



## Research article

**Self-medication's knowledge and practice in adults attending pharmacies in Tripoli, Libya****Ahmed Atia\*<sup>1</sup>, Nadra Alzlitni<sup>2</sup>, Sally Zbida<sup>2</sup>**<sup>1</sup> Department of Anesthesia and Intensive Care, Faculty of Medical Technology, The University of Tripoli, Libya<sup>2</sup> Department of Pharmaceutical Sciences, University of Tripoli Alahlia, Tripoli, Libya**ABSTRACT**

Self-medication is a widespread practice that may contribute to the antibiotic resistance of human pathogens. This study was aimed to determine the prevalence of self-medication among Libyan patients in Tripoli city. This descriptive, questionnaire-based cross-sectional study was conducted from August to October 2022 among Libyan patients in Tripoli city. The questionnaire was comprising from 13 questions. Three questions were dedicated to the general demographics and the next 10 questions were based on self-medication of drugs for the prevention and treatment of respiratory symptoms. All these questions if answered as a "No" was considered as self-medication. Among 214 participants, 176 (82%) were found to have practiced self-medication; 38.3% of them were aged less than 25 years, the majority being males (60.7%). Lack of time and feeling confidence with self-medication practice were the most common reasons cited behind practicing self-medication. Pain suppressing medications were the most self-medicated drugs by 55.68%. Pharmacies (67.05%) were the commonest source regarding medicines for self-medication. The higher educated tended to self-medicate more than those with a low level of education. The majority of the respondents to the study reported self-medicating. Therefore, it's essential to enforce the law strictly and raise public awareness of the negative effects of self-medication.

**Keywords:** Self-medication, Practice, Drug, Education.

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**Correspondence:** Ahmed Atia ✉ [ah.atia@uot.edu.ly](mailto:ah.atia@uot.edu.ly), **Orcid Id:** 0000-0002-9951-1921

Department of Anesthesia and Intensive Care, Faculty of Medical Technology, The University of Tripoli, Libya

**INTRODUCTION**

Self-medication is the use of one or more drugs to treat oneself (or a member of one's family) without the assistance of a doctor to treat self-recognized or self-diagnosed conditions or symptoms [1]. It is becoming an increasingly important area as a feature of the lay health system. Because of the reclassification of certain drugs, the general public can now purchase preparations that were previously only available on prescription [2]. It encourages patients' independence in making decisions about minor illness management, thereby promoting empowerment [3].

Self-medication has benefits for healthcare systems, as well as it allows for better use of clinical skills and relief the patient's complaint [3]. The risks of self-medication have been extensively discussed in the literature (adverse effects, interactions, product, dosage, or treatment duration errors, misdiagnosis, excessive drug dosage, prolonged use, and polypharmacy). The latter may be especially troublesome in the elderly [1].

Self-medication cannot be considered completely harmful. Drugs classified as "over the counter" can be purchased without a prescription and can often save patients time and money. Patients are

still reliant on self-medication practices for minor symptoms, and other difficult-to-reach areas where there is a severe shortage of human health workers [4]. Inappropriate self-medication with OTC drugs, on the other hand, can have serious consequences (including death), particularly in the elderly, pregnant and lactating mothers, and patients with co-morbidities [5].

Self-medication is common in both developed and developing countries, with prevalence ranging from 12.1% to 92.8% [6]. In Libya, few investigations were done at the community level to determine the extent of self-medication. One systematic search was performed targeting studies published in Libya from Jan 2008 until Dec 2019 found that, the overall pooled proportion of self-medication of drugs was 53.6% (95% CI: 0.93% - 1.08%), with low heterogeneity and the P-value of the entire population sampled was found to be = 1.000 (df = 12), suggesting that self-medication is a common phenomenon involving a high proportion use of antibiotics [7]. Studies of this kind will be helpful in shedding light on the factors that lead patients to engage in this behavior. They may also assist policymakers and regulatory agencies in streamlining the process of drug

regulations, updating the list of essential medications, and addressing safety concerns with over-the-counter medications.

In light of this, the current study was conducted to explore the knowledge of young adults about OTC self-medication in Tripoli, Libya. This study also focused on the attitudes of people who practice self-medication.

## MATERIALS AND METHODS

### Study Design and sampling

This descriptive, questionnaire-based cross-sectional study was conducted from August to October 2022. A pre-verified questionnaire containing multiple questions was prepared to be used in the study. A total of 240 questionnaires were distributed on randomly selected 12 pharmacies in Tripoli city. In order to reach the required sample size, all adults aged 20–60 years attending the selected pharmacies requesting drugs (with or without prescription) were selected. Among all adult customers requesting self-medication drugs (a drug for self-use without a prescription indicated for the current complaint), a total sample of 214 clients were interviewed. The contributors were questioned after obtaining informed consent, with their identity undisclosed.

### Questionnaire development and distribution

Data collection was done through a face-to-face interview of purchasers. The interview questionnaire was categorized into three sections. The first section contained items about the purchaser demographic characteristics (age, gender, and education level). The second and third sections were included 10 quires related to client's knowledge about the use of the purchased drug; and practices related to the product purchased.

For the purposes of the study, self-medication was defined as the taking of any OTC medication which requires a prescription from a doctor, without consulting a physician or the use of any previous leftover prescription. Participants had comorbid conditions that warrant the use of chronic medications were excluded.

### Ethical Approval

The study received ethical approval from the research committee of the University of Tripoli Alahlia, Janzur. Each participant was free to leave the study at any time. The survey's background and purpose were thoroughly explained.

### Data Analysis

Microsoft Excel 2016 was used for data collection and data analysis. Categorical variables were assessed using frequencies and percentages.

## RESULTS AND DISCUSSION

### Participants' demographics

A total of 214 participants answered the questionnaire, and the number of participating males were 130 (60.75%), while females constituted 84 (39.25%). Most of participants were in the age group of less than 25 (38.3%), followed by 23.4% were from the age of 45 years

and above, 21.5% aged from 26 – 35, and 16.8% were from 36 – 45 years old. About 65.4% of participants were holding university level of education, followed by 14% postgraduates, while those with secondary education who practice self-medication were 20.6% (Table 1).

**Table 1:** Demographics of the participants

| Items                    | Number (N) | Percentage (%) |
|--------------------------|------------|----------------|
| <b>Gender</b>            |            |                |
| Female                   | 84         | 39.25%         |
| Male                     | 130        | 60.75%         |
| <b>Age group</b>         |            |                |
| Less than 25 years' old  | 82         | 38.3%          |
| 26-35 years' old         | 46         | 21.5%          |
| 36-45 years' old         | 36         | 16.8%          |
| More than 45 years old   | 50         | 23.4%          |
| <b>Educational level</b> |            |                |
| Postgraduate             | 30         | 14%            |
| University level         | 140        | 65.4%          |
| Secondary education      | 44         | 20.6%          |

### Knowledge about self-medication

In table 2, participants were asked whether they were had knowledge about OTC drugs, and the response was 69.16% responded that "to some extent" they knew, with 176 (82.24%) declared that they practiced self-medication.

Internet was the main source of getting knowledge on self-medication by 34.57% of the participants, followed by the 22.42% and 20.56% had knowledge from pharmacists and drug leaflet, respectively. While the minority of them 13.08% and 9.34% had depended on doctor's consultation and previous experience of relatives, respectively.

**Table 2:** Knowledge of participants on OTC self-medication

| Quires                                          | Number | Percentages |
|-------------------------------------------------|--------|-------------|
| <b>Do you have a knowledge about OTC drugs?</b> |        |             |
| Yes                                             | 28     | 13.08%      |
| No                                              | 38     | 17.76%      |
| To some extent                                  | 148    | 69.16%      |
| <b>Have you practiced self-medication?</b>      |        |             |
| Yes                                             | 176    | 82.24%      |
| No                                              | 38     | 17.76%      |
| <b>Source of knowledge on self-medication</b>   |        |             |
| Internet                                        | 74     | 34.57%      |
| Pharmacists                                     | 48     | 22.42%      |
| Drug leaflet                                    | 44     | 20.56%      |
| Doctors                                         | 28     | 13.08%      |
| Relatives                                       | 20     | 9.34%       |
| <b>Reasons for self-medication</b>              |        |             |
| Time constraints                                | 96     | 44.86%      |
| Self-confidence                                 | 64     | 29.91%      |
| High consultation fees                          | 32     | 14.95%      |
| Others                                          | 22     | 10.28%      |

As for the reasons for using a drug without prescription, time constrain was the main reason for self-medication by 44.86% of them. About 29.91% of participants conveyed that they are self-confidence to purchase OTC-drugs without medical consultation. Moreover, the high cost of medical consultation was also the reason for self-medication by 14.95% of the participants.

### Practicing self-medication

Out of the 176 participants who declared that they were self-medicated with OTC, about 98(55.68%) of them has used pain relievers, 44(25%) used antibiotics, and 24(19.32%) had used cough and cold medicines. While 10(5.68%) had used other types of medicines (Table 3). Pharmacy was the main source of dispensing OTC medications as declared by 118(67.05%), while 30(17.04%) had used leftover medicine from previous illness, and 15.91% used in-home medicine used by others.

When asking about the disposal of remaining drugs, the majority of them 128(72.72%) just kept the remaining drugs in their home, while 44(25%) of them dispose it, and 4(2.28%) shared it with other relatives.

**Table 3:** Practice of self-medication by participants

| Quires                                                                             | Number | Percentage |
|------------------------------------------------------------------------------------|--------|------------|
| <b>Over-the-counter medications</b>                                                |        |            |
| Painkillers                                                                        | 98     | 55.68%     |
| Antibiotics                                                                        | 44     | 25%        |
| Cough and cold medications                                                         | 24     | 13.63%     |
| Others                                                                             | 10     | 5.68%      |
| <b>What is the source of the drug used?</b>                                        |        |            |
| Pharmacy                                                                           | 118    | 67.05%     |
| Leftover medicine from previous illness                                            | 30     | 17.04%     |
| In-home medicine used by others                                                    | 28     | 15.91%     |
| <b>How to dispose the remaining medicines?</b>                                     |        |            |
| I keep it                                                                          | 128    | 72.72%     |
| Dispose it in the dustbin                                                          | 44     | 25%        |
| Give it to someone else                                                            | 4      | 2.28%      |
| <b>Do you have knowledge about how to take the right medication and dosages?</b>   |        |            |
| Yes                                                                                | 132    | 61.7%      |
| No                                                                                 | 38     | 17.7%      |
| To some extent                                                                     | 44     | 20.6%      |
| <b>Do you have knowledge of the risks of using an over-the-counter medication?</b> |        |            |
| Yes                                                                                | 138    | 64.5%      |
| No                                                                                 | 40     | 18.7%      |
| To some extent                                                                     | 36     | 16.8%      |
| <b>Are there benefits to self-medication?</b>                                      |        |            |
| Yes                                                                                | 176    | 82%        |
| No                                                                                 | 38     | 18%        |

Approximately 66(62%) of interviewed participants had an idea on how to correctly obtain the proper dosing, while 138(65%) of them they were aware about the risk of inappropriate use of self-medication, and 176(73%) they know the common side effects of using OTC. Furthermore, 176(82%) they agreed that using OTC self-medication will absolutely solve their symptoms.

Self-medication use is a risky tendency that frequently exposes users to health risks of all kinds, which frequently result in additional health issues as a result of side effects, increasing out-of-pocket costs and financial burden. In this study, we evaluated the drug use habits and the prevalence of self-medication among participants from Tripoli, Libya by randomly distributing a questionnaire of 10 questions. It was concluded that 82.24% of the participants used over-the-counter drugs, and the rate of over-the-counter drug use was more

in females than in males by (61%, 39%; respectively). The results also showed that the age group most used for self-medication is the group under 25 years of age (38%) followed by the age group over 45 years (24%). These results were in agreement with previous studies conducted in Libya showed that females and young adults are more self-medicated than other groups <sup>[8,9]</sup>.

The study reveals that participants with higher educational levels were more frequently practiced self-medication compared to others, and this finding is in accordance with other study that showed an increase in self-medication among educated patients <sup>[10]</sup>. The current study also revealed that 69% participants' primary sources of information on self-medication were social media and the internet. Previous study conducted in Iran claimed that patients' comprehension of the rational use of drugs and how they are prescribed was obtained from the internet and social media <sup>[11]</sup>. Our study found that participants get information about the medications they take from social media and the internet, demonstrating the importance of cyberspace in this regard. Providing patients with media-based educational material can be useful in raising their awareness of self-medication.

The results of the present study indicated that the most important reasons for the participants that led to the use of self-medication is the lack of time (44.86%) compared to other reasons such as high prescription drug fees, and this shows the extent of the orientation to self-medication and its relationship to the economic situation. The unregulated sale of medications in Libya, including easy access to medications that should not be sold without a valid prescription under government regulations, is frequently the most important factor contributing to the country's high rate of self-medication. Because of a lack of adequate legal enforcement, all types of medicines are easily available over the counter, and no one is held accountable.

As per our study, pain relievers, antibiotics, and cough remedies were used maximally by the participants (55.68%, 25%, 13.63%; respectively). Pharmacies (67.05%) were the commonest source regarding medicines for self-medication. An Indian-based study found a majority of its participants resorting to analgesics and antibiotics, with fever being the commonest issue <sup>[12]</sup>. A previous systematic review and meta-analysis conducted in Libya found that seven out of the 13 studies reported data on self-medication for antibiotics without prescription. Based on the meta-analysis results, records in Misurata ranged from 15.3% (95% CI 0.61-1.65) while it was 76.6% (95% CI 0.80-1.25) in Tripoli, with overall pooled estimate of 49.3%. This finding has a big impact on public health security, especially when it comes to the threat of the emergence of microbial resistance <sup>[7]</sup>.

Unused medications are frequently stored for later use. Medicines kept in storage would eventually become forgotten, expire, and then be thrown out in the trash. Patients must be instructed on how to properly dispose unused medicine. Self-medication without the proper guidance and knowledge could result in abuse, poisoning, and unintentional medication use by others <sup>[13]</sup>. In the current study, 72.72% of participants were confirmed they were keeping it, while the other 25% discarding it. Similarly, an earlier study in Libya demonstrated that 53.1% of respondents said that throwing discarded drugs in the trash bin was their preferred method of disposal <sup>[14]</sup>.

In the present study, it is observed that participants had a high level of knowledge regarding proper dosing while practicing self-medication. About 64.5% of them they knew the drawback of such practice and they continue using OTC self-medication. While, 82% of them they declare that self-medication helped them alleviate their symptoms. Self-medication was also found to be effective in a study conducted in China, with 94.5% of participants reporting an improvement <sup>[15]</sup>.

## CONCLUSION

This study found self-medication to be a common practice among the majority of its participants, with painkillers being the commonest class of medicines used. Most of those who practiced self-medication did so due to lack of time or did not feel it to be necessary to consult a physician, and the medicine was easily accessible from community pharmacies, without the need of a valid prescription. There is a pressing need to stop this practice because it ultimately worsens the health situation by increasing morbidity and causing financial loss. It is suggested that dispensing procedure be improved through educational, regulatory, and administrative strategies.

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