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ORIGINAL ARTICLE

Knowledge, attitude, and utilization of herbal medicines by physicians in the Kingdom of Bahrain: A cross-sectional study

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Abstract Herbal medicines are widely accepted as a primary source of healthcare due to their natural origin. However, this widespread popularity is counterbalanced with the lack of relevant research. The need to account for this deficiency motivated the present study which aims at (1) assessing physicians' knowledge and attitude toward herbal medicines, (2) determining to what extent herbal medicines are utilized by physicians in the Kingdom of Bahrain, and (3) highlighting the main factors that may facilitate or hinder the utilization of herbal medicines. A cross-sectional study was conducted to cover 96 physicians conveniently sampled from different departments among one public and two private hospitals. The main tool that was used to gather the required data was a self-administered questionnaire that has been specifically developed by the researchers to address the study objectives. The collected data were processed by the statistical package for social sciences SPSS (version 18). The study found that 64.6% of the participated physicians have generally basic knowledge on herbal medicines, and half of them acquired their knowledge from experience. Moreover, the results showed a tendency by physicians to use herbal medicines personally more frequently than prescribing them to the patients. Interestingly, the majority (91.7%) of the participants showed a desire to enhance their knowledge with regard to herbal medicines. They ascertained that the rational use of herbal medicines is hindered by poor quality control (65.6%) and limited information on their adverse events (62.5%). The physicians claimed that the availability of sufficient knowledge (68.8%) beside the low cost (66.7%) are major facilitating factors toward utilizing herbal medicines.

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1. Introduction

Complementary and alternative medicine (CAM) is widely used worldwide. According to WHO guidelines (2004) and NIH (2010) then CAM is defined as a group of diverse medical

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and healthcare systems, practices, and products that are not currently considered to be part of conventional medicine. This popularity of CAM is basically derived from the wishes for non-pharmacological treatment. One important example of CAM is herbal medicines which constitute the focus of this study, and defined as medicines originate from plant-based ingredients which are produced by extraction, fractionation, purification, concentration, steeping, heating or any other physical or biological processes with no chemically defined substances. Herbal medicines have been used since the beginning of human history. There are four basic systems known for herbal medicines: Traditional Chinese, Traditional Indian (Ayurvedic), Western, and Traditional Arab. Then it comes as no surprise that herbal medicines play an increasingly important role in healthcare and their use at the hope of tackling diseases is widespread (Ad'hiah et al., 2013; Amin and Mousa, 2007; Gratus et al., 2009). Indeed, several studies found that herbal medicines are the most commonly used CAM among pharmacy/medical students (Awad et al., 2012; Freymann et al., 2006; James and Bah, 2014).

WHO guidelines (2004) on safety monitoring of herbal medicines in pharmacovigilance systems stated that there is a widespread misconception that natural remedies are harmless and carry no risk. This common belief was confirmed by several studies (Ernst, 1998; Saad et al., 2005) which ascertained that one main reason behind the interest in herbal medicines is the notion that all herbal products due to their natural origin are safe and effective. As a consequence of this belief, side effects (unintended effect of a drug related to its pharmacological properties) of herbal medicines and adverse events (unwanted medical occurrence that may present during treatment with a drug) that may arise from their consumption are often overlooked (Bent, 2008; De Smet, 2002). There is also the possibility of interaction between herbal medicines and the conventional medicines which might cause serious health problems (Neustadt, 2006). On the other hand, patients have very limited reliable resources concerning the use of herbal medicines and the most common sources of advice on herbal medicines are friends and relatives (Gratus et al., 2009; Suleiman, 2014).

As far as the herbal medicines are concerned, then physicians are not in a better situation than patients since physicians themselves lack the relevant knowledge and hence they are unable to give informed advice to their patients (Ameade et al., 2015; Xu and Levine, 2008). Indeed, Suleiman (2014) and Vickers et al. (2006) found that the majority of patients are not disclosing the use of herbal medicines to their physicians. This lack of communication between patients and physicians is a serious problem that supports the need for healthcare professionals to be aware of herbal medicines use alongside conventional medicines. The same assertion was confirmed by several studies (Awodele et al., 2012; Clement et al., 2005; Ghia and Jha, 2012) which reported that the gap between acceptance of herbal medicines and the poor knowledge that healthcare professionals have about these remedies reflects the need for educational intervention.

The aforementioned problems raise the need for further research to provide adequate information concerning the use of herbal medicines toward integrating them into the healthcare system. Despite the fact that the Arabian Gulf region has a long tradition of herbal therapies (Amin and Mousa, 2007), the number of relevant studies is very limited. The inter-

est here lies in the Kingdom of Bahrain, which is known to be a pioneer among the Arabian Gulf countries regarding healthcare. According to WHO report (2005), Bahrain regulates herbal medicines using the same, or partly the same, legal framework as is used for conventional pharmaceuticals. Moreover, herbal medicines are sold in pharmacies as over-the-counter medicines and in special outlets in the Kingdom of Bahrain. A few studies have been conducted in Bahrain concerning CAM in general (Khalaf and Whitford, 2010) and herbal medicines in specific (Al-Khuzai et al., 2010). However, the intention of these studies was not the physicians. To the best of our knowledge, there is no previous study conducted in the Kingdom of Bahrain to assess physicians' knowledge and attitude toward herbal medicines as well as the extent of their utilization.

2. Methods

A cross-sectional study was conducted to assess physicians' knowledge and attitude toward herbal medicines. The study determined to what extent herbal medicines are utilized by physicians in the Kingdom of Bahrain with respect to the category of utilization (prescription or personal-use) and purpose of utilization (complementary or alternative). It also highlighted the main facilitating factors that might encourage physicians to utilize herbal medicines, and the main hindering factors that might preclude the rational use of herbal medicines from physicians' perspective.

According to the Central Informatics Organization, Bahrain has 27 health centers, 3 public hospitals and 16 private hospitals in 2013. All physicians working in the healthcare system of the Kingdom of Bahrain represented by the health centers and general hospitals (excluding specialized hospitals such as maternity and psychiatric hospitals) were eligible to participate in the study. A convenience sampling method was implemented on which the inclusion of both public and private hospitals was taken into account at the attempt to gain a general understanding about the research topic of interest. More specifically, the Salmaniya Medical Complex was included as the largest public hospital. The complex dates back to the 1950s and has around 900 beds. As for the private hospitals, the American Mission Hospital was included since it is the oldest hospital in the Kingdom of Bahrain (dates back to 1902) and it is also the longest-standing hospital in the Arabian Gulf. Moreover, the International Hospital of Bahrain was considered in the study as one of the major private hospitals. It is worth mentioning that, according to the Health Statistics 2013–2014 published by the Health Information Directorate – Ministry of Health, the selected private hospitals are among the largest private hospitals in the Kingdom of Bahrain in terms of the medical and allied health manpower. Once the hospitals have been specified, a number of physicians were conveniently selected from different departments within each of the three hospitals to participate in the study. We note that the study design detailed above was mainly adopted from Suleiman (2014).

The researchers developed a self-administered questionnaire that was specifically designed to address the study objectives after reviewing the relevant literature (Ameade et al., 2015; Awodele et al., 2012; Clement et al., 2005; Gaul et al., 2011; Hasan et al., 2011; James and Bah, 2014; Xu and

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