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Abstract

Background: The relationship between obesity and various chronic diseases is well documented. In Jordan, the prevalence of overweight (30.0%) and obesity (38.8%) among females is on the rise, encouraging many adults to rely on alternative health care methods to manage their weight.

Aims: We explored the status of complementary and alternative medicine (CAM) use for weight management among adult females in Jordan and the possible relationship between CAM use and body mass index.

Methods: An interviewer-administered, structured questionnaire was used to collect data on the use and safety of CAM for weight management from 858 women in 2015. Responses were coded and analysed using SPSS, version 20.

Results: Around 40% of the respondents reported using some form of CAM for weight management. Commercial dietary supplements (31.2%), herbal remedies (26.7%) and folk remedies (18.0%) were commonly used. Green tea and fibre tablets were the most widely used herbal supplements. Logistic regression analysis indicated that overweight participants are more frequent CAM users compared to obese. Relatives and friends were the main sources of information about CAM. Only 31.9% of women believed that CAM modalities were safe; around half believed they were not safe during pregnancy (52.5%) and lactation (48.0%). Only 49.7% were aware of side-effects and 41.5% of drug interactions.
**Conclusion**: This study revealed that CAM is often used for weight management. Awareness of the safe use of CAM with other medications and during pregnancy and lactation should be addressed.

Keywords: alternative medicine, dietary supplements, weight management, women, Jordan

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**Introduction**

Despite recent advances in care and management, the obesity epidemic has reached an alarming level worldwide in both developing and developed countries. Globally, one billion adults have been identified as being overweight and 300 million as obese (1). Jordan is ranked 25th among countries suffering from obesity, with a prevalence of 49.7% (2). Overweight and obesity among women in Jordan has reached alarming levels (30.0% and 38.8% respectively). Changes in physical activity, lifestyle, socioeconomic status and dietary habits are factors which have been found to be associated with precipitating obesity (3–5).

Obesity causes substantial morbidity, mortality and chronic complications. Recent research has highlighted it as a risk factor for coronary heart disease. In addition, obesity is associated with hypertension, diabetes, dyslipidaemia, cancer, osteoarthritis of weight-bearing joints and deteriorating quality of life (3,6).
Enormous advances have been accomplished in modern medicine, however, complementary and alternative medicine (CAM) still interests people greatly. In many developing countries, traditional medicine is the primary health care system, with about 70–80% of the population relying on it (7). One-third of adults in the United States of America have used some form of CAM according to the 2002 National Health Interview Survey and several population-based studies (4,5,7,8). Herbs (35.5%) and hijama (cupping) (20.4%) are the most widely used forms of CAM in Jordan for cancer patients and the chronically ill (9). Other commonly used CAM therapies include herbal products, deep breathing exercises, meditation, chiropractic, yoga, massage and diet-based therapies (4,10,11). Complementary and alternative medicine encompasses various ancient and new approaches which are not taught widely in medical schools and are not generally used in hospitals for the purpose of preventing or treating disease. By definition, complementary practices are used together with conventional medicine, while alternative methods are used instead of conventional therapy (4,10,11).

“Back to nature” is one of several aspects that have encouraged the expansion of CAM use: it adds to the perception among consumers that these practices are natural and therefore safe and cannot cause harm. The high cost of conventional therapies and the trend towards self-medication also have contributed to the expansion in use. In particular, individuals who are obese are seeking alternative practices for weight management due to the poor compliance with conventional weight-management programmes, indicating that there is a need for safe, effective and acceptable therapeutic options (5,10,12,13).

Our objectives were to determine the status and perception of safety of CAM use as a weight control or weight reduction intervention among a sample of normal, overweight and obese females in Jordan and to examine any possible relationship between body mass index (BMI) and such use.

Methods
Study population and study tool

A face-to-face (participants completed the questionnaire in front of the distributor), anonymous, structured questionnaire was administered to a sample of adult women (any woman who appeared to be 18 years old or older; target sample was set at 1000) after obtaining verbal informed consent to participate in the study (the consent statement was clearly printed at the top of the questionnaire and was recited to each prospective participant. The study was carried out in various community settings to ensure sample representativeness (5 health care centres, 5 shopping malls, 10 supermarkets, the University of Jordan main cafeteria, 3 fitness centres and 10 female beauty centres).
The questionnaire was developed by the researchers and structured to cover commonly used CAM modalities in Jordan. It was approved by an expert panel comprising 2 nutritionists, 3 pharmacists and a statistician. To ensure validity and to facilitate data collection, the questionnaire was constructed in English first, then translated into Arabic and back to English. Back translation was undertaken by a bilingual speaker to ensure translation validity. The sample size of 600 participants was computed using the sample size calculator (surveysystem.com) with confidence interval of 4, confidence level of 95% based on the females population aged 18+ years, at the end of 2014 this was 2,667,640 (data from the Department of Statistics, Jordan DOS 2014).

A preliminary trial was conducted on a sample of around 25 females (4.2% of the target sample) to address any ambiguity in the questions. Data collected during this pilot study was excluded from the final data analysis. All feedback received was incorporated into the final amended Arabic version of the questionnaire, which was then distributed to the research assistants and then to the respondents. The questionnaire comprised 25 questions divided into 4 sections. The first section collected demographic data, the second was about health status (if the participant had any chronic disease), the third section addressed different types of CAM and the last section focused on CAM safety.

As in many research studies, participant recruitment was a major challenged. This is because recruitment includes the identification of participants eligible for the study goals and design, the proper explanation of the study to potential participants, informed verbal consent and ethical standards being maintained. Accordingly, fifth-year pharmacy students were trained to ensure efficient communication with potential participants. The average interview time was 20–30 minutes.

Data were collected between February and June 2015. Respondents were categorized according to the internationally defined BMI categories: normal (18.5 to < 25 kg/m²); overweight (25.0 to