https://journal.utripoli.edu.ly/index.php/Alqalam/index eISSN 2707-7179

Original article

Awareness Assessment of Over-The-Counter Analgesics among Zawia University Students, Libya

Rema Shampe*, Abeer Gdara, Anwar Gdara, Sawan Hefzy

Department of Community Health, Faculty of Medical Technology, University of Zawia, Zawia, Libya

ARTICLE INFO

Corresponding Email. *r.shimbi@zu.edu.ly*

***Received**: 22-09-2024*
***Accepted**: 23-11-2024*
***Published**: 28-11-2024*

***Keywords**. Over-the-Counter, Painkillers, Zawia, Self-Medication*

ABSTRACT

Over-the-counter (OTC) pain medications are widely available, but their improper or excessive use can lead to serious health risks. This study was conducted to assess the level of awareness among university students regarding the risks of using OTC pain medications. The study population included of 220 students, were randomly selected undergraduate students, comprising 82% of the total sample. and, only 18% of the participants were graduate students (postgraduate/master's level. The questionnaire consisted of 26 questions divided into two parts. The first part focused on personal information, such, while the second part examined awareness and misuse of non-prescription analgesics. The study found that the age distribution of the student is skewed towards the younger age groups. The largest proportion, 49%, is in the 20-25 age range, while 29% are under 18 years old. The remaining 22% are in the 25-30 age group. whether medical or non-medical, was 24%, and the level of low awareness was 76% of the participants, and one of the reasons that contributed to the spread of the phenomenon is the presence of pharmacies that trust in prescribing an analgesic or medication without resorting to a doctor, where 26% of students and we also found in this study that the level of awareness among men was lower than women, so it should highlight the need to increase education and awareness campaigns to inform university students about the safe and responsible use of OTC pain medication. The study's findings emphasize the importance of educating university students about the potential risks associated with OTC pain medications and the need for responsible self- medication practices.

***Cite this article.** Shampe R, Gdara Ab, Gdara An, Hefzy S. Awareness Assessment of Over-The-Counter Analgesics among Zawia University Students, Libya. Alq J Med App Sci. 2024;7(4):1386-1392. https://doi.org/10.54361/ajmas.247467*

INTRODUCTION

Non-steroidal anti-inflammatory drugs (NSAIDs) and paracetamol (acetaminophen) are essential drugs to treat pain. The availability of medicines with analgesic effects varies extensively between countries. Debates about the suitability of NSAIDs for over-the-counter (OTC) sale versus prescription dispensing focus on the considerable health risks associated with their inappropriate use including drug intoxication, drug interactions and adverse drug reactions [1]. Several OTC medications have relatively low maximum daily doses which can be exceeded by taking less than just 6 tablets a day. Initially, a person will feel no harms from excessive consumption of OTC painkillers. However, prolonged abuse leads to liver damage, gastrointestinal bleeding, and increased risk of stroke. Every year, over 200,000 people are hospitalized due to over-the-counter painkiller abuse, and the annual deaths have increased to over 1,500 people [2].

Paracetamol, a common and easily accessible drug in many countries and included in approximately 150 preparations [3]. carries risks of intoxication with 10 to 15 g reported as hepatotoxic for adults and 25 g can be life-threatening. Strong relationships between paracetamol sales and non-fatal overdoses in England and France have been reported and rising sales are associated with increasing abuse resulting in liver damage, non-fatal self-poisonings and suicides [4].
Over-the-counter (OTC) analgesics like paracetamol, ibuprofen, and aspirin are commonly utilized for pain relief, including fever, headaches, musculoskeletal pain, and menstrual cramps [5]. Due to their affordability and availability from various sources such as small drug stores, street vendors, friends, and family, many individuals opt for OTC drugs as their initial treatment choice without a formal prescription [6]. The situation in Libya there is a lack of awareness regarding the appropriate usage of commonly used pain relievers among the local population [7,8]. Irrespective of an individual's level of education, it cannot replace a comprehensive understanding of the proper usage of analgesic medications. Additionally, there is no connection between possessing a scientific degree and the general public's awareness of the risks associated with the misuse of analgesic drugs without a prescription [8].
The high prevalence of analgesics usage, several studies were conducted to assess side effects and the awareness regarding its use, in Libya, individuals have the freedom to buy unlimited quantities of analgesics for pain management. This medication can be easily abused and misused unintentionally. The use of non-prescription painkillers by university students is an important issue that affects public health and safety on campus and it is necessary to raise awareness about the safe use of non - prescription drugs. The utilization of painkillers in Libya, specifically, varies significantly due to various factors, such as the accessibility of non-prescription medications and unhealthy health practices within the country. Consequently, there has been a widespread prevalence of painkiller usage among young individuals. Furthermore, the excessive and careless misuse of painkillers without a prescription increases the likelihood of developing a substance abuse disorder. Substance use disorders generally refer to patterns of behavior where individuals persist in using a substance despite experiencing problems as a result of its use. The aim of the study was to evaluate the level of awareness and knowledge regarding the misuse of painkillers among students at the University of Zawia.

METHODS

Study design

A cross-sectional descriptive study was carried out to assess the awareness of over-the-counter analgesics among Zawiya University Students, Libya. The University of Zawiya is one of the public universities in Libya. It was established in 1988 based on the decision of the general people's Committee. It is a member of the Union of Arab Universities, the Union of African universities, and the Union of Islamic universities.

Data collection

A total of 220 students aged between 18 and 35 years were randomly selected from different faculties (Medical Technology, Economics, Science, Human Medicine, and Institute 24 for Comprehensive Professions). The consent was obtained and politely requested them to complete the questionnaire. The questionnaire comprised 26 questions divided into two sections: the first section covered personal information (age, year of education), and the second section addressed the awareness and misuse of non-prescription analgesics (patterns of use, benefits, risks, the side effects of painkiller usage and sources of information. The questionnaire was distributed in Arabic to ensure ease of comprehension. All the students were cooperative in answering the questions, and no issues arose during the data collection process.

Data analysis

Data were checked, sorted, categorized, and coded manually then transferred to Statistical Package for Social Sciences (SPSS) version 24 for analysis.

RESULTS

A total of 220 students were include in this study. Were distributed Among Zawiya University Students, Libya. The largest proportion, 49%, is in the 20-25 age range, while 29% are under 18 years old. The remaining 22% are in the 25-30 age group. The low percentage in the 25-30 age group with mean age of 22±4.6 years old. More than half were male (52%)115, while the remaining portion represents were females. The majority of the study were Bachelor students (82%). In contrast, only 18% of the participants were (postgraduate students /master's level). The high percentage of students were from Medicine faculty 71 (32%), 51 (23%) of students was from Humanities and 57 (26%) from science (Table 1).

Table 1. Demographic characteristics of Zawiya University Students.

Demographic characteristics	N (%)
Age	
Less than 20	64 (29%)
20 to 25	107 (49 %)
26 to 30	49 (22%)
Gender	
Male	115 (52%)
Female	105 (48 %)
Education level	
Bachelor student	181 (82%)
postgraduate student	39 (18 %)
Department	
Medicine	71 (32%)
Humanities	51 (23%)
Sciences	57 (%26)

Awareness level

Based on figure 1, the high level of awareness were in age group between 20-25 yearswas34(32%). There appear to be a statistically significant relationship between the level of awareness and age group (P=0.035).

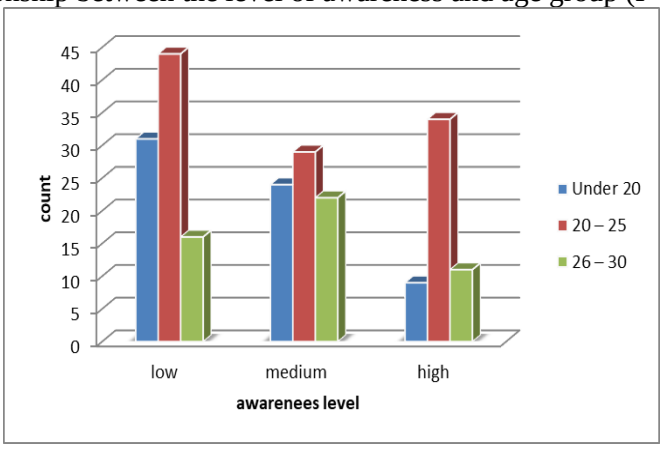

Figure 1. Awareness Level Distribution Across Age Groups.

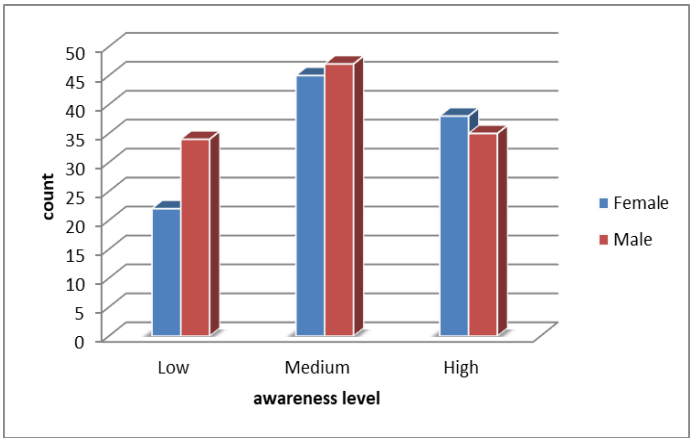

Figure 2. Distribution of Awareness Level by Gender.

Figure 2. 38(36%) females had high level of awareness and 34(29%) males had low level of awareness and 22(21%) females. However, there were no statistically significant different between level of awareness and gender (P=0.335).

Positive Awareness

The majority of students (167 out of 220, 76%) are aware that an incorrect dose of painkillers without a prescription can led to liver damage,143 out of 220 students (65%) know that using painkillers without a prescription can led to addiction, 130out of 220 students (59%) understand that using painkillers without a prescription may interfere with other medications they are taking, 137 out of 220 students (62%) have a sufficient understanding of the appropriate dosage and timing of painkiller use table 2.

Lack of Awareness

198 out of 220 students (90%) do not support the frequent use of painkillers without a prescription, while 163 out of 220 students (74%) are not aware that using painkillers without a prescription is considered an unsafe practice, 116 out of 220 students (53%) believe the promotion of painkillers in the media has influenced their use, 109 out of 220 students (50%) do not know that OTC painkillers can cause digestive problems. 114 out of 220 students (52%) are not aware that using painkillers without a prescription can increase the risk of internal bleeding (Table 2).

Table 2. The Differences in Responses between the Study Sample.

Question	Yes	No	Chi-Square	p-value	Positive trend	Awareness Level
Do you support the frequent use of painkillers without a prescription	22	198	12.42	0.0016	Answer (NO)	+
Do you know that the use of painkillers without a prescription is considered an unsafe use	57	163	10.41	0.013	Answer (YES)	-
the promotion in the media influenced you to use certain types of painkillers	104	116	7.24	0.086	Answer (NO)	-
Do you know that the use of painkillers without a prescription can lead to addiction	143	77	9.112	0.018	Answer (YES)	+
Do you know that an incorrect dose of painkillers without a prescription can lead to damage to the liver	167	53	10.21	0.011	Answer (YES)	+
Do you know that using painkillers without a prescription may interfere with other medications you are taking	130	90	8.49	0.047	Answer (YES)	+
you know that over-the-counter painkillers can cause digestive problems	111	109	7.02	0.731	Answer (YES)	-
Do you know that the use of painkillers without a prescription in pregnancy can be dangerous for the fetus	122	98	9.17	0.518	Answer (YES)	-
Do you know that excessive dependence on over-the-counter painkillers can disrupt the body's ability to cope with pain, natural	116	104	9.53	0.336	Answer (YES)	-
do you know that over-the-counter and long-term use of painkillers can cause side effects	137	83	11.193	0.027	Answer (YES)	+
you know that over-the-counter painkillers can cause kidney function problem	141	79	13.47	0.014	Answer (YES)	+
Do you know that using painkillers without a prescription can increase the risk of internal bleeding	106	114	7.64	0.181	Answer (YES)	-
will you stop using over-the-counter painkillers based on the information you got from this The questionnaire	112	108	6.72	0.661	Answer (YES)	-
Have you felt that your health or psychological condition requires the use of painkillers without resorting to consulting a doctor	171	49	14.94	0.015	Answer (NO)	-
Do you have knowledge of the difference between over-the-counter painkillers and those that need a prescription	100	120	12.61	0.087	Answer (YES)	-
Do you have a sufficient understanding of the appropriate dosage and timing of the use of painkillers	135	85	8.76	0.023	Answer (YES)	+
Have you become completely dependent on the use of chemical analgesics to treat pain	70	150	11.81	0.010	Answer (No)	+

Have you consulted a health professional (such as a doctor or pharmacist) about the use of over-the-counter painkillers	176	44	15.03	0.007	Answer (Yes)	+
Do you have any additional queries or concerns about the use of over-the-counter painkillers?	149	71	12.36	0.021	Answer (Yes)	+
have you noticed any side effects after using painkillers without a prescription?	83	137	8.99	0.038	Answer (YES)	-

Table 3 observes that the side effect distribution appears to be fairly even across the different categories, with no single side effect dominating results stomach pain is the most prevalent at 31%, followed by other (26%), nausea (24%), and headache (18%).

Table 3. Indication side effect of self-medication among students

Side Effect	Frequency and Percentage
Headache	**15 (18%)**
Nausea	**20 (24%)**
Stomach Pain	**26(31%)**
Other	**22(26%)**
Total	**83**

In figure 5, the majority of students (26%) indicated that having a pharmacy nearby that prescribes treatment is important. Additionally, 20% of participants noted the distance of the medical center from their area or the cost of visiting a doctor as significant factors. Furthermore, 23% cited the similarity of their symptoms to those of family members, while 21% mentioned listening to people who have tried painkillers before.

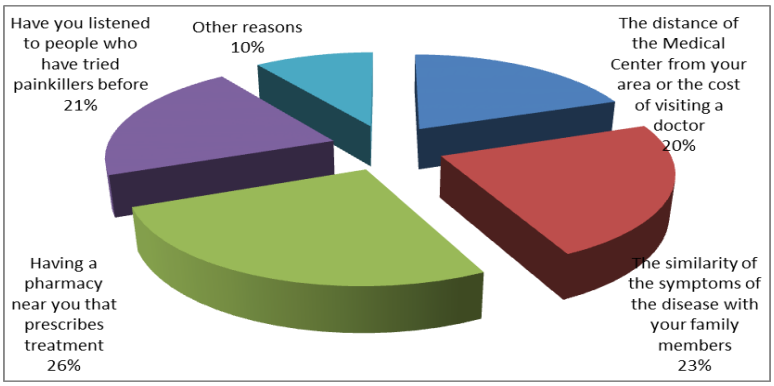

Figure 5: The motives for using over-the-counter painkillers.

DISCUSSION

In our study, the results indicate that the majority of participants (49%) were in the 20 to 25 age group. This suggests that most of the students surveyed are in the typical undergraduate age range, with a significant portion being relatively young, likely recent high school graduates. Additionally, a notable proportion (22%) falls within the 26 to 30 age group, indicating that older, potentially non-traditional students make up a smaller portion of the overall sample. This age distribution is consistent with the typical student population at a university setting. The highest level of awareness was found in the 20 to 25 age group, with 34 individuals (32%) exhibiting this awareness

There was a statistically significant relationship between the level of awareness and age group (P = 0.035), consistent with findings from a similar study [9]. The mean age of the students was 19.89 ± 1.41 years, with ages ranging from 17 to 24 years. Among the 488 students examined, the study assessed their awareness and misuse of OTC painkillers.

The study found that nearly 80% of participants reported using over-the-counter (OTC) painkillers, with about 30% admitting to misusing them, such as exceeding the recommended dosage or using them for non-medical purposes. A comparison with a similar study examining the awareness and misuse of OTC painkillers among university students [10] revealed generally consistent findings, highlighting the widespread lack of awareness and potential for misuse within the student population. The data suggests that awareness levels are associated with age, with the 20-25 age group displaying the highest proportions of both low and high awareness individuals. This may indicate a need for targeted awareness-raising efforts, particularly for the younger (under 20) and older (26-30) age groups, who exhibit lower rates

of high awareness. The more even distribution of medium awareness across age groups suggests that some awareness-building has occurred; however, there remains significant room for improvement, especially at the extremes of low and high awareness.

A study found similar age-related patterns in awareness levels, with the 20-25 age group exhibiting the highest rates of both low and high awareness [9]. The data suggests that awareness levels are associated with age, as this group has the highest proportions of individuals with both low and high awareness.

The results indicate that the study had a fairly even distribution of male and female participants, with a slightly higher proportion of males (52%) compared to females (48%). The p-value of 0.335 suggests that the observed gender difference is not statistically significant, meaning it is likely due to chance rather than a true difference in the underlying population. This near-parity in gender representation reflects a relatively balanced inclusion of both male and female students within the studied sample. This is a positive aspect, as it suggests that the study was designed to account for gender diversity and ensure equitable participation from both genders.

A similar study also examined the awareness and misuse of OTC painkillers among university students. This study reported a gender distribution of 45% males and 55% females, which is comparable to the current study's findings [10]. The high proportion of undergraduate students (82%) suggests that the findings of this study may be more reflective of the awareness and perspectives of bachelor's degree students.

In another study, it was found that social media practices were more prevalent among female students compared to male students. This study involved 488 MBBS students, of which 230 (47.2%) were males and 258 (52.8%) were females [9].

The results indicate a mixed level of awareness regarding the risks and proper use of over-the-counter (OTC) painkillers among the surveyed university students. The study noted that one of the main reasons for nonmedical use of painkillers was obtaining them from family and friends. In 26% of cases, the painkillers were suggested by someone, while in 23% of cases, they were obtained directly from family and friends.

A study conducted in sub-Saharan Africa found that 81.7% of nonmedical users of prescription pain relievers obtained the drugs for free from a friend or relative, who, in turn, had acquired the medication from just one doctor. Additionally, the study revealed that the most common source of information regarding self-medication was pharmacies, with 169 respondents (71%) relying on them. This was followed by relatives and friends, cited by 47 respondents (19.74%), and other sources such as leftover medications, textbooks, and advertisements. The data suggest that the convenience and accessibility of pharmacies, the perception of similar symptoms, and barriers to accessing professional medical care are the primary drivers of over-the-counter painkiller use. Addressing these factors through improved healthcare access and education could potentially help reduce reliance on self-medication with non-prescription pain relievers

The current study's findings indicate that stomach pain is the most prevalent symptom, reported by 31% of participants, followed by "other" symptoms (26%), nausea (24%), and headaches (18%).

Another study reported that the most common reason for self-medication among Jordanian students was headaches, cited by 81.9% of participants [13]. Additionally, a study conducted in Zawia found that headaches were the most commonly reported reason for seeking self-medication, with a rate of 76.89% (183 participants) [12].

The results of the current study show that 137 out of 220 students (62%) have a sufficient understanding of the appropriate dosage and timing of painkillers. This aligns with findings from a study in Nalut, Libya, where 64.3% of participants knew the recommended dose of paracetamol analgesic, while 53.7% did not know the amount of the recommended dose [7].

It is important to note that long-term use of over-the-counter painkillers can lead to side effects. A study found that 137 participants experienced these side effects, with 83 participants indicating that their beliefs did not provide them with knowledge about these risks.

In a study involving 130 students, it was found that those who understand that using painkillers without a prescription may interfere with other medications they are taking are in the minority. Only 19.5% of participants were aware of drug interactions involving paracetamol, while 80.5% lacked this knowledge [14].

CONCLUSION

The results of this study showed that the level of awareness among university students regarding the possible risks and dangers associated with improper or excessive use of over-the-counter pain medications was not enough to maintain their safety.

Conflicts of Interest

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

REFERENCES

1. Sarganas G, Buttery AK, Zhuang W, et al. Prevalence, trends, patterns and associations of analgesic use in Germany. BMC Pharmacol Toxicol. 2015; 16:28. doi:10.1186/s40360-015-0028-7.
2. Yanovich B. An analysis of the prevalence of over-the-counter painkiller abuse. University of Nebraska at Omaha; 2023.
3. Hawton K, Bergen H, Simkin S, Dodd S, Pocock P, Bernal W, et al. Long-term effect of reduced pack sizes of paracetamol on poisoning deaths and liver transplant activity in England and Wales: interrupted time series analyses. BMJ. 2013;346: f403.
4. Sarganas G, Buttery AK, Zhuang W, et al. Prevalence, trends, patterns and associations of analgesic use in Germany. BMC Pharmacol Toxicol. 2015; 16:28. doi:10.1186/s40360-015-0028-7.
5. Atia A, Gzllal N, Gharibe M. Evaluation of drug prescription pattern using who prescribing indicators in Libya: A cross-sectional study. Iraqi Journal of Pharmaceutical Sciences. 2023 Jun 27;32(1):266-73.
6. Atia A, Eldubiea H, Belhag H. Auditing of outpatient prescriptions in selected primary healthcare centers in Tripoli, Libya. Egyptian Pharmaceutical Journal. 2024 Jan 1;23(1):152-5.
7. Aljerbi AIM, Bagni ASK, Wareg ANA, Suleiman NFA, Askar FMY. Prevalence, self-medication practices, and knowledge levels on analgesic use among residents of Nalut, Libya: a cross-sectional study. Am J Med Sci Innov. 2022;1(1):10–15.
8. Eljamay SM, Boras E, Almzaini MS, Jebreil MM. Practices and behaviors regarding the use of analgesics. Indones J Innov Appl Sci. 2023;3(1):67-73. doi:10.47540/ijias. v3i1.726.
9. Gupta A, Pakhare AP, Gupta P, Maulik M. Self-medication practices among undergraduate medical students in an urban area of Central India. J Am Coll Health. 2018;66(1):30-37.
10. Agarwal RK, Bhaskar P, Chaturvedi S. Awareness and misuse of over-the-counter painkillers among university students: a cross-sectional study. J Pharm Pract. 2020;33(2):145-150.
11. Kawuma R, Chimukuche RS, Francis SC, Seeley J, Weiss HA. Knowledge, use (misuse) and perceptions of over-the-counter analgesics in sub-Saharan Africa: a scoping review. Glob Health Action. 2021;14(1):1955476.
12. Smeda H, Almakrabi N, Hassan R, Algool S. Evaluation of knowledge, attitude and practice of self-medication among pharmacy university students: a cross-sectional study in Zawia, Libya. Med Pharm J. 2023;2(4):193–205. doi:10.55940/medphar202361.
13. Alshogran OY, Alzoubi KH, Khabour OF, Farah S. Patterns of self-medication among medical and nonmedical university students in Jordan. Risk Manag Healthc Policy. 2018; 11:169.
14. Zamir Q, Nadeem A. Non-steroidal anti-inflammatory drugs vs. paracetamol: drug availability, patients' preference and knowledge of toxicity. J Ayub Med Coll Abbottabad. 2016;28(4):746–74.

تقييم الوعي بالمسكنات التي لا تستلزم وصفة طبية بين طلاب جامعة الزاوية، ليبيا

عبير قدارة، انوار قدارة، سوسن حفظي، ريما شمبي*

قسم صحة المجتمع، كلية التقنية الطبية، جامعة الزاوية، الزاوية، ليبيا

المستخلص

الأدوية المسكنة التي تُصرف بدون وصفة طبية متاحة على نطاق واسع، لكن استخدامها بشكل غير صحيح أو مفرط يمكن أن يؤدي إلى مخاطر صحية خطيرة. تهدف هذه الدراسة إلى تقييم مستوى الوعي بين طلاب الجامعات بشأن مخاطر استخدام الأدوية المسكنة غير الموصوفة. شملت عينة الدراسة 220 طالبًا، تم اختيارهم بشكل عشوائي، حيث شكل الطلاب الجامعيون 82% من إجمالي العينة. بينما شكل الطلاب الخريجون (ماجستير/دراسات عليا) 18% فقط. شمل الاستبيان 26 سؤالًا مقسمة إلى قسمين. ركز الجزء الأول على المعلومات الشخصية، بينما تناول الجزء الثاني الوعي وسوء استخدام المسكنات غير الموصوفة. وجدت الدراسة أن توزيع أعمار الطلاب يميل نحو الفئات العمرية الأصغر. حيث كانت النسبة الأكبر، 49%، في الفئة العمرية من 20 إلى 25 عامًا، بينما كان 29% أقل من 18 عامًا. وكانت النسبة المتبقية 22% في الفئة العمرية من 25 إلى 30 عامًا. كانت نسبة الاستخدام، سواء الطبي أو غير الطبي، 24%، وكان مستوى الوعي المنخفض 76% من المشاركين. ومن الأسباب التي ساهمت في انتشار هذه الظاهرة هو وجود صيدليات تتيح وصف مسكنات أو أدوية بدون اللجوء إلى طبيب، حيث بلغت نسبة الطلاب الذين أبلغوا عن ذلك 26%. كما وجدت الدراسة أن مستوى الوعي بين الرجال كان أقل من النساء، مما يبرز الحاجة إلى زيادة الحملات التعليمية والتوعوية لإبلاغ طلاب الجامعات حول الاستخدام الآمن والمسؤول للأدوية المسكنة التي تُصرف بدون وصفة طبية. تؤكد نتائج الدراسة على أهمية توعية طلاب الجامعات بالمخاطر المحتملة المرتبطة بالأدوية المسكنة التي تُصرف بدون وصفة طبية والحاجة إلى ممارسات ذاتية مسؤولة في العلاج.

الكلمات المفتاحية: بدون وصفة طبية، المسكنات، الزاوية، التطبيب الذاتي.