Pharmacist behaviour or perception towards dispensing drugs to the adolescents

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Abstract:

The patterns of over-the-counter medication (OTC) usage among adolescents in Libya were largely understudied. The objective of this study is to determine the perception of the pharmacists in dispensing the OTC medicines to the adolescents. There were 24 pharmacists work at private pharmacies at Benghazi-Libya participate at this study. The pharmacists have answered a survey comprised of 17 questions voluntary. The response to all questionnaires collected and statistically analyzed with SPSS program (Statistical package for social science students, version 2012). This study shows that the pharmacists participate strongly in dispensing the OTC medicines to the aldolescents. This suggests that, improved knowledge of adolescents' self-medication behaviour in this country is needed to develop public health policies and strategies to preserve their health. The pharmacists have an important role in monitoring the OTC use and preventing potential drug abuse. Pharmacists should be encouraged to screen OTC use through advanced training programmes to educate adolescents about the proper use of OTC and the hazards that might be associated with such way of OTC usage.

Key words: Self-medication, Adolescents, Teenagers, Over the Counter drugs, prescription drugs.

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Introduction:

Over the counter medicine is a widespread practice regarded by the World Health Organization (WHO). The term 'prescription only' refers to medicinal products with public access controlled by prescription. Typically, in many countries, a prescription is a written instruction made by a medical doctor. Medicinal products available without a prescription can be referred to as 'over the counter (OTC). Over the counter drugs are medicines sold directly to the consumer without a prescription from a healthcare professional, as opposed to prescription drugs, which may be sold only to consumers possessing a valid prescription. [1]

There are two general classifications of drugs: prescription only (Rx only) and over-the-counter (OTC). Prescription only drugs are only available with a valid prescription from a prescriber. These drugs are heavily regulated and require a visit to a prescriber, a diagnosis and monitoring by a prescriber to ensure the medication is working and that it is working safely. [2]

Over-the-counter drugs are available for purchase without a prescription and could be purchased right off the shelves at a store-without a visit with a prescription or consultation with a pharmacist. [2]

Benefits of OTC include lower cost than prescription drugs [3], and fewer visits to physicians, leading to lower healthcare costs [4]. However, there are also many risks associated with OTC, including physiological adverse effects (e.g., gastrointestinal bleeding and end-stage renal disease) or psychological harm (e.g., opiate addiction). [5-7] Other risks include self-misdiagnosis, delay in receiving needed therapy, and increased resistance to antimicrobial agents due to inappropriate use. [4]

Physicians and pharmacists have an integral role in identifying and monitoring OTC use and preventing potential drug abuse. [9] Pharmacist should be encouraged to screen OTC use and educate adolescents and their families about the proper use of OTC and health risks of self-medication. [11] Since pain relievers are the most frequently purchased OTC drugs, it would be beneficial for physicians to treat pain appropriately via prescribing a good pain relivers. Education campaigns and activities that focus on increasing parents' knowledge [10] about OTC are particularly important given that children who learn about the risks of OTC from their parents are less likely to use them. [8] Pharmacists should be encouraged to question adolescents regarding frequent refills of the most commonly abused medications. [8] Pharmacists and drug dispensers are the final link between medication and patients. Sometime public finds pharmacist as an easily accessible and acceptable source of advice and suggestion. Subsequently, pharmacists could play an important role in modifying the behaviour of patients as far as self-medication is concern. They can also provide appropriate, understandable and relevant information to patient about their medications and about various aspects of OTC. [12]

Self-medication is a widespread practice regarded by the World Health Organization (WHO) as being part of self-care. Self-medication is defined as the selection and use of medicines by individuals to treat self-recognized or self-diagnosed conditions or

symptoms. WHO recognizes this practice as responsible when the individual uses products that are approved and available without the need of medical prescription.[13] Self-medication with OTC analgesics such as paracetamol among children and adolescents is increasing. This constitutes an important public health concern. Various studies have shown that the use of OTC drugs is twice as common as that of prescribed medication. [14, 15]

Many studies showed that the pharmacists were the main source of antibiotic self-medication (slightly more than 90%) [16] and among Libyan students (75%).[17] Therefore, high prevalence of misuse seems to be a health challenge in the Middle East. However, much still remains undone in this area in Eastern Mediterranean area especially Libya. [18,19]

Self-medication was significantly associated with age, male gender, education level, and socioeconomic status. Young age, male, especially males having poor health status were more likely to practice self-medication. [20,21]

This study aims to inspect the role of the healthcare professionals (especially a pharmacist) responding to OTC drugs and prescription drug misuse. This study attempts to highlight the most frequently used medicines and the reasons for that use, as well as focused on self-medication, particularly in the case of medicines requiring medical prescription.

1. Materials and methods:

This study was carried out on 24 pharmacists work at private pharmacies at Benghazi-Libya. A survey was comprised of 17 questions distributed to those pharmacists sample and they fill it voluntary. The initial questions designed to obtain demographic data concerning pharmacists dispensing drugs generally as an OTC drugs. The rest part of the questions were concerning special questions to define the frequency of drugs dispensed to the adolescents without prescription drugs. The response to all questionnaires collected and statistically analyzed with SPSS program (Statistical package for social science students, version 2012).

1. Results and discussions:

This study has been carried out on the pharmacists working at 24 private pharmacies at Benghazi-Libya to inspect the adolescent's frequent visit to the pharmacies and requesting the OTC and non-OTC drugs. The results were mainly related to the

pharmacist experience to inspect the pharmacist behavior in dispensing the drugs to the teens upon their experience.

Figure 1: The relationship between pharmacist age and experience.

The pharmacist dispenses drugs must complete certain levels of training depending on the types of medicines they dispense. The pharmacists have an important role to play in providing information on medicines, to complement the information given by doctors. This depends more on the experience of the pharmacist in the private pharmacy. In this study, the experience of pharmacists at private pharmacies was varied as shown in Figure 1, whereas the largest percent of pharmacists had an experience

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Figure 2: The relationship between pharmacist age and pharmacist education level

ranged between 5 to 10 years of work, which regarded a sufficient percentage of experience

Evaluation of the education levels at the privet pharmacies demonstrated in Figure 2, where the pharmacists with a bachelor's degree is the most pharmacists work at a private pharmacies, then pharmacists with master degree and only one academic member from institute of pharmacy included in this study. This indicates that pharmacists sample used in this study is highly educated group and expected that they would be more careful in dispensing drugs to teenagers who frequently visit the pharmacies.

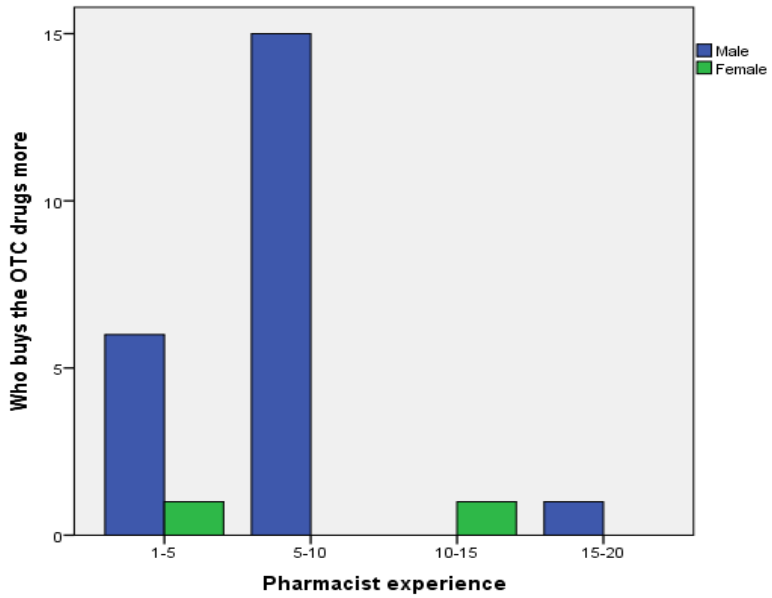


Figure 3: Pharmacist experience related to teenagers buying more OTC drugs.

Self-medication is a widespread practice regarded by the World Health Organization (WHO) as being part of self-care. [22] Figure 3 clarifies that, less experienced pharmacists sell drugs to teenagers more than pharmacists who have more experience; this result confirms that the pharmacist's years of experience increase the level of awareness about the importance of dispensing safe drugs to adolescents without a prescription.

It is illustrated from Figure 4 that a pharmacist with 5-10 years of experiences is directing questions to the teenagers most frequently before giving the drug, then pharmacists with 1-5 years of experience. Experienced pharmacists work for more than 10 years were rarely asked the teenagers about their age and the expected duration of

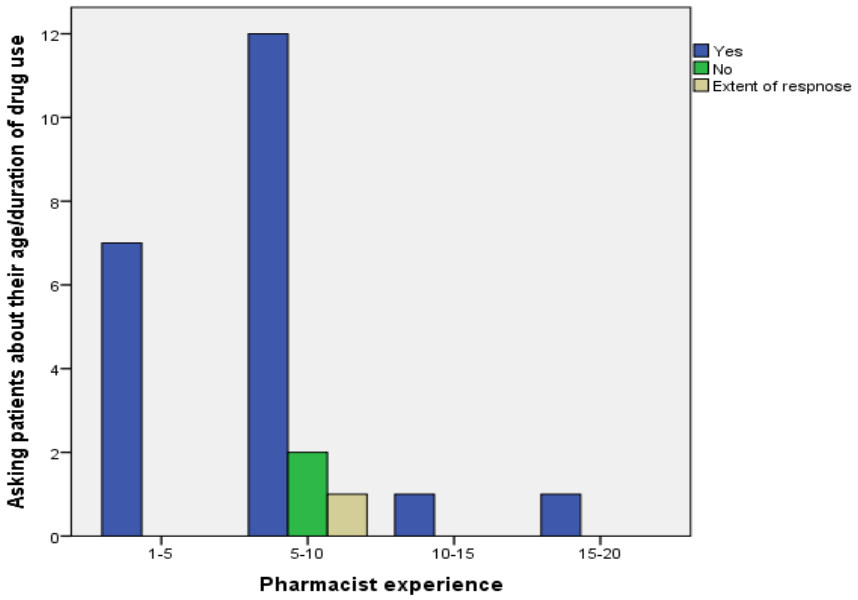


Figure 4: Pharmacist experience in relation to asking teenagers about their age and duration of drug use.

drug use. The increased years of experience of the pharmacists may be had a role in shortening some of the questions that may be asked to a teenagers before giving them the drug.

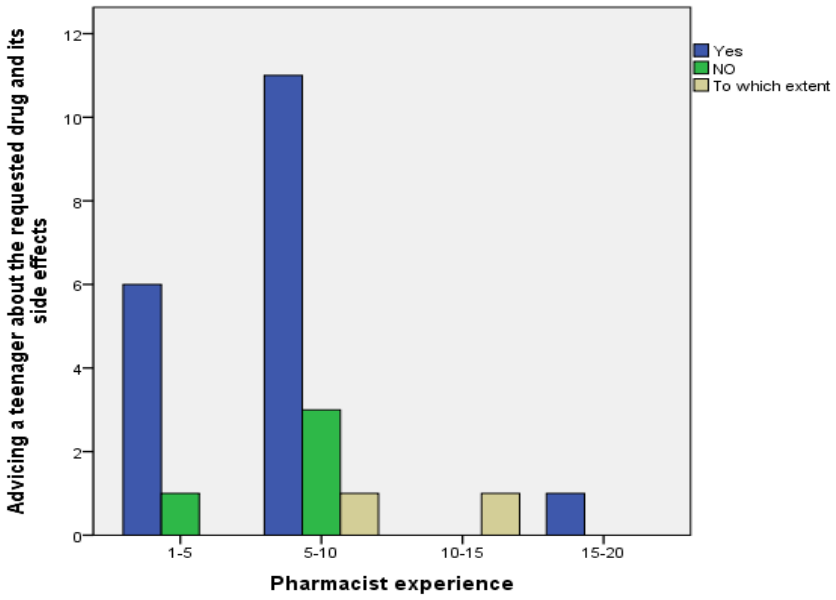


Figure 5: Pharmacist experience related to advising mode to teenagers about the requested drugs and their side effects.

Self-medication is not always safe, as it may be related to incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions,

dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of a severe disease, and risk of dependence and abuse. [23] Figure 5 shows that the response [Advising to teens about the requested drug and its side effects] varied according to the pharmacist's experiences. The advice comes more from a pharmacists with 5-10 years of experience then from a pharmacist with 1-5 years of experience. While, pharmacists of 10-15 and 15-20 years of experience respectively show less or no advice at all. This less tendency to provide the advice from experienced pharmacists may lead to several drawbacks of using drug as self-medication by the teenagers.

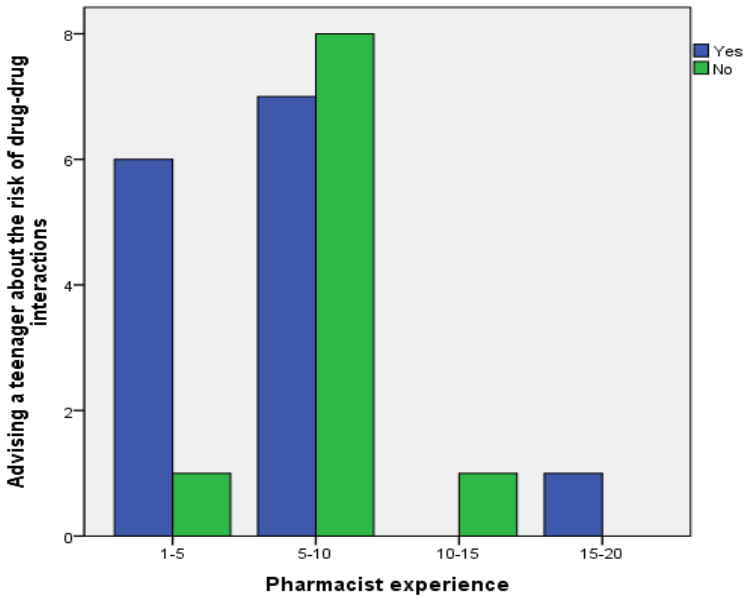
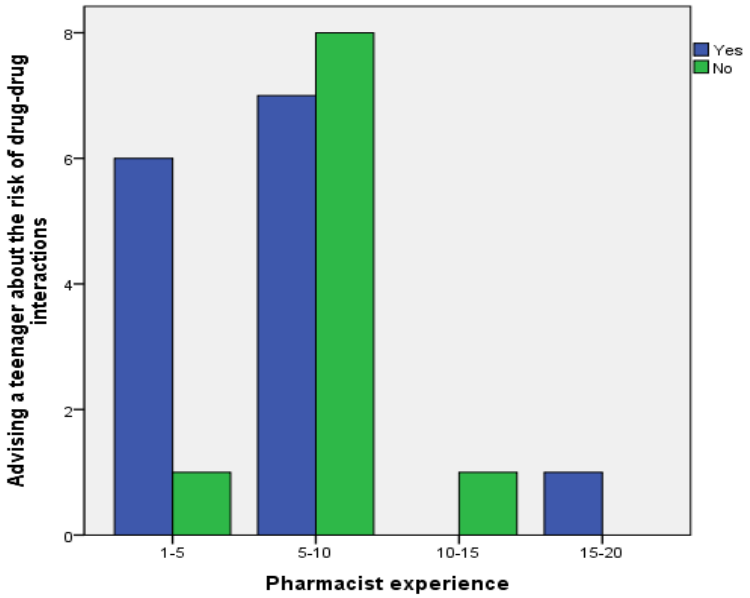


Figure 6: Pharmacist experience and advising a teenager about the risk of drug-drug interactions.

The pharmacists have the ability to relate the unexpected symptoms experienced by patients to possible adverse effects of their drug therapy. Thus, pharmacist has a major

role to play in relation to prevention, detection, and reporting adverse drug reactions.



[24]

Figure 6 summarizes the advising mode of the pharmacists to teenagers about the risk of drug-drug interactions (DDI) in relation to the pharmacist experience. There was an increase in the teenager-advising mode about the risk of a potential drug-drug interaction (DDI) with experienced pharmacist [1-5 years and 5-10 years respectively]. Furthermore, other study findings show that adolescents who use prescription medicine to maintain their health are also more likely to use OTC. This raises concerns regarding clinically significant drug interactions. Through clinical practice guidelines, physicians should be encouraged to inform patients regarding the possibility of drug reactions when prescribing medication. [11]

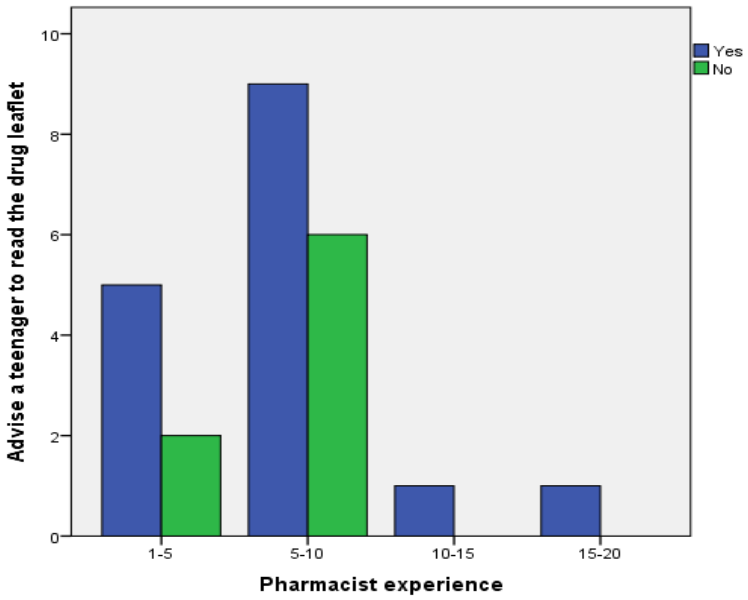


Figure 7: Pharmacist experience and advice a teenager to read the drug leaflet.

The pharmacists who have 5-10 years of experience tend relatively more to advise the teenagers to read the drug leaflet than the pharmacist with less experience [1-5 years]. Drug leaflet gives important information about the medicine used, and the expected drug-drug interaction (DDI) and side effects. Figure 7 shows additionally, that the pharmacists with higher experience were not motivated to advise teenagers to read the drug leaflet. Although it was expected that as the pharmacist's experience increases the braveness and the communication skills would be improved, which means that, the experienced pharmacists have more ability to advice than the younger and less experienced pharmacists. Most patients, including adolescents, consider the pharmacist to be the primary source of information; this is what makes an expert pharmacist not interested in advising a teenager to read the drug leaflet because they have given all the necessary instructions.

Asking the teenager about the possibility of having chronic diseases does not depend on the pharmacist experience as shown in Figure 8. The pharmacists group of 5-10 years of experience show a high tendency to ask about the presence of chronic disease than the young pharmacists and the more experienced pharmacists. The pharmacists with higher experience were not motivated to ask the teenager about the possibility of

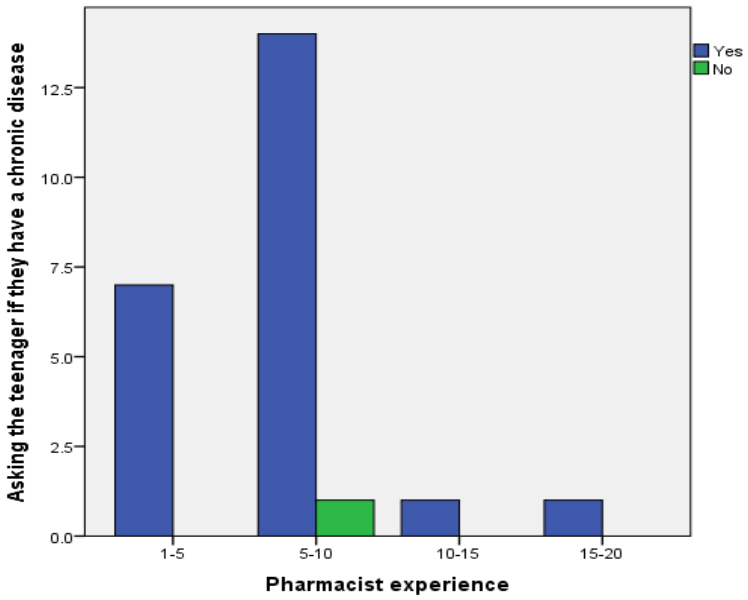


Figure 8: Pharmacist experience and asking the teenager about their chronic diseases.

having chronic diseases. Although it was expected the reverse of those results. The less expert pharmacists show excessive care for adolescents with chronic illness than expert pharmacists. The pharmacists did not ask about drug allergy and the existing co-morbid conditions while dispensing the OTC drugs. Appropriate instructions were not given to all patients and adverse effects of the drugs were not explained. Drugs were not dispensed according to the appropriate dosage regimen. [15]

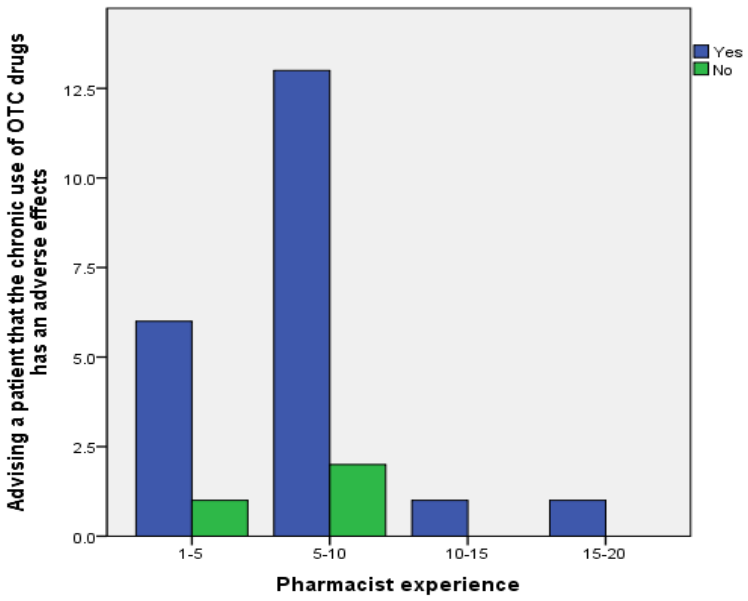


Figure 9: Pharmacist experience related to advising about continuous use of OTC drugs and their adverse or side effects.

Advising teenagers that the chronic use of OTC drugs has an adverse effect was mostly done via the group of pharmacists who have 5-10 years of experience than the less experienced pharmacists. The pharmacists with higher experience were not able to advice the teenagers about the continuous use of OTC drugs and the expected side effects that might occur. Although it was expected the reverse of those results. The results of the relationship between the increased years of pharmacists experience and the manner the pharmacists work with [Figure 7, Figure 8, Figure 9] were unexpected. This might be authorized to un-motivation of those skilled pharmacists to do their job correctly under the bad socio-economic circumstances at our country last years. Typically, in some countries of the Middle East and Africa, which are regions with political instability, war, and civil unrest, lack of social stability and safety for individuals are likely to be drivers for substance use. Although legislation does exist in these regions around medication supply, in many cases it is not strictly enforced. One can usually buy almost any medication, with the exception of narcotics and major tranquilizers, from community pharmacies. [25]

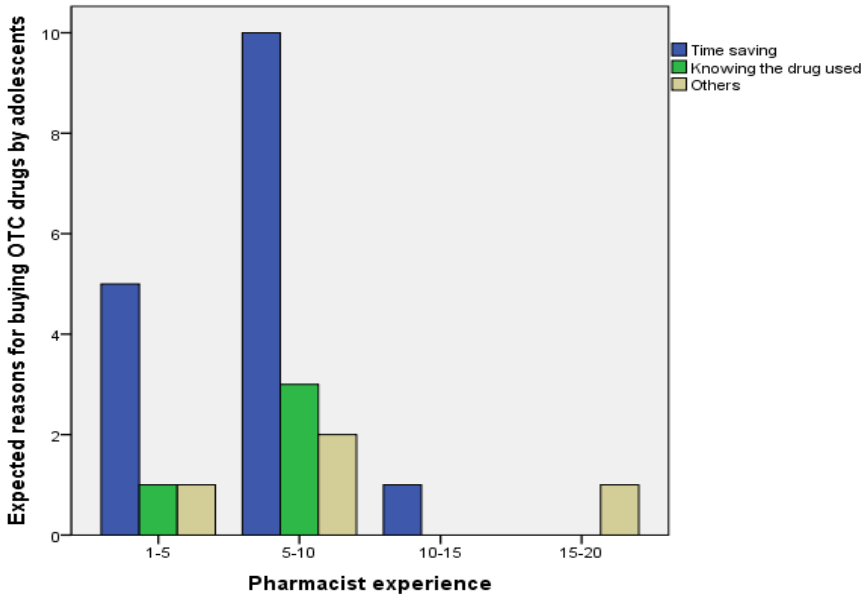


Figure 10: Pharmacist experience and the expected reasons for buying OTC drugs by adolescents.

The expected reasons for buying OTC drugs by adolescents related to the years of pharmacist`s experience was varied as shown in Figure 10. The adolescents tends to buy the OTC drugs from the pharmacy to save the time instead of visiting the physician. Other reasons to consider include the fee for the doctor’s visit, travel costs, and time

off from work. The pharmacists with 5-10 years of experience show that, the aldolescents tends to buy OTC drugs without prescription to save the time than the previous knowledge of the drug that the aldolescents might have. The pharmacists with 1-5 years of experience tends to show that, the adolescents tends to buy OTC drugs without prescription to save the time than the previous knowledge of the drug that the aldolescents might have. The pharmacists with 10-15 years of experience means the time saving is the predominant factor that motivate the aldolescents to buy the OTC drugs frequently. Additionally, Pharmacist with higher experience [15-20 years] means that the aldolescents motivated to buy OTC drugs frequently due to many other reasons than time saving or previous knowledge of that drug group.

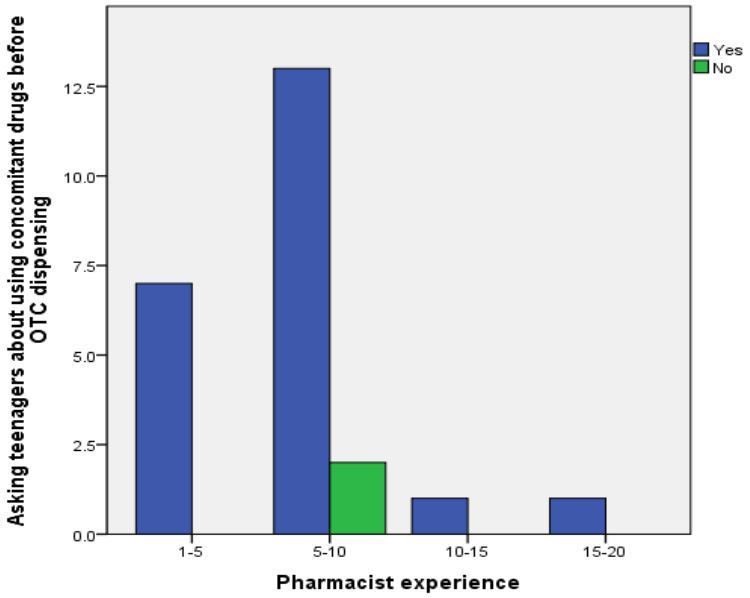


Figure 11: Pharmacist experience and asking teenagers about using concomitant drugs before OTC dispensing.

Asking teenagers about using concomitant drugs before OTC dispensing related to pharmacist years of experience varied as shown in Figure 11. The pharmacists with 5-10 years of experience show that, the aldolescents were usually questioned about their use of concomitant drugs with the requested OTC drugs. The pharmacists with 1-5 years of experience tends to ask the adolescents frequently about their use of concomitant drugs with the requested OTC drugs. The pharmacists with 10-15 years of experience and 15-20 years of experience respectively were less motivated to ask the adolescents about their use of concomitant drugs with the requested OTC drugs. Those

results were unexpected by such experienced pharmacists, which come in agree with the same opinion resulted from [Figure 7, Figure 8, Figure 9] respectively.

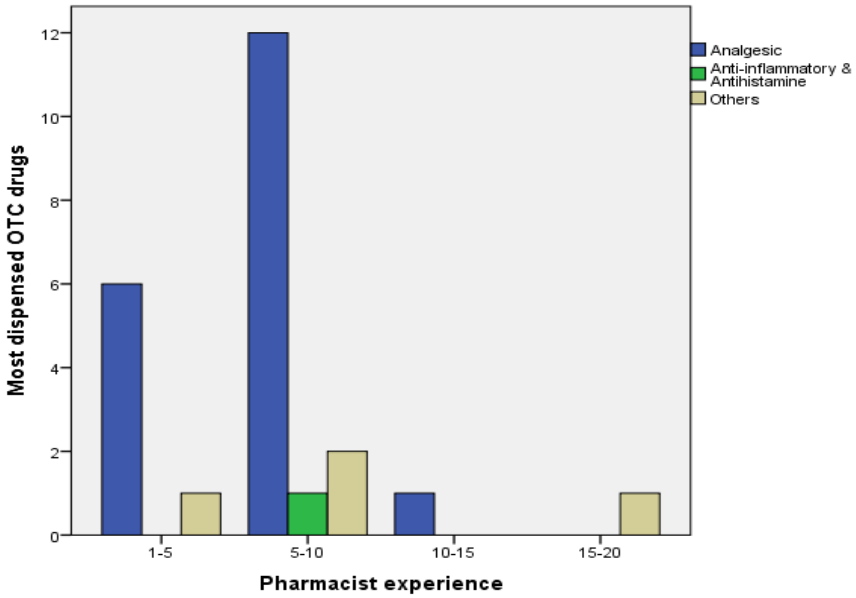


Figure12: Pharmacist experience and most dispensed OTC drugs.

Most dispensed OTC drugs to the adolescents vary between the pharmacists groups participated in this study [Figure12]. The pharmacists with 1-5 years of experience means that the aldolescents tend to buy analgesics than other types of OTC drugs. The pharmacists with 5-10 years of experience means that the adolescents tend to buy analgesics mostly than the anti-inflammatory and antihistamine drugs. The pharmacists with 10-15 years of experience means that the adolescents tend to buy analgesics only as an OTC drugs. Additionally, the pharmacists with 15-20 years of experience means that the adolescents tend to buy mainly other types of OTC drugs than the analgesic and anti-inflammatory drugs. Those results indicate that the adolescents visit the pharmacies frequently to buy the analgesics than other types of the OTC drugs. This reported prevalence of self-medication misuse by teens is high, which seems to be a health challenge in Libya.

The pharmacists with 1-5 years of experience means that the adolescents tend to buy toothache relief drugs than muscle spasm and headache relief drugs. Figure 13 shows that, the pharmacists with 5-10 years of experience means that the adolescents tend to buy headache tablets mostly than the toothache and other OTC drugs. The pharmacists with 10-15 years of experience means that the adolescents tend to buy toothache drugs

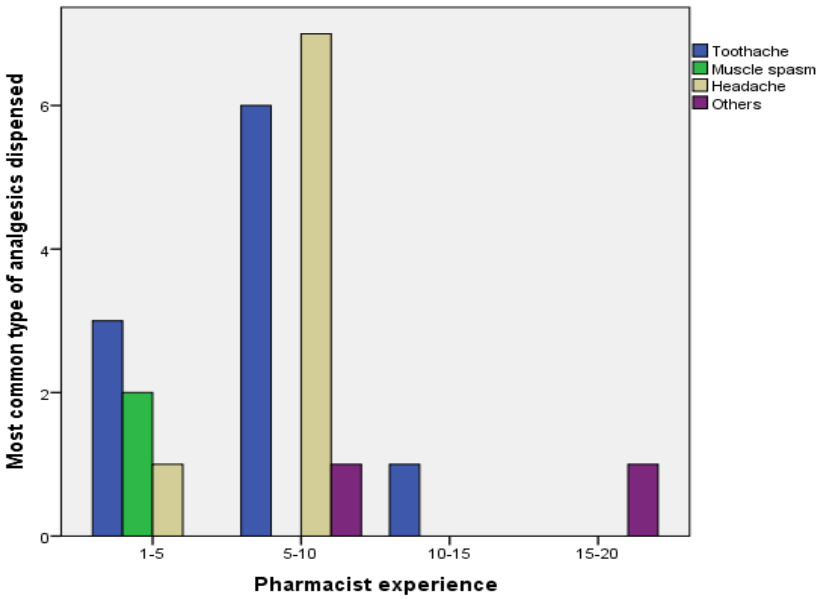


Figure 13-: Pharmacist experience and the most common type of analgesics dispensed.

only as an OTC drugs. Additionally, the pharmacists with 15-20 years of experience means that the adolescents tend to buy mainly other types of OTC drugs.

Those results indicate that the adolescents visit the pharmacies frequently to buy the headache and toothache drugs than other types of the OTC drugs. This use of at least one medicine without a current medical prescription defined as self-medication.

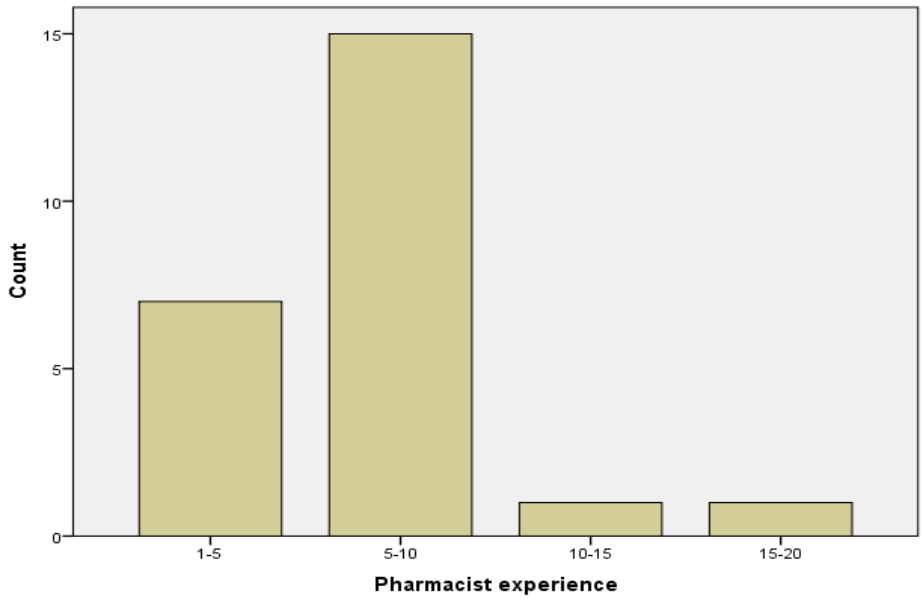


Figure 14: Pharmacist experience and belief in the relationship between analgesic misuse and analgesic addiction.

The Belief on the presence of a relationship between analgesic misuse and analgesic addiction varies clearly related to pharmacist experience as shown in Figure 14. The pharmacists with 5-10 years of experience means that the adolescents believe strongly on the presence of a relationship between analgesic misuse and analgesic addiction. The pharmacists with 1-5 years of experience means that the adolescent's belief was less strongly on the presence of a relationship between analgesic misuse and analgesic addiction than the previous group of pharmacists. Additionally, the pharmacists with high years of experience were not careful about the presence of such belief, which might participate in un-saving of the aldolescents life. As this belief present might lead to motivate the adolescents to use a low dose of the requested drug and avoiding the expected drug side effects and complications.

There is a literature gap on the use of medicines that require medical prescription through self-medication. A fact that indicates lack of control in medicine dispensing. This would be of particular concern in a country like Libya, where such medicines should be only used with medical prescription. The same concern was raised in Europe, Asia, and Latin American concerning the use of antibiotics. [26]

2. Conclusion:

This study suggested that pharmacists have an integral role in identifying and monitoring OTC use and preventing potential drug abuse. Pharmacists should be encouraged to screen OTC use and educate adolescents and their families about the proper use of OTC and health risks of self-medication.

This study had shown that medicine use is strongly associated with teen's gender. Improved knowledge of adolescents to self-medication behaviour in this country is needed to develop public health policies and strategies to preserve their health.

More research is needed to explore the environmental factors that impact adolescents' OTC medication abuse including their parents and on what is important to pull in and lock in teenagers to improve patient safety. This line of investigate will provide insight regarding specific adolescent characteristics related to OTC misuse and the data required to plan tailored interventions.

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Declaration:

Ethical approval: at the time of this study was not required.

Conflicts of interest: None.

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