

Original article

## Community Pharmacies Behind the Scenes

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### ABSTRACT

**Background and aims.** Pharmacists are patient centered health care providers who are educated to advice and fulfill many of patient's health care and drug needs. However, lately this profession has been violated by many non-pharmacist intruders who practiced as pharmacists. This study is the first and the only one carried out in Libya up to this time, to find out who actually are running the pharmacies and their level of knowledge on some basic pharmacy background information, and technical terms that are unique to pharmacy education, elements of dispensing and the concept of pharmaceutical care with its communication and counseling aspects. **Methods.** Field visits to a total of 200 pharmacies across greater Tripoli city were carried out, along with interviews of the dispensing personnel, using questionnaire form to evaluate their level of knowledge on some of the basic information and technical terms that are unique to pharmacy education, in addition to elements of dispensing and the concept of pharmaceutical care with its communication and counseling aspects. **Results.** The results showed that of the personnel running the pharmacies, pharmacists represented only about 30%, assistant pharmacists about 10%, medical professions (physicians, dentists, veterinarians, medical technologists and nurses) about 50%, in addition non-health related profession 10% (teachers, engineers, accountant, agriculturist engineers...etc). Moreover, the intruders have very little information, if not at all, on the elements of good dispensing practice. **Conclusion.** It is highly recommended that the relevant authority bodies (pharmacists' syndicate, association of pharmacists and ministry of health) not only set regulations to protect this profession but also to enforce them for urgent implementation.

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### INTRODUCTION

The community pharmacy is an important place for providing health care, particularly pharmacotherapy assistance to the population, since the pharmacy professionals are a more affordable healthcare professionals for the general population which often resorted to their services. It is a place for the provision of health care, developing activities as drug preparation and patient assistance, always with the aim of serving the population with the highest quality [1-2]. It is generally accepted by the public that, pharmacists are often the most easily accessed health care professionals in the community, therefore in order to build community awareness of pharmacist's knowledge and expertise, and to enhance the role of pharmacists, it is time to demonstrate their skills and knowledge by taking advantage of their education background and training skills [3].

The professional pharmacy staff commonly includes pharmacists, pharmacy technicians, pharmacy assistants and pharmacists' interns. The legal status of such categories might differ from a country to another i.e., In some countries there is no legal status of the pharmacy technicians and in other countries a pharmacy assistant means pharmacy technician and accordingly the definitions may vary. At community level, pharmacists and pharmacy technicians are professionals whose responsibilities consist of, the preparation of medicines, as well as, participation in all stages of its circuit, i.e., the acquisition, the receipt, storage and distribution of medicines and other pharmaceutical products, as well as, advice users and other health care providers on the proper use of such products.

In addition, they can still participate in preventive medicine and health promotion, research and teaching. However, unlike pharmacy technicians, pharmacist's presence is required in pharmacies and can acquire the position of technical director [4]. On the other hand, the technical pharmacy assistants cannot legally carry the functions of dispensing medications to the public, these being functions reserved to pharmacists and pharmacy technicians under supervision of pharmacist. In short, although they are distinct categories, all these contribute to professional advice and information about drugs and pharmaceuticals, to enhance the quality of life of patients and to ensure a rational, safe and effective medication use (pharmaceutical care) [2].

However, a quick look at 19 developing countries by Fathelrahman et al., (2016) [5] showed that the community pharmacy practice presents some concerns; for example, some countries allow non-pharmacists to operate pharmacies and to handle medicines. In some other countries, the practice of community pharmacy is not well regulated, with little to no minimum standard of practice [6]. Many pharmacy personnel who dispense medicines are unqualified, with no college/university diploma or professional degree in pharmacy [7].

In some of these countries, pharmacies were run by non-pharmacists; dispensing practices were unsatisfactory; drug sellers' level of knowledge regarding diseases and medicines was poor; medicines were used irrationally; pharmacies were not meeting the government's licensing requirements; medication storage conditions were improper; and customers could hardly meet with pharmacists [8].

In Libya, according to the health law number (106) issued in the year 1973 [9], and its executive ordinance number (654) issued in the year 1975 [10], professional personnel in the community pharmacies are grouped into three categories; pharmacists (registered and interns), pharmacist assistants and practical pharmacists (graduating pharmacy students). The aim of this study was to find out who actually are running the pharmacies and their level of knowledge on some basic pharmacy background information, and technical terms that are unique to pharmacy education, elements of dispensing and the concept of pharmaceutical care with its communication and counseling aspects. The aim of this study was to find out who actually are running the pharmacies and their level of knowledge on some basic pharmacy background information, and technical terms that are unique to pharmacy education, elements of dispensing and the concept of pharmaceutical care with its communication and counseling aspects.

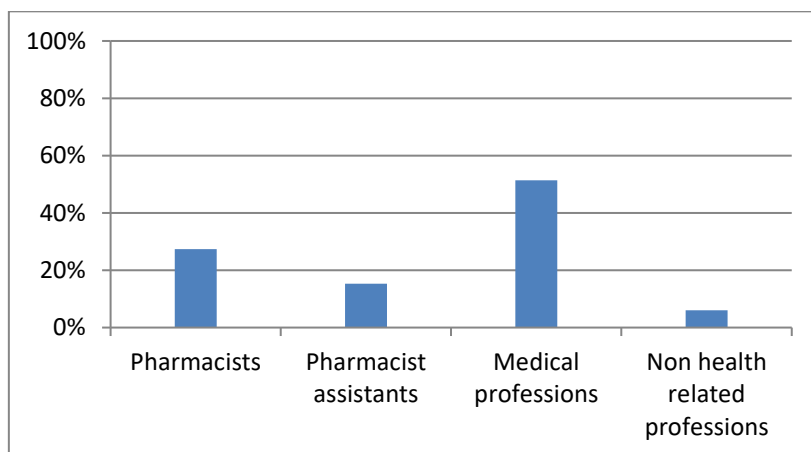
## METHODS

In order to investigate the community pharmacies personnel staff situation, a retrospective study was carried out between months of September and December 2015 involving 150 pharmacies updated with another 50 pharmacies in September 2019 (a total of 200) across greater Tripoli city, through a field visit along with interviews of the pharmacy staff, using questionnaire form.

The questions were designed to collect data on; the educational qualification of the personnel in the pharmacy, wither the license holder, is the pharmacy manager, registration with the relevant syndicate of the profession, acceptance of the legal consequence and responsibility of dispensing, contentment with the status of the pharmacy profession, satisfaction with the income, background information on: (pharmaceutical care concept, legal elements of the medical prescription, over the counter drugs (OTC), brand versus generic drugs, steroidal anti-inflammatory drugs (SAID) versus non-steroidal anti-inflammatory drugs (NSAID), suspensions versus emulsions, capsules versus tablets, ointments versus creams and suppositories versus enemas, as well as background information on the essential elements of dispensing and counseling for various tablet forms:(modified released tablets, enteric coated tablets, scored/non scored tablets).

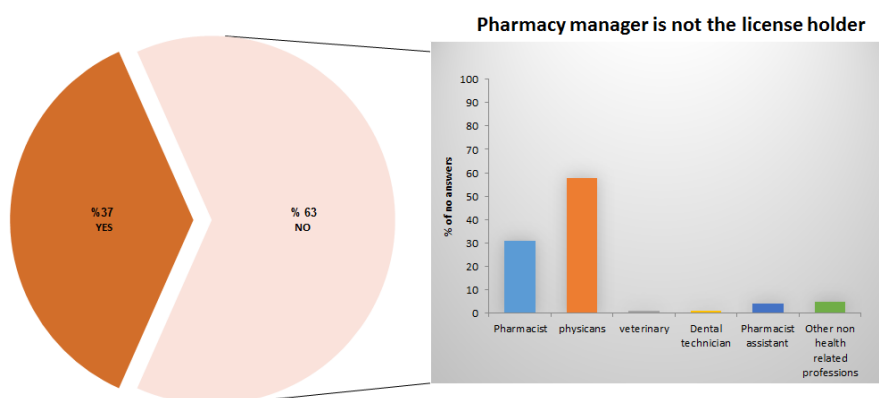
## RESULTS AND DISCUSSION

It is clear from Figure (1) that only 27% of the pharmacies were run by pharmacists, 51% medical professions (physicians, dentists, veterinarians, medical technologists), 15% pharmacist assistants and 6% non-health related profession (teachers, engineers...etc.).



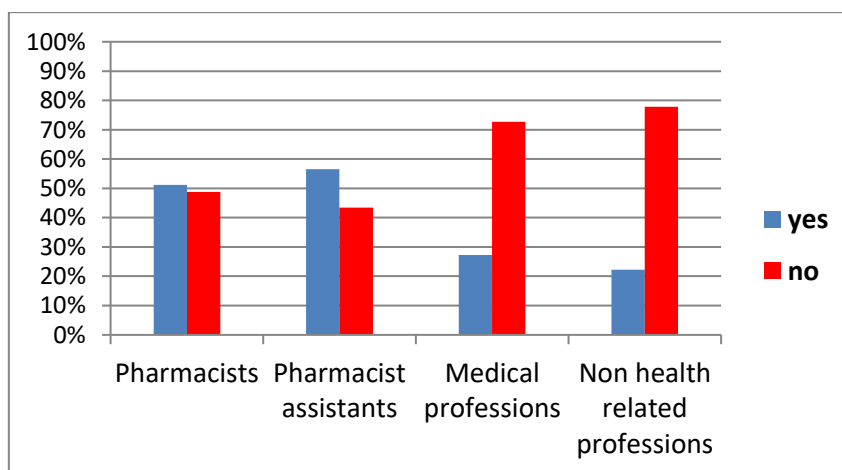
**Figure 1. Professions of personnel in pharmacies**

When it comes to who were managing the pharmacies, it was found that from figure (2), only 37% were pharmacists' license holder, 63% of the pharmacy managers were not the pharmacists' license holder, fractionating the 63% into more details; 57% of them were physicians and 13% were either pharmacists' assistants or other non-health related professions.



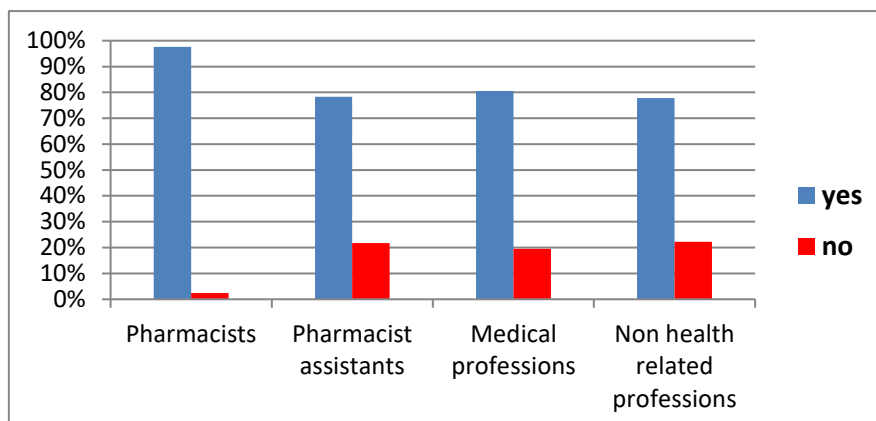
**Figure 2. Is the pharmacy manager the license holder?**

Concerning the registration with the relevant profession syndicates, figure (3) demonstrates that only 51% of the pharmacists registered, 57% of the pharmacist assistants, 27% of the physician and 22% of the non-health related professions registered. The pharmacists were reluctant about joining the syndicate due to the weakness and discouragement from this body in defending the profession which opened the gate for such intruders.



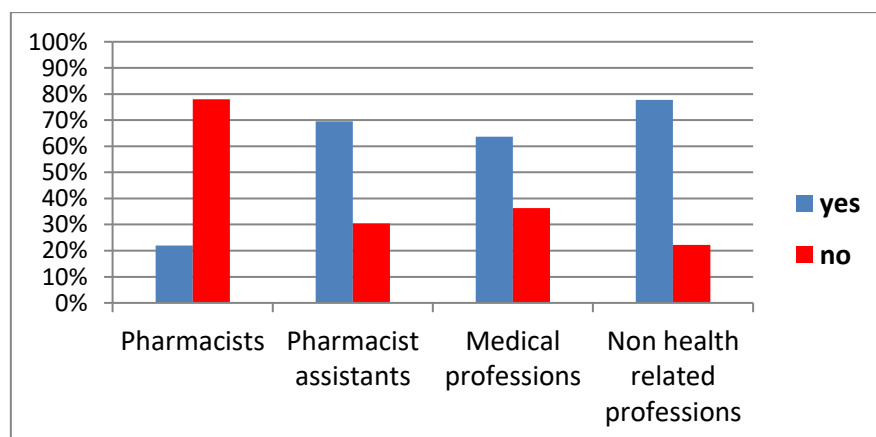
**Figure 3. Registration with the relevant syndicates of the profession**

For accepting the legal responsibility and consequences of dispensing and counseling to patients, figure (4) showed that, 98%, 78%, 81% and 78% of the pharmacists, pharmacist assistants, medical professions and non-health related professions respectively stated that they accept the legal responsibility for dispensing and counseling, although their background do not include any elements of educational and training for dispensing and counseling.



**Figure 4. Accepting the legal consequences and responsibility of dispensing**

The contentment with profession of pharmacy was very low represented by only 22% of the pharmacist. However, it was spuriously high; 70% for pharmacist assistants, 64% for the medical professions, and 78% for the non-health related professions as shown in figure (5). This finding is in norm with the fact that majority of the pharmacists complain from the increasing number of non-pharmacists violating the profession causing extreme decline of the value and importance of the profession.



**Figure 5. Contentment with the status of the pharmacy profession**

Parallel to contentment, comes the satisfaction with the income as illustrated in figure (6), the pharmacists and pharmacist assistants' satisfaction were very low 17% and 22% respectively, in contrast to medical professions and non-health related professions where the satisfaction were high 65% and 67% respectively, again these results were not surprising, since the unemployed medical personal and non-health related profession resort to pharmacy employment as a guaranteed source of income. The pharmacist and pharmacist assistants both share the burden of the declined income because of the cheap labor presented by these intruders to the pharmacy profession which resulted in devastating lowering in per hour or per week salary for pharmacists and pharmacist assistants.

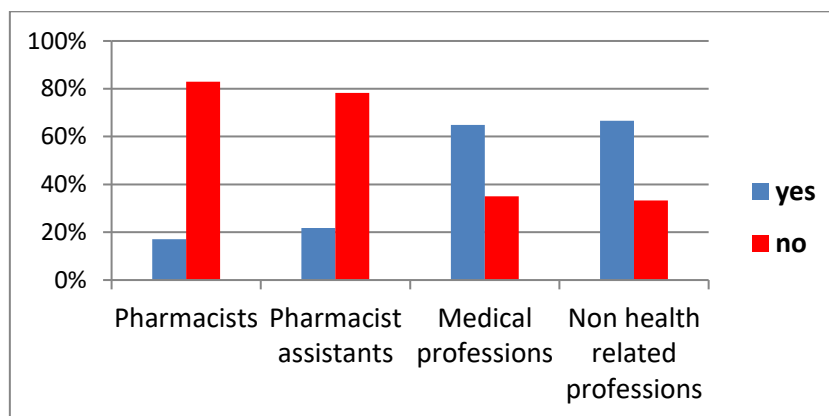


Figure 6. Satisfaction with the income

The pharmacists were more knowledgeable on the pharmaceutical care concept, OTC, brand versus generic drugs and legal element of prescription, figure (7). This was expected, thanks to the course curriculum of faculty of pharmacy education which covers these subjects. Second to pharmacists, assistant's pharmacists have an acceptable amount of information, because they benefited from their contact with the pharmacists, as they explained. However, medical professions and non-health related professions both have the least amount of knowledge keeping in mind, such information are among the essential elements and basics for good and safe pharmaceutical care services conducted in community pharmacies as being thought in the faculty.

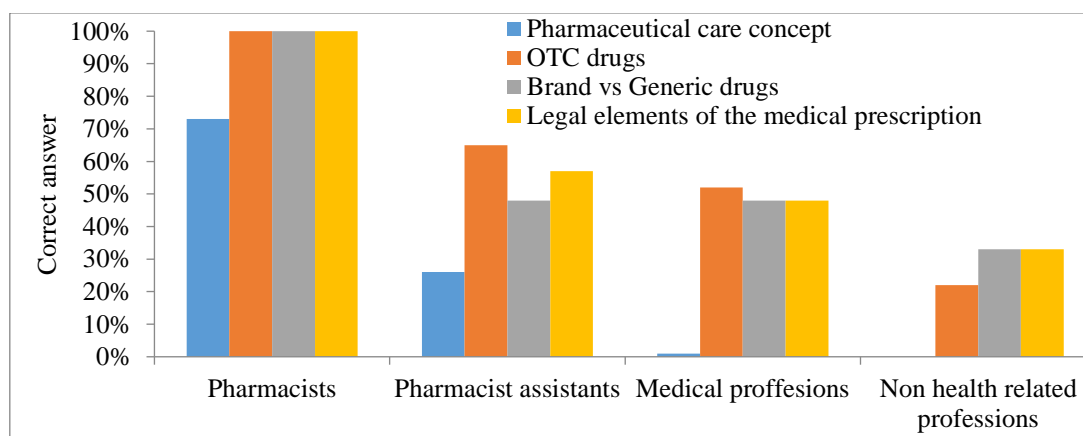


Figure 7. Background information on concept of dispensing

Again, the pharmacists were more knowledgeable on the differences between various types of NSAID that are categorized as OTC preparations versus SAID which are categorized as prescription only medications, figure (8).[1]

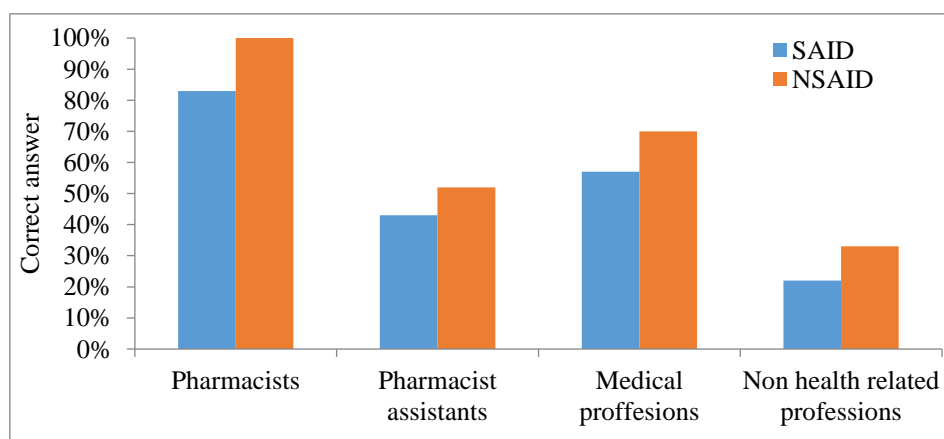


Figure 8. Background information on steroidal and non-steroidal drugs

It is worth to mention that, medical professions unexpectedly were second to pharmacists and not far from pharmacist assistants when it comes to knowledge on some of the most common miss dispensed drug dosage forms and the circumstances surround their dispensing and administration. The non-health related professions as expected have the least knowledge, with the negative outcome expected when they dispense them figure (9).

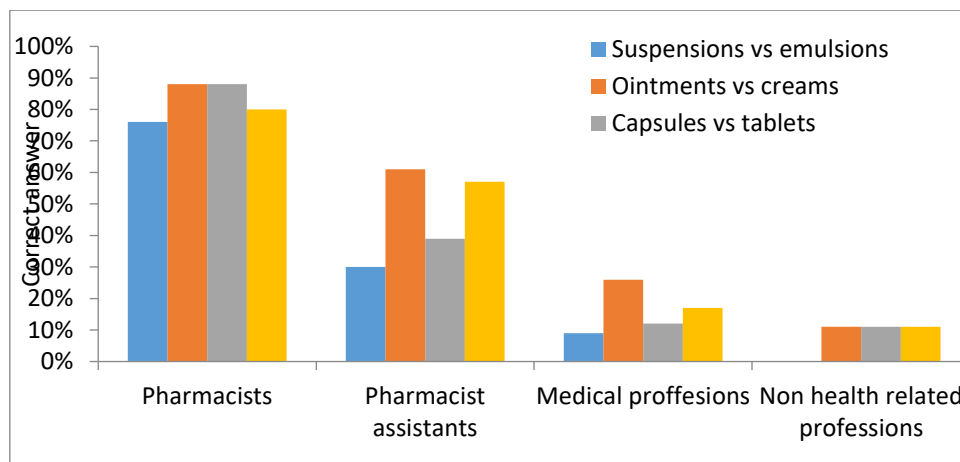


Figure 9. Background information on some dosage forms

The level of knowledge on various tablets forms available for certain drugs, with their special dispensing and counseling aspects are illustrated in figure (10). The pharmacists were aware on those forms; when and how to dispense them plus the relevant instructions on how to use and administer them properly.

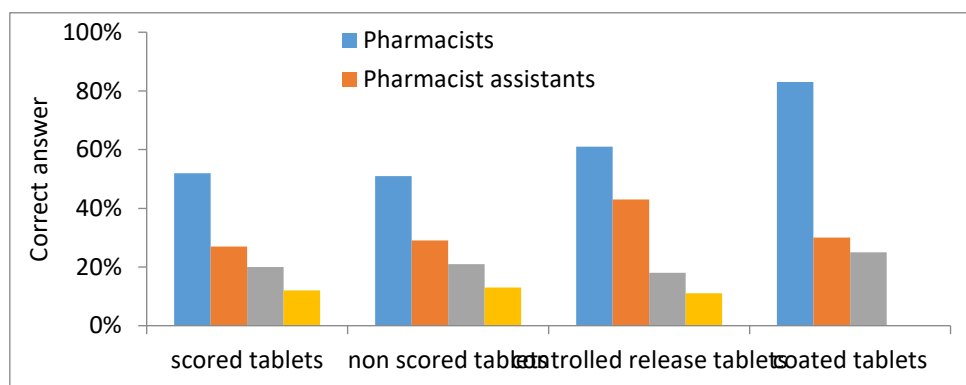


Figure 10. Knowledge on different types of tablet forms

**CONCLUSION**

Although the problem of pharmacy profession intruders is well known to the public, this research paper was the first one carried out in Libya, which showed that most of the personnel in the pharmacies were not pharmacists as required by the law. Those intruders to pharmacy professions do not have the essential elements of good pharmaceutical care practices in pharmacy with its component of; interpreting and evaluating the prescription, dispensing the proper dosage forms and provision of information and instructions to patients for proper medication administration which are essential to ensure safe and effective use medical products by the patients.

**Recommendation**

It is highly recommended that cooperation between the pharmacist's syndicate and pharmacists' association, on job training should be conducted to establish competency as a requirement for recognition as a registered pharmacist, prior to commence practicing the profession in the community. Moreover, the pharmacists syndicate should have a protective role for the profession, so long the laws and moral obligations permit them to do so. Both the association of pharmacists and the pharmacist syndicate have ethical and professional role to protect this profession from overwhelming intruders. If these two bodies continue with this negative attitude and ignorance, their necessity for pharmacy profession will be questionable. On the other hand, the faculty as an elite academic body with its highly intellectual staff and the graduating personnel of this profession should put more emphasis on educating the public on the true merits of the correct pharmacy profession practice through graduation projects, extra curriculum activities,



professional conferences and research studies, workshops and podiums. A focus is needed by every pharmacist in this country to defend this profession by being directly involved in patient care to build professional and patient confidence and satisfaction in the ever-changing sphere of pharmacy practice.

### Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

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## صيدليات المجتمع خلف الكواليس

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### المستخلص

**الخلفية والأهداف.** الصيداللة هم مقدمو رعاية صحية يركزون على المريض فقد تم تعليمهم كيفية تقديم المشورة وتلبية العديد من احتياجات الرعاية الصحية والدوائية للمريض. إلا أن هذه المهنة تعرضت في الآونة الأخيرة للانتهاك من قبل العديد من الدخلاء من غير الصيداللة الذين يمارسون مهنة الصيدلة. هذه الدراسة هي الأولى والوحيدة التي تم إجراؤها في ليبيا حتى هذا الوقت، والهدف منها هو معرفة من يدير الصيدليات فعلياً ومستوى معرفتهم لبعض المعلومات الأساسية عن مهنة الصيدلة والمصطلحات الفنية الفريدة من نوعها والمختصة بالتعليم الصيدلي وعناصر الصرف الدوائي ومفهوم الرعاية الصيدلانية وجوانبها التواصلية والإرشادية. **طرق الدراسة.** تم إجراء زيارات ميدانية لما مجموعه 200 صيدلية في جميع أنحاء مدينة طرابلس الكبرى بالإضافة إلى إجراء مقابلات مع المتواجدين والقائمين على صرف الأدوية، باستخدام إستبانة لتقييم مستوى معرفتهم والإلمام ببعض المعلومات الأساسية والمصطلحات الفنية التي ينفرد بها التعليم الصيدلي بالإضافة إلى عناصر الصرف الدوائي ومفهوم الرعاية الصيدلانية بجوانبها التواصلية والإرشادية. **النتائج.** أظهرت النتائج أن من بين العاملين بالصيدليات، يمثل الصيداللة حوالي 30% فقط، والصيداللة المساعدون حوالي 10%، والمهن الطبية والطبية المساعدة (الأطباء، أطباء الأسنان، الأطباء البيطريين، تقنيو الطب والمرضون) حوالي 50%، بالإضافة إلى المهن غير ذات الصلة بالمهن الصحية 10% (مدرسين، محاسبين، مهندسين، مهندسين زراعيين... الخ). علاوة على ذلك، فإن الدخلاء على المهنة لديهم القليل جداً من المعلومات، إن لم يكن ليس لديهم على الإطلاق، حول عناصر ممارسات الصرف الدوائي. **الخاتمة.** يوصى بشدة أن تقوم الجهات ذات العلاقة (نقابة الصيداللة، جمعية الصيداللة ووزارة الصحة) ليس فقط بوضع لوائح لحماية هذه المهنة ولكن أيضاً لإنفاذها ومراقبة ومتابعة تنفيذها.

**الكلمات الدالة.** صيدليات المجتمع، الصيداللة، دخلاء مهنة الصيدلة.