



THE ROLE OF A PHARMACIST AND A NUTRITIONIST REGARDING DIETARY SUPPLEMENTS

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Abstract:

Dietary supplement (DS) products are sold in Through electronic stores on the Internet very widely. However, there is no specific approval or definition for the legal and scientific usage of such products. The study aims to evaluate pharmacist's knowledge, attitude, and practice regarding dietary supplements It is transported by a logistical transport medium that does not care about the storage temperature of the supplements. Material and methods: A cross-sectional was designed to collect responses from community pharmacists in Saudi Arabia from February to April 2023. The data was collected via an anonymous, self-administered; postal questionnaire consisting of demographic information, knowledge (subjective and objective questions), attitude, and practice evaluation part. Descriptive and inferential statistics were performed using SPSS. Results: This study showed that although knowledge has a significant effect on attitude and practice, attention should be paid to other underlying factors such as experience, pharmacy ownership situation, and academic degree which might have a positive impact on pharmacists practice. According to this study, although many underlying factors such as experience, and pharmacy ownership have an impact on pharmacy practice regarding dietary supplements, the most attention should be paid to knowledge as the main factor and more attention should be paid to training on dietary supplements could be recommended.

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Introduction

It is well known that pharmacists resemble the most important interface in the field of medicine. They are the executive partition of the treatment. The knowledge they gain and apply to the patients, whether as per the prescription assigned by doctors or based upon the request of the patients themselves, must by any means be superior to the level of application (1, 2). They are supposed to know precisely the goodness and badness of each application method for any kind of treatment. It is their job to convey certain results based on the scientifically approved method of the high boards and committees of medicine (1). Moreover, following the improvement in health expectations of communities, more significant attention is attracted to complementary medicine (1). Dietary supplements (DS) are the most common subset of complementary and alternative medicines (CAM), a group of diverse medical and healthcare products that are not usually considered a part of conventional medicines (2). Following the increasing community awareness regarding the concern of prevention and treatment of diseases, the average consumption of CAMs has been dramatically increased, so that in 2007, about 40% of adults in USA used some form of CAM (3, 4). The popularity and use of dietary supplements (DS) increased in many developed countries (5). According to a survey conducted In Australia, 52% of the Australian population had used at least one non-physician-prescribed dietary supplement in 2003 that increased to 68.9% in 2007 (6, 7). This was 71% of the Canadian population in 2005(8). Dietary Supplement market is also increasingly growing in developing countries. In Saudi Arabia, the country's market growth is expanding with the rapid population growth, and the food supplements market now accounts for about 4% of total pharmaceutical market sales (roughly \$80 million) (9). Saudi Arabia is expected to see SR 875 million in sales of dietary supplements by 2023. This may be partly attributed to the fact that, in recent years, Saudis have increased their focus on the importance of maintaining health and protection from diseases (10). As consumers spend significant time and money on these products, the safe and effective use of these products could guarantee an appropriate health promotion. Pharmacists can be considered the most important resources in the health system and may have a great impact on public health (11). Community pharmacists play an important role in patient training. However, studies show deficiencies in pharmacists-patients' communication regarding health products and their need for training to enable them to provide consulting services more effectively (12-14). Most consumers of DS presume the role of pharmacist

include recommendation of effective DS products. However, the professional responsibilities of pharmacists with respect to these products have not been well distinguished and pharmacists do not play their professional role properly (15). Moreover, by increase the use of dietary supplements, the number of customers who ask pharmacists about these products has increased (16). In addition, due to nature of the therapeutic conditions, success of complementary medicines highly depends on finding the right therapy which may be different for everyone (17). This motivated us to use knowledge, attitude and practice (KAP) study which assess knowledge, attitude and practice in three different sections and evaluate their correlation in KSA pharmacist population. Prior studies (18-20) show that consumers routinely ask their pharmacist for information about these products and seek for advice about DS as part of pharmacy practice. Recent survey of pharmacy customers in Australia shows that 87% of consumers expect the pharmacist to be able to provide them enough information about CMS efficacy, and 92% expect to receive safety information regarding these products.

Discussion Following:

Improvement in the quality of life and people health expectation, the market of dietary supplements is dramatically grown. As it leads to significant expenditure in health system, its public health impact should be considered (23-29). Community pharmacies as the important part of health system providing health services for public health are in the best position to consult customers with evidence-based information about dietary supplements. However, according to the previous studies, customers usually are not satisfied by the information received from pharmacists, and also pharmacists are not confident enough to provide such information to their customers (30-34). The previous studies explored that the lack of some factors such as information and understanding of the advantages of DS for general health maintenance, prophylaxis of disease and remedy of minor conditions, knowledge of specific DS products and profile of the DS' company, may raise customers unsatisfactory (17, 29, 31-37). The most significant pharmacists barrier to communicate on DS is lack of scientific evidence availability, and also lack of training, lack of accurate and accessible information, lack of reimbursement, legal concerns, time constraints; whereas suggestion of DS products by pharmacies' staff can be added to aforementioned barrier (9, 23, 38, 39). Proper use of DS products not only can positively impact public health, but also may enhance the esteem of

the pharmacy. Therefore, it is considerable to fulfill the consumer's expectations through the pharmacist-consumer relationship, and more attention should be paid to professional responsibilities of pharmacists about dietary supplements especially in developing countries (8, 23, and 40). Moreover, effective pharmacist communication with patients resulted in economic and humanistic outcomes (41). To figure out the main factors which affect the final practice of pharmacists on DS, we choose KAP study to discover gaps to propose proper intervention. Comply with expectation; there is a positive and significant relationship between three components of KAP variable. It implies higher knowledge participants have, the more likely they have better attitude and practice. But the correlation coefficients do not show strong relationship between KAP components, so that attitude and practice not only are mainly influenced by knowledge but also are influenced by context, environment and other underlying factors such as pharmacy ownership. In addition, the impact of knowledge on practice is more than on attitude. Related to correlation analysis, results show that attitude has a positive and significant effect on practice, so it is important to find out the attitude influencers to improve practice of pharmacists. The present study show that more than half of respondents have a weak knowledge without any significant differences in scores of different groups of gender, age, experience, education and university. It shows that more attention should be paid to the educational material in university and continuous training courses. Considering demographic profile of participants with three components of KAP variables, some interesting results were provided. Although, men participants are more likely knowledgeable than women participants about dietary supplements, the results does not show any significant differences between genders in attitude and practice. This implies that attitude and practice might be influenced by some other underlying factors like age, experience, education and ownership situation. Ownership variable has a significant and positive effect on knowledge, attitude and practice of pharmacists, so that pharmacy owners not only show higher attempt on practice, but also show higher level of knowledge and attitude. Given to age and experience groups, although knowledge is growing by age and experience, practice score is growing up to age 45 years old and 20 years' experience and then decline. The positive relationship between education level and all component of KAP show that education not only has an indirect effect on practice through knowledge improvement, but also has direct effect on attitude and practice of

pharmacists. So, the results strongly recommend higher education for better practice. This study strongly recommends higher education and more structured training schedule for pharmacists. In addition, attention should be paid to experience as an important factor. Moreover, the results recommend ownership factor as an important incentive can increase practice of pharmacists regarding dietary supplement. As usually this kind of products have high benefit margin, the owner pharmacists are more interested to learn more about them to sell more. Actually the best way for practice evaluation is observation; there are some studies which use self-evaluation for practice (42, 43). Finally, as the attitude and practice are highly affected by many other factors such as pharmacists remuneration models (43), further studies should explore other underlying factors on attitude and practice of pharmacists.

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