which is used in the treatment of cancer and the management of its symptoms. The usage of herbal medicine among patients with cancer

had escalated from 5.3% before diagnosis to 13.9% after the diagnosis [1]. This type of treatment is considered as one of the oldest treatment modalities with a wide diversity which exceeds 3,000 or more among different cultures [2]. The usage of herbal medicine is expected to increase in the coming years due to the dramatic increase in number of patients with cancer disease. It is well known that cancer

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incidence is increasing due to aging, continuous changes in the human's life style, and industrial revolutions etc. In addition, cancer incidence varies among different countries, where it is higher among countries with low economical status. Just in 2008 there was around 13% of deaths worldwide due to cancer, and this percentage is suspected to be doubled in 2030 [3].

Due to current wide range of the usage of herbal medicine amid patients with cancer and the expected increase in this percentage in near future, it is a required to implement many *in vivo* and *in vitro* studies using different types of medical herbs to know the mechanism of action and its impact on cancer cells and humans in general. The current implemented studies revealed that some of these herbs have an autolytic effect, which shrinks and dissolve the tumor to be excreted outside the body as waste product, while other herbs have immunological activities, which reduces the complications and side effects of conventional therapy, in addition to the anti-inflammatory properties for other herbs [2].

Herbal medicine is not completely safe and is potentially associated with side effects and /or drug-to-drug interactions [4]. This mandates close medical monitoring and follow up by healthcare professionals, however their role is not sufficient [5, 6]. The main reason is they lack the knowledge of medical herbs, its uses, and its possible side effects. This is not to the patient's best interest as they might be in danger in case the decided to use this modality of treatment.

The aim of this paper is to identify the required knowledge and skills a health care needs toward using herbal medicine. In addition to incorporate this knowledge as new competencies from a health care provider orientation program as well as cancer unit specific competencies. Change theory for Kurit Lewin will be adopted to adjust current nursing practice through three phases (unfreezing, movements, and refreezing). As literature review paper, the current focus will be on unfreezing phase only; literature will be reviewed to identify the required nursing knowledge, skills and attitude, in addition to identifying the area of resistant and areas that support change.

## 2. Methodology

The current review has been conducted by using Google scholar, Ovid, PubMed, CENHAL, Midline, Science direct and EPSCO as a searching electronic database using combinations from the following key words: herbal, cancer, complementary and alternative medicine, competency, and knowledge. Searching process focused to have a literature that goes parallel with the inclusion criteria, which required English language, full article, and to be published between 2006 and 2013. After extensive reviewing for thirty-nine,

only twenty-three of articles met the inclusion criteria were conducted in Ghana, Saudi Arabia, Japan, Australia, Taiwan, America, United Kingdom, Turkey, Italy, China, Palestine, Malaysia, and Jordan. Other scientific documents were not reachable due to availability restrictions.

The selected studies were case control, double blind control trial, cross sectional, descriptive, descriptive exploratory correlation, secondary analysis, and Mixed method (qualitative and Quantitative). Data collected using structured, semi structured questioner, and semi structured interview, and clinical observation / assessment.

The main items among data collection tools turn around CAM source of knowledge and experience, indicators for CAM usage, outcome, communication with health care personnel, CAM side effect, rules and regulations, education of health care personnel, obstacles for providing CAM, cost, and barriers encounter health care personnel for CAM usage.

Sample size varies from one study to another, but in general, it was between 30 to 23370 participants from both gender, with different positions and medical status as well. Studies samples are divided into three categories based on phenomena of interest for each one that is why there are health care workers, health care students, and patients with different cancers disorders. The studies participants come from different socio-economical, sociocultural, and socio-demographical background, different cancer disease and stages for patient's samples in specific, with age of 18 years and more.

## 3. Results

There are several significant integrations, some are directed toward the required knowledge and competencies for the health care provider and personnel to act as medical advisor in oncology clinical setting for herbal medicine uses in this patient's population. The impact of cultural diversity also presents in some field and reflected in the results. The resulted outcomes from this review will be classified thematically into nine domains as following:

### 3.1. Communication Skills

Health care providers who have inadequate knowledge about CAM will avoid the communication between them and their patients in this regard [6, 7, 8]. Those health care providers are required to improve their knowledge on herbal medicine as well as CAM in general to lead the discussion about possible contraindications and benefits [9, 10, 11].

Trust based relationship is essential between patients and doctors to reach effective treatment plan including the use of medical herbs. Having adequate knowledge on medical herbs

as well as exceptional communication skills will strength the relationship with patients that will result in a trust relationship. This in turn lead to an open communication between the health care provider's and patients regarding herbal medicine. On other hand, health care providers are responsible to communicate and negotiate with the rest of multidisciplinary staff regarding patient's desire in herbal medicine use and the beneficial effect from this use [12].

### 3.2. Cultural and Ethnic Diversities

The use of herbal medicine as any other CAM vary based on cultural and ethnic diversity [13, 6, 8]. Therefore, health care providers should be culturally competent to avoid any cultural conflicts while prescribing or giving any medical advice regarding medical herbs.

### 3.3. Time Management

Lack of time is one of many factors which prevent health care providers from considering CAM including herbal medicine from their daily health care activities [14]. Mastering the time management skills by health care providers can be effective to invest enough time with their patients to demonstrate proper assessment, discussion, and follow up regarding herbal medicine usage.

### 3.4. Knowledge Utilization from Different Resources

Doctors and nurses are practicing CAM including herbal medicine in clinical areas more than medical staff [15]. That is why they should have adequate knowledge and strong background regarding this science. However, they lack reputable resources to answer related quires [7]. Enriching doctors and nurse's knowledge in this regard can be achieved by formal resources such as continuing education programs [11, 14], Books [7, 12, 14], educational pamphlets, CDs, websites, classes, parishioners, videos [14], journals [7]. Informal resources such as positive personnel experience of health care providers [11]. This can provide further knowledge. Doctors within oncology health care setting should explore different resources to seek the desired knowledge about medical herbs, which will help them utilize different types of medical herbs appropriately without hazardous risks.

### 3.5. Indications, Contraindications and Side Effects of Medical Herbs

Medical herbs are conceivably effective on tumor mass reduction, lowering carcinoembryonic antigen, improving quality of life, and increase body weight [16]. Moreover, it is involved in immunity system recovery and symptoms management like pain [7], anxiety and fear [11], insomnia and fatigue [18]. On other hand medical herbs exhibit

different possible side effects as well, like hypersensitivity reaction, nausea, and vomiting [6, 12, 19]. Medical herbs might interact with conventional therapy like Warfarin and Tamoxifen and certainly chemotherapy [16, 19].

Some medical herbs have toxic effect by nature for example renal toxicity [6]. The risk for toxicity from medical herbs is high due to unavailability of reliable dosage guidelines [18]. For patient's medical safety, health care providers should be familiar with medical herbs recommended doses, indications, contraindication, possible interactions with conventional therapies, and its side effect before real practicing in clinical area.

### 3.6. Evidence Based Practice

Insufficient evidence is one of the major obstacles encountered in the usage of CAM [20]. Prescribing medical herbs required scientific evidences regarding its efficacy and safety [20, 21]. For this reason, health care providers choices should be taken on a scientific base. Therefore, they have to have adequate training on evidence-based practice, researching skills through different data base, and selecting the best information from different resources to empower their decisions in clinical areas on daily basis.

### 3.7. Risk Management

Due to possibility for interaction with conventional therapy and natural toxicity of some herbs, risk management training will help healthcare providers in recommending the usage of medical herbs when there are adequate evidences for its safety and efficiency. In addition, to accept other medical herbs where the evidences support its safety but it's not efficient and discourage the usage of medical herbs where the evidences demonstrate its harmful risk and its lack for efficacy [22].

### 3.8. Predictors to Identify Medical Herbs Users

There are specific characteristics for patients who might approach herbal medicine and CAM in general which include but not limited to: veterans, white people females [23], younger patients [22] employed women, higher educated patients [24], females with higher menopausal symptoms [22], patients with early cancer stage, patients with breast cancer [19] male with lung cancer [13], patients treated by chemotherapy [25], patients post surgeries [10], patient's usage increased with time since diagnosis [12], patients who are facing advance symptoms and metastasize cancers such as palliative patients [26], patients with low quality of life [27], and patients who actively practicing religion [26].

Nevertheless, according to Yildirim (2010) there is no effect for educational level, marital status, annual income, primary site of cancer, age, and time since diagnosis on the usage of

medical herbs and CAM in general [6]. Another study done by Afifi, Wazaify, Jabr, & Treish, revealed no correlation between patient’s educational level and the usage of CAM. Third study done by revealed that the tendency to use medical herbs among elderly is higher [13].

### 3.9. Rules and Regulations

Health care facilities rule, regulations, and job descriptions are required to control the usage of CAM [20]. Health care providers must be aware about their role and their health care institutions instructions and directions toward medical herbs usage, in addition they have to be ware toward their country rule, regulations, and legal obligations in this regard too.

## 4. Recommendations and Implication

Each health care institution must prepare an educational plan aimed at herbal medicine practice. The previous domains should be integrated in the educational plan as competencies to be grasped as imperative knowledge and skills for doctor and nurses in clinical setting. These competencies should be revalidated on regular basis to be kept updated. On administrative level, key persons in oncology health care institutions must set groups of rules and regulations to control herbal medicine practice in addition to provide clear role and responsibilities within health care provider’s job description, also maintaining adequate scientific resources to be accessible for nurses to search for the desired knowledge and information’s. On the international level, health regulators such as the FDA should provide clear guidelines toward herbal medicine practice and legal obligations.

## Conflict of Interest

The authors declare that they do not have any conflict of interest.

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