Knowledge, Attitude, and Practice Regarding Dietary Supplements: Community Pharmacies -Based Cross-Sectional Study in Yefren, Libya

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Abstract:

Dietary supplements (DS) are the most prevalent subcategory of complementary and alternative medicine (CAM), which is a classification of a variety of healthcare and medicinal items that aren't typically included in standard medications.

The aim of the study is to assess the knowledge, attitude, and practice of Yefren community pharmacies (Libya) about dietary supplements. Methods: A cross-sectional study was designed to collect responses from 100 participants in community pharmacies in Yefren in March 2023 through a knowledge, attitude, and practice (KAP) survey. Result: This study used a validated questionnaire consisting of four parts, knowledge, attitude, and practice regarding dietary supplements. Conclusion: all the participants in the community pharmacies in Yefren had good knowledge, attitude, and practices for dietary supplements.

Keywords: Dietary supplement, KAP study, and community pharmacies.

المعرفة والمواقف والممارسة فيما يتعلق بالمكملات الغذائية في صيدليات المجتمع يفرن (ليبيا)

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الخلاصة

المكملات الغذائية (DS) هي الفئة الفرعية الأكثر شيوعًا للطب التكميلي والبديل (CAM)، وهو تصنيف لمجموعة متنوعة من الرعاية الصحية والمواد الطبية التي لا يتم تضمينها عادةً في الأدوية القياسية. الهدف من هذه الدراسة هو تقييم معرفة وسلوك وممارسة صيدليات المجتمع يفرن (ليبيا) حول المكملات الغذائية. الطرق: تم تصميم دراسة مقطعية لجمع ردود من 100 صيدلي مجتمعي في يفرن في مارس 2023 من خلال مسح المعرفة والمواقف والممارسة (KAP). النتيجة: استخدمت هذه الدراسة استبيانًا تم التحقق من صحته يتكون من أربعة أجزاء، المعرفة والموقف والممارسة فيما يتعلق بالمكملات الغذائية. الخلاصة: جميع المشاركين في صيدليات المجتمع في يفرن لديهم معرفة وسلوك وممارسات جيدة فيما يتعلق بالمكملات الغذائية.

الكلمات المفتاحية: المكملات الغذائية، دراسةKAP، صيدليات المجتمع

Introduction:

The Food and Drug Administration (FDA) defines a dietary supplement as a product that is meant to augment the diet by raising the overall daily consumption; alternatively, it might be an extract, metabolite, concentrate, constituent, or mixture of at least one of the following dietary ingredients: vitamins, minerals, botanicals, herbs, and amino acids (1). The most prevalent subset of complementary and alternative medicines (CAM), a collection of various medical and health care items that are typically not regarded as a component of conventional medicine, is dietary supplements (DS) (2). In many industrialised nations, dietary supplements (DS) have become more and more popular. A survey carried out in Australia found that in 2003, 52% of people there had used at least one dietary supplement that was not recommended by a doctor; by 2007, that number had risen to 68.9% (2).

Products containing dietary supplements are readily available at pharmacies. Nonetheless, there is no precise definition or clearance for the acceptable and legitimate use of these items in science. Furthermore, every time a patient requests such medicines from the chemist who is selling them, the decision-making process for this process is taken for granted because there is no specific knowledge base for the treatment with DS and CAM products (3).

Pharmacists can assist patients in selecting dietary supplements in an informed and secure manner. Furthermore, because they are easily accessible to patients, pharmacists can assist patients with purchasing nutritional supplements or with finding out how they interact with prescription drugs (4). In addition to bodybuilding instructors, pharmacists can play a big part in prescribing and deciding what sort and how much supplements are used. At the same time, the general public and athletes can benefit from pharmacists' expertise as trustworthy drug experts. Regarding this, the majority of dietary supplement users stress the importance of chemists in advising supplement intake (5).

The aim of the study is:

To assess the knowledge, attitude, and practice of Yefren community pharmacies (Libya) about dietary supplements.

Materials and methodology:

A cross-sectional study was designed to collect responses from community pharmacies in Yefren in March 2024. knowledge, attitude, and practice (KAP) survey is applied for this study as the most popular and widely used method to assess knowledge, attitude, and practice. The target study was 100 samples collected from Yefren city in Libya. . Yefren is considered one of the of the cities in Jabal in terms of size and population.

Data collection and analysis:

The questionnaire and volunteered to participate in a face-to-face interview, The questionnaire contained a list of questions used to gather data from respondents about knowledge, attitude, and practice regarding dietary supplements in Yefren, Libya. A total of 100 participants were recorded and completed the questionnaires. There were questionnaires in Arabic and English for all participants to get a faster response.

This study used a validated questionnaire consisting of four parts. The first part was demographic characteristics data, which included, gender, age, education, experience in pharmacy practice, and position in the pharmacy.

The second part included knowledge of participants, which included six equations: I knowledge of dietary supplements is adequate, I possess adequate knowledge on the efficacy and efficiency of a dietary supplement, I am well-informed about the negative consequences of a dietary supplement, I am adequately informed regarding the dietary supplements dosage and administration, I am well-informed about the benefits of some dietary supplements for certain populations, including children, the elderly, nursing mothers, and pregnant women, and I know enough about how drugs and supplements interact.

The third part was knowledge items of participants, which included dietary supplements are beneficial to general health, one of a pharmacist's responsibilities is to provide advice in this area, and they should be informed about supplements, the supplement should be taken as directed by the doctor or nutritionist, under the supervision of a pharmacist, the supplement need to be sold in pharmacies, and cost has a big role in what customers are recommended as supplements.

The fourth part which included I always give myself enough time to counsel them on supplements, I've read through a few scholarly sources on supplements, I always advise customers to take supplements since I am confident in their efficacy, I always let them know about the potential risks associated with taking dietary supplements, and before recommending these products, I always get the consumer's medical history.

Result:

A total of 100 participants were shared with our project and answered all questions of the questioner. The participants were 57% female, and 43% were male. The majority of participants (46%) were between the ages of 25 and 35, with 43% under the age of 25, and 11% older than 35. The majority of participants were different educations (44%), followed by technicians (24%), pharmacists (20%), and pharmacists (8%), with only 4% holding a master's or PhD 58% of the participants had <5 years of experience in pharmacy practice, followed by 24% with 5–10 years, and finally 18% with >10 years. 73% of participants were temporary pharmacists, 14% were technical responsible, and 13% were owners of positions in the pharmacy, table 1.

Table 1: Demographic characteristics of participants

Characteristics	N(%)
Gender	
Female	57
Male	43
Age (years)	
< 25	43
25-35	46
>35	11
Education	

Pharmacy student Pharmacist Technicians Master or PhD Others	20 8 24 4 44
Experience in pharmacy practice (years) <5 5-10 >10	 58 24 18
Position in the pharmacy Temporary pharmacist Technical responsible Owner	 73 14 13

Table 2 showed the knowledge items of participants, which showed 96% positive answers for in general, the knowledge of dietary supplements is adequate, 57% showed possess adequate knowledge on the efficacy and efficiency of a dietary supplement, 72% were well-informed about the negative consequences of a dietary supplement, 95% were adequately informed regarding the dietary supplements dosage and administration, 91% were well-informed about the benefits of some dietary supplements for certain populations, including children, the elderly, nursing mothers, and pregnant women, and 29% knew enough about how drugs and supplements interact.

Table 2: Knowledge items of participants

Questions	Positive answer (N%)
1. In general, my knowledge of dietary supplements is adequate.	96
2. I possess adequate knowledge on the efficacy and efficiency of a dietary supplement.	57
3. I am well-informed about the negative consequences of a dietary supplement.	72
4. I am adequately informed regarding the dietary supplement's dosage and administration.	95
5. I am well-informed about the benefits of some dietary supplements for certain populations, including children, the elderly, nursing mothers, and pregnant women.	91
6. I know enough about how drugs and supplements interact.	29

Attitudes items of participants were shown in table 3, with positive answers, 94% dietary supplements are beneficial to general health, 99% one of a pharmacist's responsibilities is

to provide advice in this area, and they should be informed about supplements, 90% the supplement should be taken as directed by the doctor or nutritionist, 95% under the supervision of a pharmacists, the supplement need to be sold in pharmacies, and 92% cost has a big role in what customers are recommended as supplements.

Table 3: Attitudes items of participants

Questions	Positive answer (N%)
1. Dietary supplements are beneficial to general health.	94
2. One of a pharmacists's responsibilities is to provide advice in this area, and they should be informed about supplements.	99
3. The supplement should be taken as directed by the doctor or nutritionist.	90
4. Under the supervision of a pharmacist, the supplement needs to be sold in pharmacies.	95
5. Cost has a big role in what customers are recommended as supplements.	92

Table 4 was showed the practice items of participants with percentages of positive answers for questions. 92% always give myself enough time to counsel them on supplements, 85% have read through a few scholarly sources on supplements, 90% always advise customers to take supplements since I am confident in their efficacy, 95% always let them know about the potential risks associated with taking dietary supplements, and 92% always get the consumer's medical history before recommending these products.

Table 4: Practice items of participants

Questions	Positive answer (N%)
1. I always give myself enough time to counsel them on supplements.	92
2. I've read through a few scholarly sources on supplements.	85
3. I always advise customers to take supplements since I am confident in their efficacy.	90
4. I always let them know about the potential risks associated with taking dietary supplements.	95
5. Before recommending these products, I always get the consumer's medical history	92

Discussion:

In this study, the majority of participants were female rather than male in pharmacies in Yefren (Libya), with most aged between 25 and 35 years old and < 25 years old. Another study found the male respondents made up more than half of the sample, and most of them were in the 25–35 age range, (6). We found that for this study, most of the participants were others, such as doctors, dentists, or pharmacists with experience, followed by

technicians and pharmacy students, which explained that in the future, we may find more pharmacists than others. In Libya, Yefren city had most participants who were non-pharmacists because this city was mountainous, a village, and so far from Tripoli (Capital city).

They also had most of them with experience in pharmacy practice <5 years, then between 5 and 10 years, also found most the participants were temporary pharmacist. Which were related to knowledge about dietary supplements.

For the knowledge items of participants in this study found have good positive knowledge about dietary supplements, informed about the negative consequences, the dietary supplement's dosage and administration, informed about the benefits of some dietary supplements for certain populations, including children, the elderly, nursing mothers, and pregnant women, but not enough knowledge about how drugs and supplements interact, also some knowledge on the efficacy and efficiency of a dietary supplement.

A prior study's systematic review conducted in the US and Canada indicated that there was a dearth of high-quality information on drug safety (DS), and that this lack of evidence regarding the effectiveness of some DS may also contribute to community pharmacists' inadequate DS knowledge (6). Additionally, the current study looked at how community pharmacists regarded their understanding of the risks, uses, interactions between drugs and supplements, and contraindications for DS in response, 48.2% of individuals said they knew enough about the harmful impacts of DS (6). Furthermore, other studies contained sufficient data regarding vitamin supplements. The respondents thought they knew the most about administering and dosing vitamin supplements (7). Nonetheless, about 50% of the participants expressed a lack of understanding regarding the efficacy, safety, and side effects of vitamin supplements. A comparable proportion stated that they were unaware of all possible vitamin–drug interactions (7).

Knowledge attitude items for this study had good positive answers, attitudes, and practices, which, similar to other studies, found that they had a positive attitude and good practice towards dietary supplements (8,11). In the study, the knowledge was good related to age, experiences, and practice in pharmacy, which is similar to another study pharmacists' expertise was considerably correlated with years of experience, age, and educational attainment, pharmacists with greater knowledge were individuals between the ages of 25 and 35, with fewer than five years of experience, and a pharmacy diploma (8). Pharmacists with fewer than five years of experience were more likely to be more knowledgeable, which can be explained by their scientific background, which broadens and improves their knowledge, as well as their availability of time, which allowed them to read more than participants with more experience. Additionally, younger, less experienced pharmacists were more likely to read the most recent research than older pharmacists, who might prefer to hold onto outdated information (8).

Additionally, there were humanistic and financial benefits from pharmacists who effectively communicated with their patients. In order to determine the primary factors influencing chemists' ultimate practice on DS, This suggests that additional underlying characteristics such as age, experience, education, and ownership status may have an impact on attitude and practice. The ownership variable significantly and favourably affects chemists' knowledge, attitudes,

and practices; hence, pharmacy owners not only demonstrate a greater attempt at practicing, but also a higher degree of knowledge and attitude. Regarding age and experience groups, while knowledge increases with age and experience, practice score increases until age 45 and 20 years of experience, at which point it declines (9).

In our study, 44% of participants were doctors, dentists, and other health professionals who had good knowledge about dietary supplements. Moreover, the various sources of information regarding supplements, doctors and pharmacists, found that doctors were the most common source of dietary supplement information. Despite the higher knowledge concerning dietary supplements of health sciences students compared to others (10).

Finally, since a variety of other factors, such as models of pharmacists' compensation, have a significant impact on attitude and practice, more research on the underlying factors influencing pharmacists' attitudes and practices should be conducted (9).

Community pharmacists are in a unique position to provide clients with evidence-based advice regarding dietary supplements since they are a vital component of the healthcare system that offers services for public health (12).

Conclusion:

The conclusion was that all the participants in the community pharmacies in Yefren had good knowledge, attitude, and practices for dietary supplements.

Limitation of the study:

The KAP on the particular DS, like as calcium or vitamin D, was not evaluated in this study. Questions about general DS knowledge were asked, rather than particular product side effects, indications, interactions, or contraindications.

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