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THE EVALUATION OF KNOWLEDGE AND PRACTICE REGARDING USE OF OTC DRUGS AMONG PUBLIC AND COLLEGE STUDENTS

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ABSTRACT

Over-the-counter (OTC) medications are widely used for the management of minor health conditions and play an important role in promoting self-care practices. However, the increasing accessibility of these medications has led to growing concerns regarding irrational use and associated health risks. The present study aimed to evaluate the knowledge and practice regarding OTC drug use among college students and the general public. A cross-sectional study was conducted using a structured questionnaire to assess participants' knowledge, attitudes, and practices related to OTC medications. The findings revealed a high prevalence of self-medication, particularly among younger individuals. Although participants demonstrated basic awareness about OTC drugs, notable gaps were identified in understanding appropriate dosage, safety precautions, and potential adverse effects. A significant knowledge–practice gap was observed, with many individuals continuing to use medications without professional consultation, relying on previous prescriptions, and practicing improper dosing. Analgesics and antipyretics were identified as the most commonly used OTC drugs, while inappropriate antibiotic use emerged as a major concern contributing to antimicrobial resistance. Factors such as convenience, affordability, accessibility, and digital media influence were found to play an important role in self-medication behaviour. The study emphasizes the need for comprehensive interventions including public awareness, educational initiatives, pharmacist involvement, and stricter regulatory enforcement. In conclusion, although OTC medications offer convenience and support self-care, irrational use may result in serious health risks. A balanced and regulated approach is necessary to ensure safe and responsible use of OTC medications and to protect public health.

KEYWORDS: Over-the-counter drugs; Self-medication; Knowledge and practice; College students; General public; Rational drug use; Drug safety; Antimicrobial resistance; Pharmacy practice; Public health.

INTRODUCTION

Overview of Over-The-Counter (OTC) Medications

Over-the-counter (OTC) medications, commonly referred to as non-prescription drugs, play a crucial role in modern healthcare systems. These medications are widely utilized for the management of minor and self-limiting conditions such as fever, headache, cough, cold, allergic reactions, and gastrointestinal disturbances. Their easy accessibility through pharmacies, retail outlets, and online platforms has made them an essential component of self-care practices worldwide. The World Health Organization defines self-medication as *"the selection and use of medicines by individuals to treat self-recognized symptoms or illnesses without professional medical advice"*.[1] When practiced appropriately, self-medication can reduce healthcare burden, improve accessibility, and empower individuals to manage minor illnesses. However, lack of professional supervision increases the risk of inappropriate drug use, dosing errors, and adverse effects[20]. In addition, the growing availability of combination drugs and branded OTC products has complicated consumer understanding, increasing the likelihood of irrational drug selection and misuse [Figure 1].

Figure 1: Common OTC Drug Categories.

Rising Trend of Self-Medication Among Students

Self-medication has become highly prevalent among college students and young adults. Studies consistently report a higher prevalence of OTC drug use in this population compared to the general public.[2-6] Contributing factors include academic stress, time constraints, easy drug accessibility, and peer influence. Students from healthcare backgrounds often exhibit overconfidence due to partial pharmacological knowledge, leading to reduced dependence on professional consultation.[7,18] In contrast, non-healthcare students rely more on internet sources, advertisements, and peer advice, which may not always be reliable.[8] Moreover, previous personal experiences with similar illnesses reinforce repeated self-medication behaviour, gradually making it a routine practice. Despite differences in awareness, both groups remain vulnerable to incorrect dosing, delayed diagnosis, and adverse drug reactions.[7-9][Figure 2].

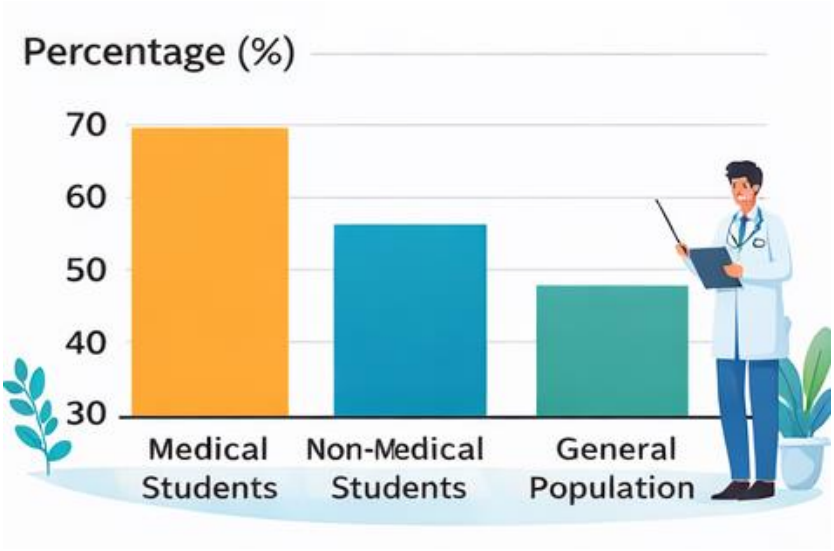


Figure 2: Prevalence of Self-Medication Among Students – Bar/Graph representation.

Self-Medication Practices In Developing Countries

In developing countries such as India, self-medication is deeply rooted in healthcare-seeking behaviour. This is largely driven by limited access to healthcare facilities, high treatment costs, long waiting times, and inadequate doctor-to-patient ratios.[3,15] Furthermore, weak regulatory enforcement allows easy access to prescription-only medications, including antibiotics and corticosteroids, without proper authorization.[4] This significantly contributes to irrational drug use and increased health risks. Cultural beliefs and social practices also play a role, where pharmacists are often considered primary healthcare providers. This further promotes unsupervised medication practices within the community [Figure 3].

Figure 3: Factors Influencing Self-Medication in Developing Countries.

Health Risks Associated With OTC Drug Use

Although OTC medications are generally considered safe, their inappropriate and unsupervised use can lead to serious health complications. Lack of professional guidance may result in misdiagnosis, masking of underlying diseases, drug interactions, and toxicity.[3]

For example:

1. Excessive use of analgesics may cause liver and kidney damage
2. Inappropriate antibiotic use contributes to drug resistance
3. Combining similar medications may lead to accidental overdose

Such practices can result in hepatic toxicity, renal impairment, gastrointestinal bleeding, and allergic reactions.[4,9]

These risks highlight the importance of rational drug use and patient awareness [Figure 4].

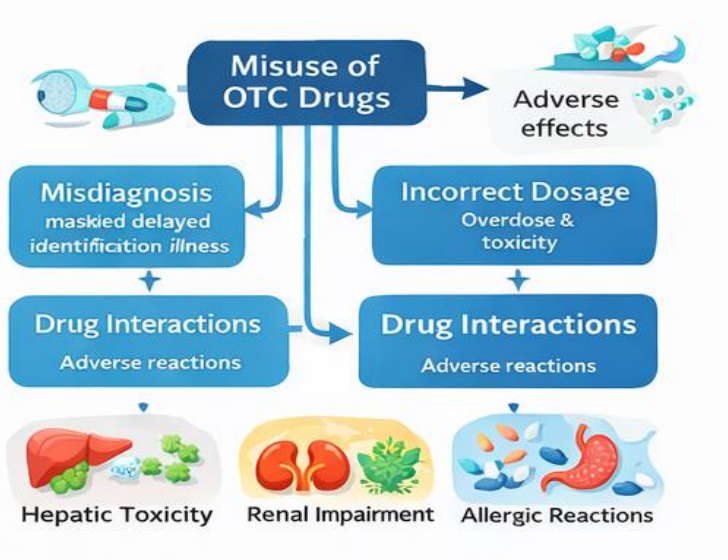


Figure 4: Risks of OTC Drug Misuse – Flowchart showing adverse effects.

Antimicrobial Resistance: A Global Concern

The misuse of antibiotics through self-medication is a major contributor to antimicrobial resistance (AMR). Incomplete or inappropriate use allows microorganisms to develop resistance mechanisms, reducing treatment effectiveness.[4] The World Health Organization has identified AMR as a critical global health threat, capable of reversing decades of medical progress.[1] Additionally, misuse of certain OTC drugs such as codeine-containing cough syrups has raised concerns about dependency and substance abuse.

Influence of Socio-Demographic Factors

Self-medication behaviour is significantly influenced by age, gender, education level, and socio-economic status.[10,19]

Research indicates that:

1. Women are more likely to use OTC drugs for *pain and minor infections*
2. Men tend to use OTC drugs for *musculoskeletal and gastrointestinal issues*

Additionally, advertisements, social media, and online health information play a major role in shaping public perception. The presence of misleading or incomplete information often leads to irrational medication practices [Figure 5].

Figure 5: Socio-Demographic Factors Affecting Self-Medication.

Impact of Digitalization And Online Pharmacies

The rise of digital platforms and online pharmacies has significantly increased access to medications. While these platforms offer convenience, they often lack strict regulatory control, allowing individuals to obtain drugs without prescriptions. This trend is particularly evident among young and educated populations, increasing the risk of unsupervised drug use and self-diagnosis. The absence of professional guidance in digital healthcare environments further contributes to irrational drug consumption [Figure 6].

Figure 6: Growth of Online Pharmacy Usage.

Knowledge–Practice Gap

A critical issue in self-medication is the gap between knowledge and actual practice. Studies have shown that even individuals with adequate knowledge, particularly healthcare students, continue to engage in unsafe self-medication practices.[11,12,19] This indicates that awareness alone is insufficient, and there is a need for behavioural change interventions, patient education, and stricter regulatory policies to promote safe medication practices.

Figure 7: Gap Between Knowledge and Practice – Conceptual Diagram.

Rationale of The Study

The increasing use of OTC medications among both the general public and college students reflects a complex interaction of accessibility, cultural beliefs, and healthcare system limitations. Since students represent the future workforce, their health-related behaviours have long-term implications for public health.

Therefore, evaluating the knowledge and practice regarding OTC drug use is essential to:

1. Identify gaps in awareness and misconceptions
2. Promote rational and safe medication practices
3. Minimize health risks and adverse outcomes
4. Support policy formulation and healthcare interventions

AIM AND OBJECTIVES

AIM

The present study titled “Evaluation of Knowledge and Practice Regarding Use of Over-the-Counter (OTC) Drugs Among Public and College Students” aims to systematically assess the level of awareness, attitudes, and real-world practices associated with OTC medication use among both the general population and college students. The study particularly focuses on identifying the discrepancy between knowledge and actual behaviour**,** which has been widely reported in previous research.[7,11,19]

In addition, this research seeks to examine the influence of demographic and educational factors**,** such as age, academic background (medical vs. non-medical), accessibility of medications, and sources of drug-related information, on self-medication practices.[2,10] The study also intends to highlight the potential health risks associated with irrational OTC drug use**,** including adverse drug reactions and antimicrobial resistance.[3,4]

Ultimately, the aim is to generate evidence-based insights that can support the development of effective educational strategies, public health interventions, and regulatory measures to promote the safe, rational, and responsible use of OTC medications.[1,20]

OBJECTIVES

The increasing prevalence of unsupervised OTC drug use necessitates a structured evaluation of the underlying behavioural and systemic factors. The study is guided by the following objectives:

1. To Evaluate The Pattern Of OTC Drug Use Among The General Public And College Students

This objective aims to assess the prevalence and frequency of self-medication practices, with particular emphasis on differences between healthcare and non-healthcare students, as well as variations based on age, gender, education, and socio-economic status.[2,5,10] Understanding these patterns will help identify high-risk groups prone to irrational drug use.

2. To Assess The Level Of Knowledge Regarding The Safe Use Of OTC Medications

This includes evaluating participants' understanding of dosage, indications, contraindications, side effects, and potential drug interactions**.** It also examines whether educational exposure and healthcare-related knowledge contribute to safer medication practices or if a knowledge–practice gap persists.[7,11,12]

3. To Identify Commonly Used OTC Medications And Their Usage Trends

This objective focuses on documenting the most frequently used OTC drugs, such as analgesics, antipyretics, antihistamines, antacids, and vitamins, along with the inappropriate use of prescription-only drugs like antibiotics.[4,9]

Identifying these patterns is essential to understand areas of potential misuse and overuse.

4. To Analyze The Factors Influencing Self-Medication Practices

This involves exploring the psychological, social, and economic determinants that drive individuals toward self-medication. Factors such as previous experience, cost constraints, time limitations, peer influence, accessibility of drugs, and reliance on digital information sources will be examined.[2,8,15]

5. To Suggest Strategies For Promoting Rational And Safe Use Of OTC Medications

Based on the findings, this objective aims to propose evidence-based recommendations**,** including public awareness programs, integration of rational drug use education into academic curricula, stricter regulatory enforcement, and enhanced pharmacist involvement.[1,3,20] These measures are intended to minimize risks and encourage responsible self-medication practices.

METHODOLOGY

STUDY DESIGN

The present research was conducted as a descriptive, cross-sectional, questionnaire-based study aimed at evaluating the knowledge and practice regarding the use of over-the-counter (OTC) drugs among the general public and college students. A cross-sectional design was considered appropriate as it enables the simultaneous assessment of awareness, attitudes, and behaviours within a defined population at a specific point in time, which is widely adopted in studies related to self-medication practices.[2,9] The study was carried out in selected urban and semi-urban settings, including

educational institutions, community areas, and public gathering locations, to ensure heterogeneity of the study population. This approach enhances the external validity and applicability of findings across diverse population groups.[10]

STUDY POPULATION

The study population comprised two primary groups:

1. College students (including both healthcare and non-healthcare disciplines)
2. General public (non-student adult population)

Participants were selected to reflect variability in demographic and socio-economic characteristics, including age, gender, educational status, and occupation, as these variables are known to significantly influence self-medication practices.[10,19]

SAMPLE SIZE DETERMINATION

A total of 330 participants were included in the study. The sample size was determined based on:

1. Feasibility of data collection within the study duration
2. Reference to similar studies conducted in comparable settings.[2,5]
3. The need to achieve adequate statistical representation for descriptive and inferential analysis

Although formal sample size calculation methods (e.g., prevalence-based formula) can be applied, the chosen sample size was considered sufficient to identify trends, associations, and behavioural patterns in OTC drug usage.

SAMPLING TECHNIQUE

A non-probability convenience sampling method was employed to recruit participants. Individuals who were readily available and willing to participate were included in the study.

This method was selected due to:

1. Ease of data collection
2. Time constraints
3. Suitability for exploratory and behavioural research

However, efforts were made to include participants from diverse backgrounds to minimize sampling bias and improve representativeness.[2]

INCLUSION AND EXCLUSION CRITERIA

INCLUSION CRITERIA

1. Individuals aged ≥18 years
2. College students and general public
3. Participants who provided voluntary informed consent

EXCLUSION CRITERIA

1. Individuals below 18 years of age
2. Healthcare professionals involved in prescribing medications

3. Participants unwilling to participate
4. Incomplete or inconsistent questionnaire responses

DATA COLLECTION INSTRUMENT

Data were collected using a structured, self-administered questionnaire, developed after an extensive review of previously published literature.[2,7,8]

The questionnaire was designed to comprehensively assess the following domains:

1. Demographic Profile

- Age, gender, educational qualification, occupation

2. Knowledge Assessment

- Awareness regarding OTC drugs
- Understanding of dosage, indications, contraindications, and side effects
- Knowledge about drug interactions and antibiotic misuse

3. Practice Assessment

- Frequency of OTC drug use
- Types of drugs commonly used (analgesics, antipyretics, antibiotics, etc.)
- Duration and pattern of usage

4. Attitude and Behaviour

- Sources of information (pharmacist, internet, previous prescriptions)
- Preference for self-medication vs. professional consultation
- Perception regarding safety of OTC drugs

The questionnaire consisted primarily of close-ended questions, facilitating quantitative analysis, along with a few multiple-response items to capture detailed behavioural insights.

VALIDATION OF THE TOOL

To ensure scientific rigor, the questionnaire underwent:

1. Content validation by subject experts in pharmacy practice
2. Face validation to ensure clarity and comprehension
3. Pilot testing among a small subset of participants (n = 20)

Necessary modifications were made based on feedback to improve reliability, clarity, and relevance.

DATA COLLECTION PROCEDURE

Data collection was conducted over a period of [insert duration, e.g., 2–3 months]. Participants were approached in person, and the purpose and objectives of the study were clearly explained.

1. Informed consent was obtained prior to participation
2. Participants were assured of confidentiality and anonymity

3. Questionnaires were filled either self-administered or with guidance when required

No incentives were provided, ensuring voluntary participation without bias.

STATISTICAL ANALYSIS

The collected data were coded and entered into Microsoft Excel and subsequently analyzed using Statistical Package for the Social Sciences (SPSS) version 16.

Descriptive Statistics

1. Data were expressed as frequency, percentage, mean, and standard deviation
2. Results were presented using tables, bar diagrams, and pie charts

Inferential Statistics

1. Chi-square test (χ^2) was applied to assess the **a**ssociation between categorical variables (e.g., gender vs. OTC use, education vs. knowledge level)
2. Independent t-test or ANOVA was used where applicable for comparison of means
3. A p-value < 0.05 was considered statistically significant

This statistical approach is consistent with previous studies evaluating self-medication practices and behavioural patterns.[2,9,11]

OUTCOME MEASURES

The primary outcomes assessed in the study included:

1. Prevalence of OTC drug use
2. Level of knowledge regarding safe medication practices
3. Patterns and frequency of self-medication
4. Factors influencing OTC drug use
5. Identification of knowledge–practice gaps

RELIABILITY AND VALIDITY

The study ensured methodological robustness through:

- Use of a validated questionnaire
- Pilot testing and refinement
- Inclusion of standardized questions from previous studies
- Consistent data collection procedures

These measures improved the internal consistency and reliability of the findings[2,7]

LIMITATIONS OF THE STUDY

Despite careful planning, certain limitations were identified:

- Convenience sampling may limit generalizability
- Data based on self-reporting, leading to potential recall bias
- Study restricted to a specific geographic region
- Cross-sectional design limits causal inference

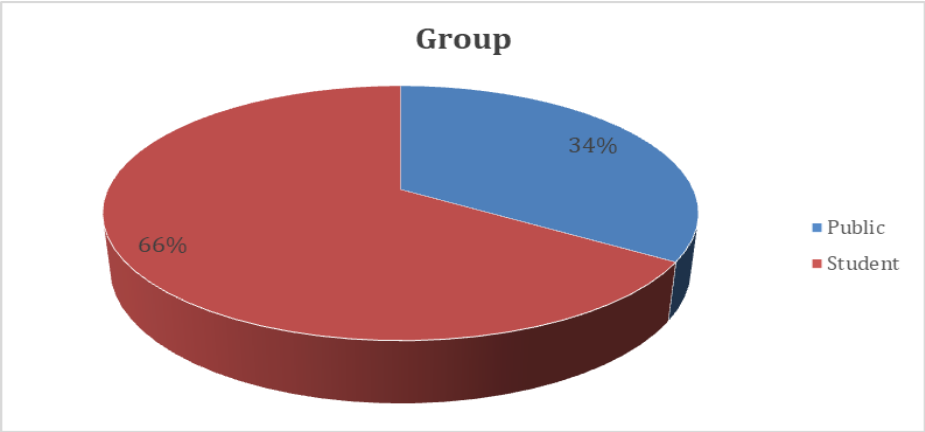
RESULTS

PARTICIPANT CHARACTERISTICS

A total of 330 participants were included in the study, comprising both college students and members of the general public. The demographic profile demonstrated variability in age, gender, educational status, and occupation, ensuring adequate representation of different population groups. The detailed demographic characteristics are presented in Table 1 to Table 8. This distribution allowed for a comprehensive evaluation of OTC drug use patterns across diverse socio-demographic categories.

Table 1: Distribution of Participants by Study Group.

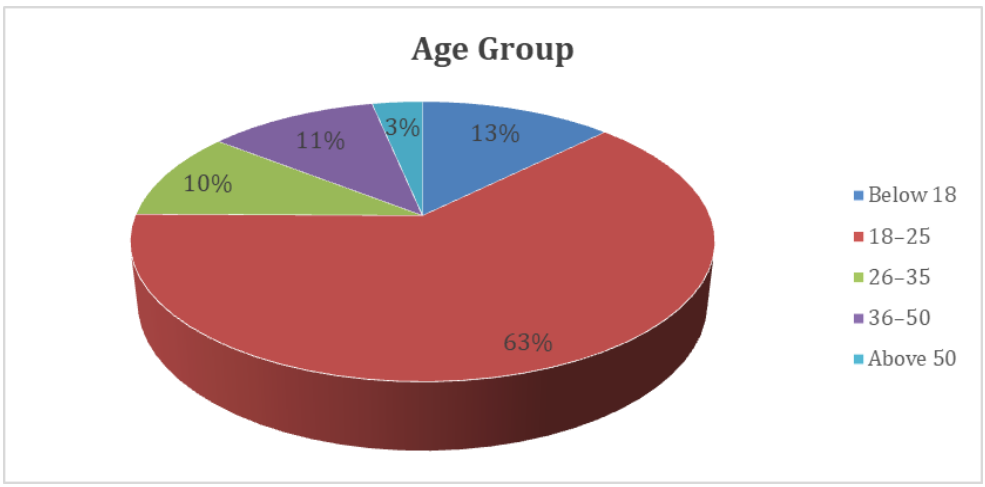
Group	Frequency (n)	Percentage (%)
Public	112	33.9
Student	218	66.1
Total	330	100.0



Majority of participants were students (66.1%), while 33.9% belonged to the public group.

Table 2: Age Group Distribution of Participants.

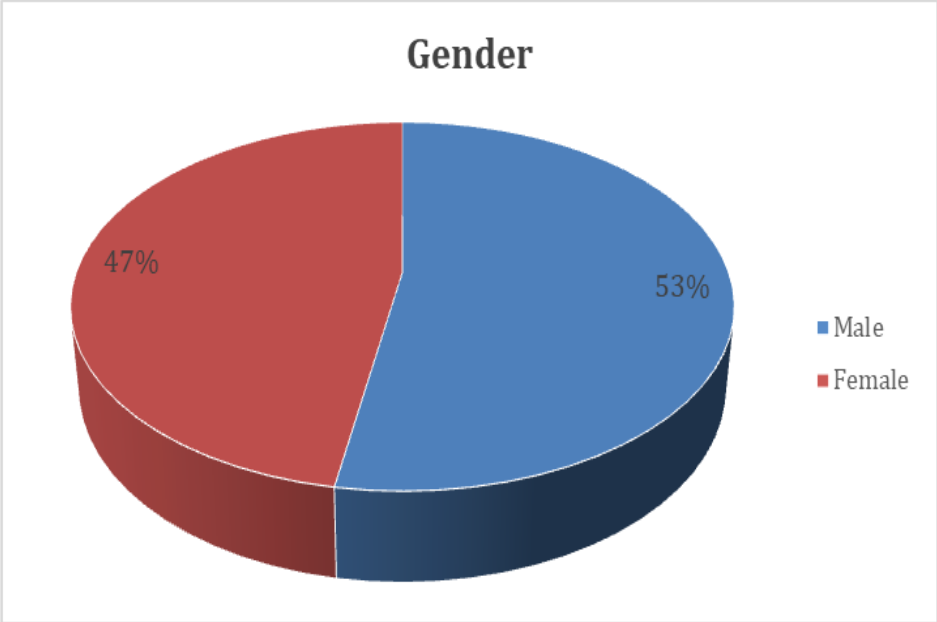
Age Group	Frequency (n)	Percentage (%)
Below 18	42	12.7
18–25	206	62.4
26–35	34	10.3
36–50	37	11.2
Above 50	11	3.3
Total	330	100.0



Most participants were in the 18–25 age group (62.4%)

Table 3: Gender Distribution of Participants.

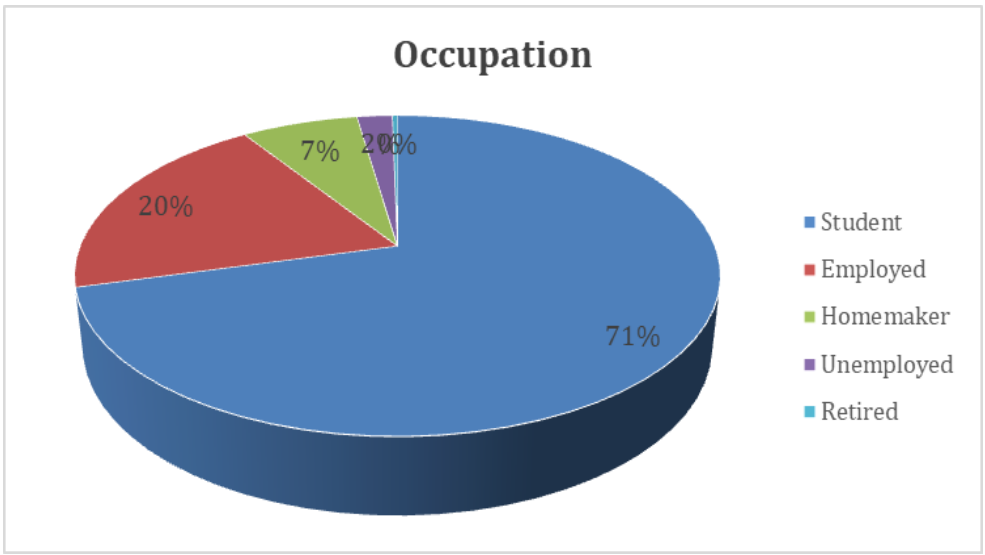
Gender	Frequency (n)	Percentage (%)
Male	174	52.7
Female	156	47.3
Total	330	100.0



The study population included slightly more males (52.7%) than females (47.3%).

Table 4: Occupational Status of Participants.

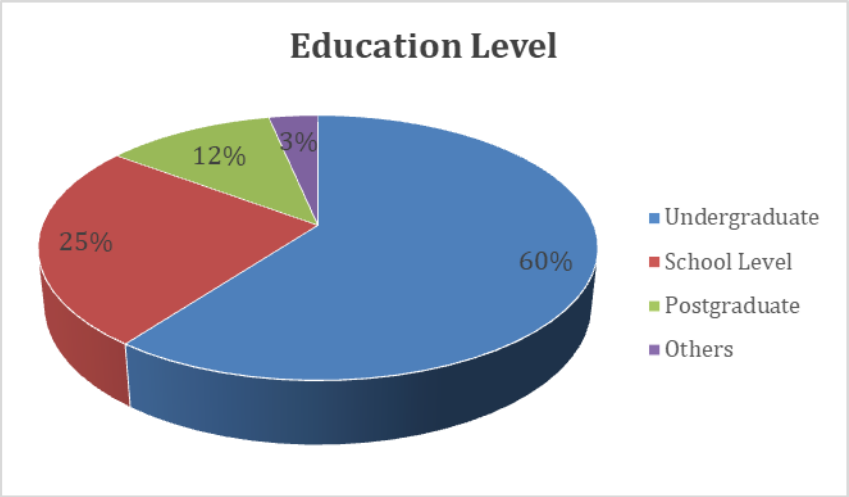
Occupation	Frequency (n)	Percentage (%)
Student	234	70.9
Employed	65	19.7
Homemaker	23	7.0
Unemployed	7	2.1
Retired	1	0.3
Total	330	100.0



Students constituted the majority of participants (70.9%).

Table 5: Educational Level of Participants.

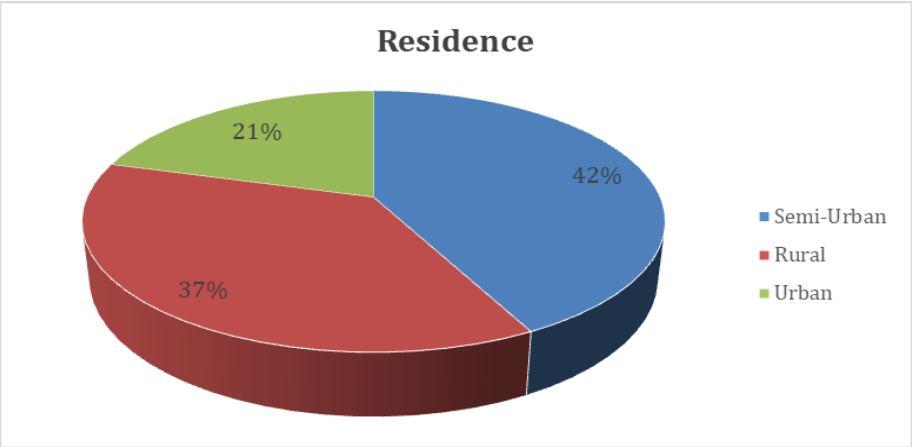
Education Level	Frequency (n)	Percentage (%)
Undergraduate	199	60.3
School Level	82	24.8
Postgraduate	38	11.5
Others	11	3.3
Total	330	100.0



Most participants were undergraduates (60.3%).

Table 6: Area of Residence.

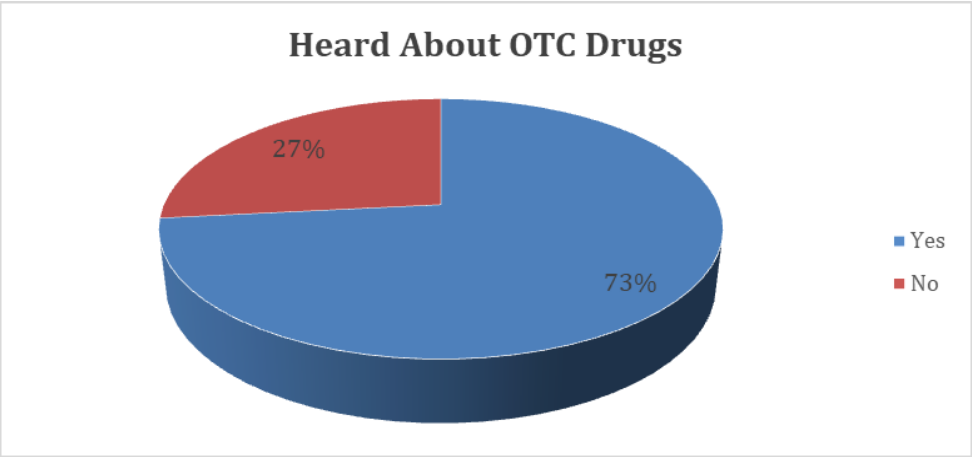
Residence	Frequency (n)	Percentage (%)
Semi-Urban	140	42.4
Rural	122	37.0
Urban	68	20.6
Total	330	100.0



A higher proportion of participants lived in semi-urban areas (42.4%).

Table 7: Awareness about OTC Drugs.

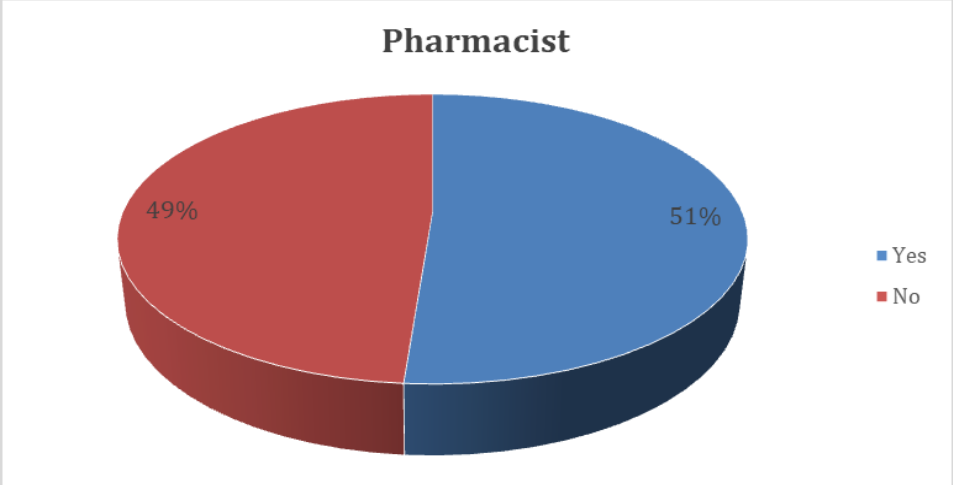
Heard About OTC Drugs	Frequency (n)	Percentage (%)
Yes	242	73.3
No	88	26.7
Total	330	100.0



Nearly three-fourths of participants (73.3%) were aware of OTC drugs.

Table 8: First Source of Information – Pharmacist.

Pharmacist	Frequency (n)	Percentage (%)
Yes	169	51.2
No	161	48.8
Total	330	100.0



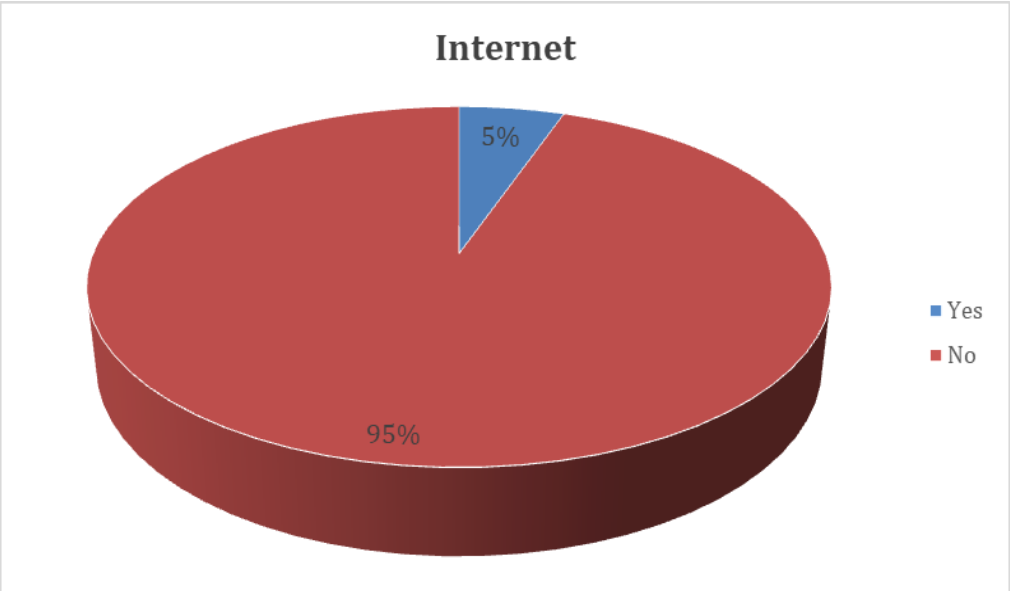
Pharmacists were the primary source of OTC information for 51.2% of participants.

PREVALENCE AND FREQUENCY OF OTC DRUG USE

The study findings revealed a high prevalence of OTC drug usage among participants. A majority reported practicing self-medication for common ailments, including fever, headache, respiratory conditions, and gastrointestinal disturbances. The prevalence and frequency-related findings are summarized in Table 9 to Table 16. The results indicate that younger individuals, particularly college students, exhibited a higher tendency toward frequent OTC drug use, possibly due to easy accessibility and perceived convenience.

Table 9: First Source of Information – Internet.

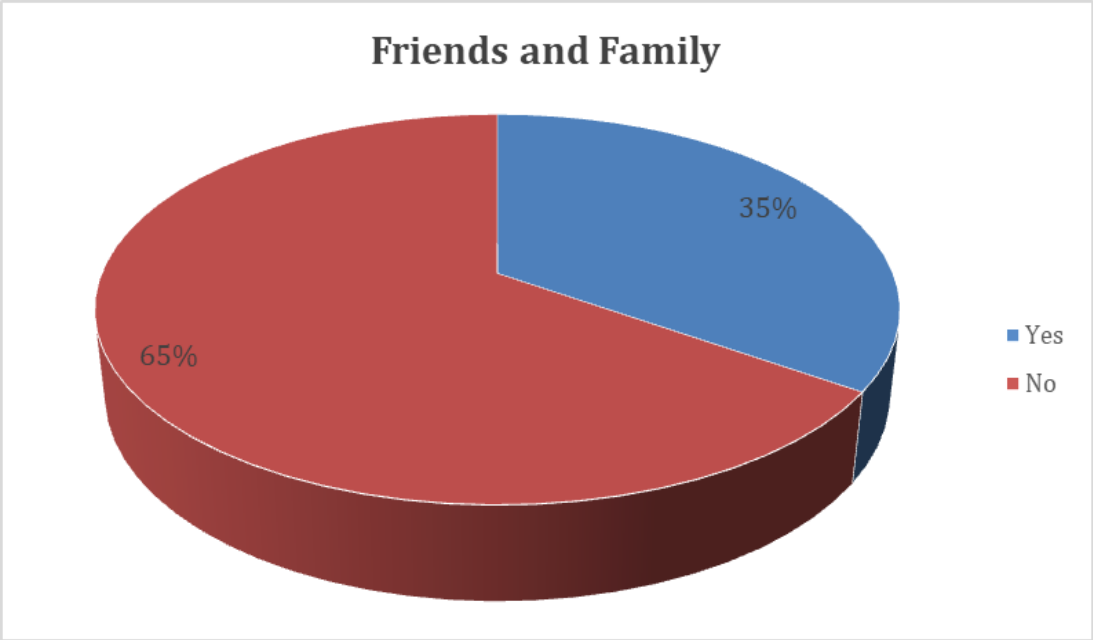
Internet	Frequency (n)	Percentage (%)
Yes	18	5.5
No	312	94.5
Total	330	100.0



Only a small proportion (5.5%) relied on the internet as their first source of OTC information.

Table 10: First Source of Information – Friends and Family.

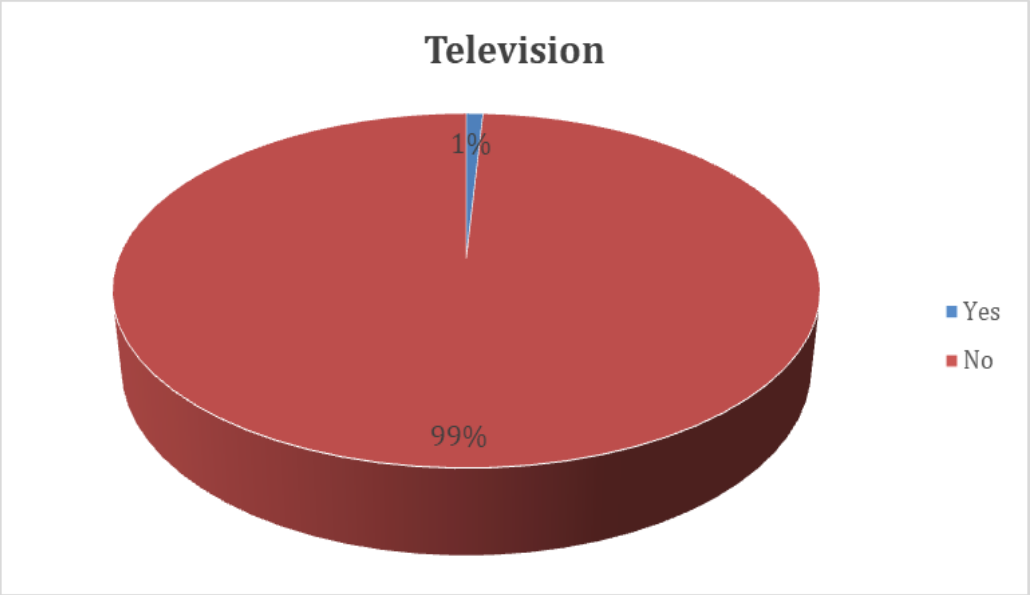
Friends and Family	Frequency (n)	Percentage (%)
Yes	114	34.5
No	216	65.5
Total	330	100.0



Friends and family influenced OTC use in 34.5% of participants.

Table 11: First Source of Information – Television

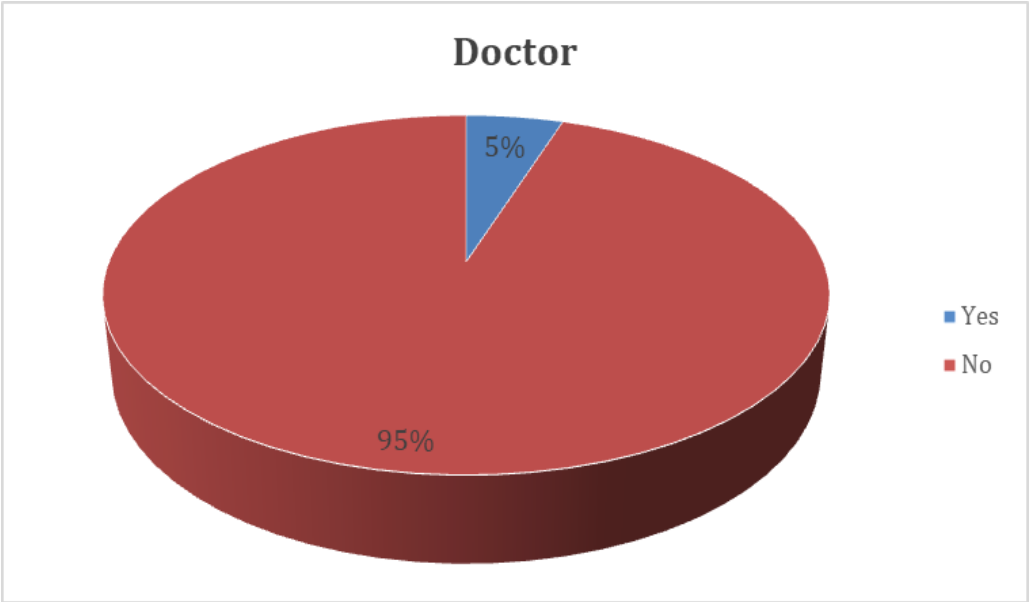
Television	Frequency (n)	Percentage (%)
Yes	3	0.9
No	327	99.1
Total	330	100.0



Television played a minimal role as a source of OTC information.

Table 12: First Source of Information – Doctor

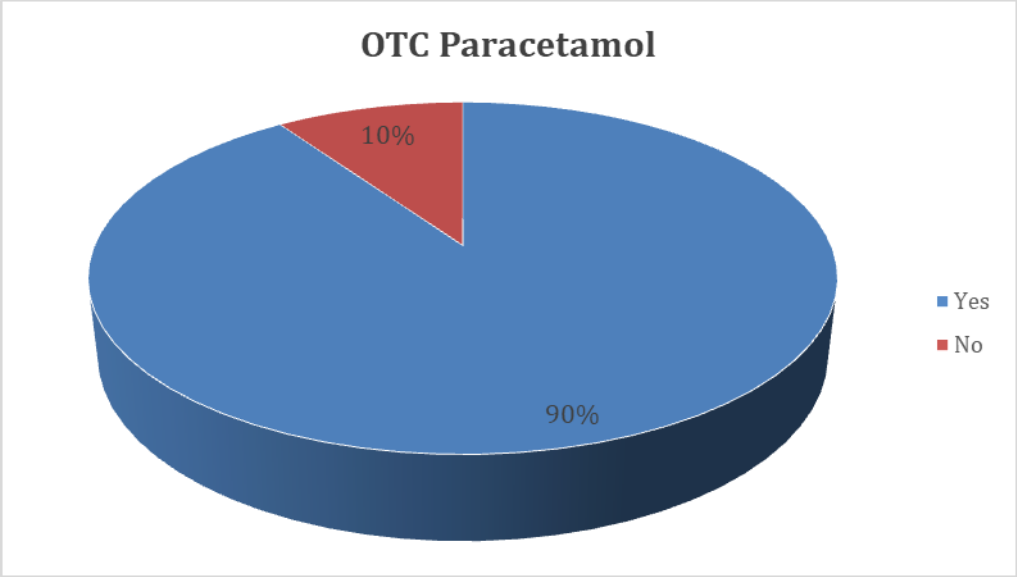
Doctor	Frequency (n)	Percentage (%)
Yes	17	5.2
No	313	94.8
Total	330	100.0



Only 5.2% consulted doctors as a primary source for OTC medicines.

Table 13: Use of OTC Paracetamol.

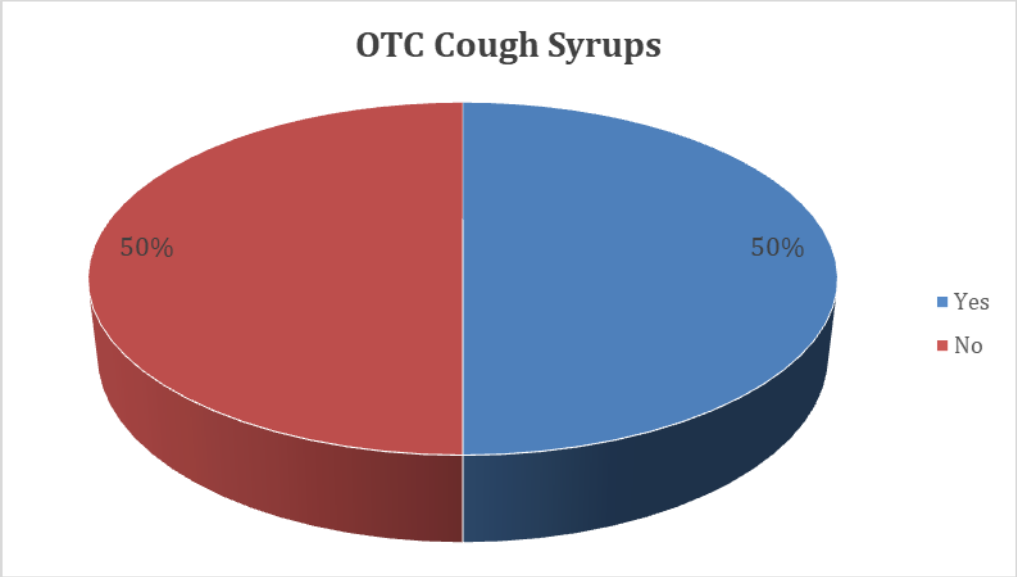
OTC Paracetamol	Frequency (n)	Percentage (%)
Yes	298	90.3
No	32	9.7
Total	330	100.0



Paracetamol was the most commonly used OTC drug (90.3%).

Table 14: Use of OTC Cough Syrups

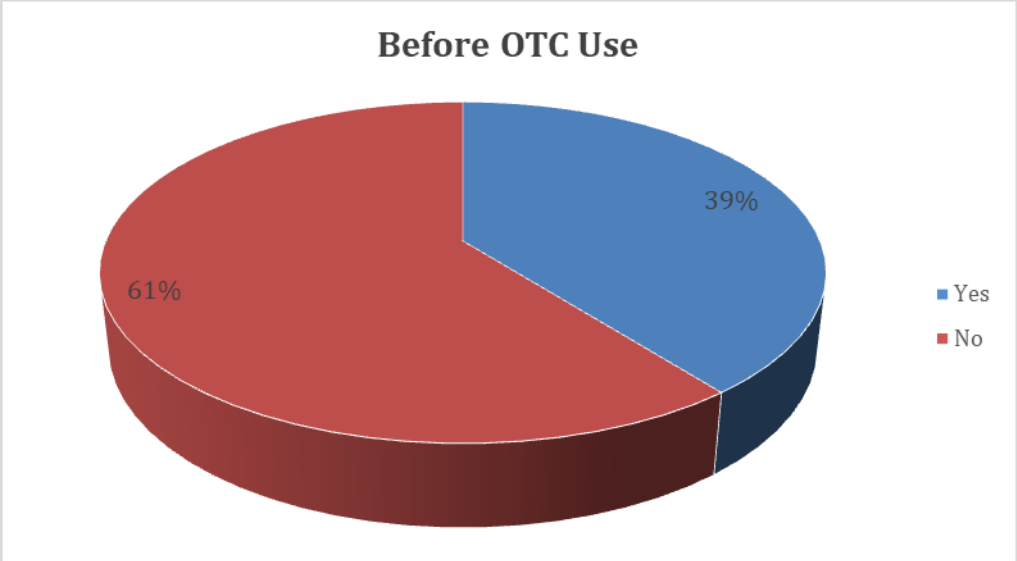
OTC Cough Syrups	Frequency (n)	Percentage (%)
Yes	165	50.0
No	165	50.0
Total	330	100.0



Half of the participants reported using OTC cough syrups.

Table 15: Consultation with Pharmacist Before OTC Use

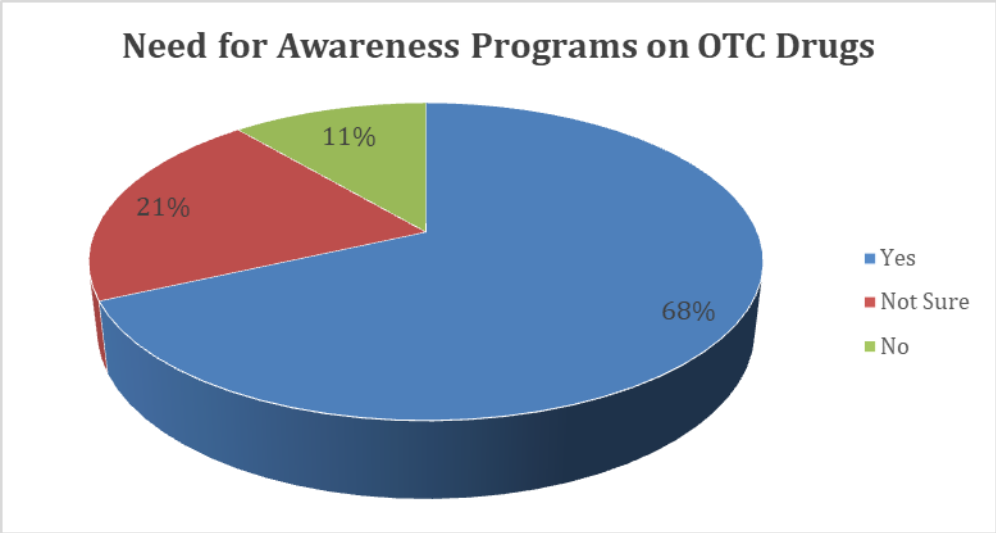
Before OTC Use	Frequency (n)	Percentage (%)
Yes	130	39.4
No	200	60.6
Total	**330**	**100.0**



Only 39.4% consulted a pharmacist before using OTC medicines.

Table 16: Need for Awareness Programs on OTC Drugs.

Response	Frequency (n)	Percentage (%)
Yes	225	68.2
Not Sure	68	20.6
No	37	11.2
Total	330	100.0



A majority of participants (68.2%) felt there is a need for awareness programs on OTC drug use.

KNOWLEDGE REGARDING OTC MEDICATIONS

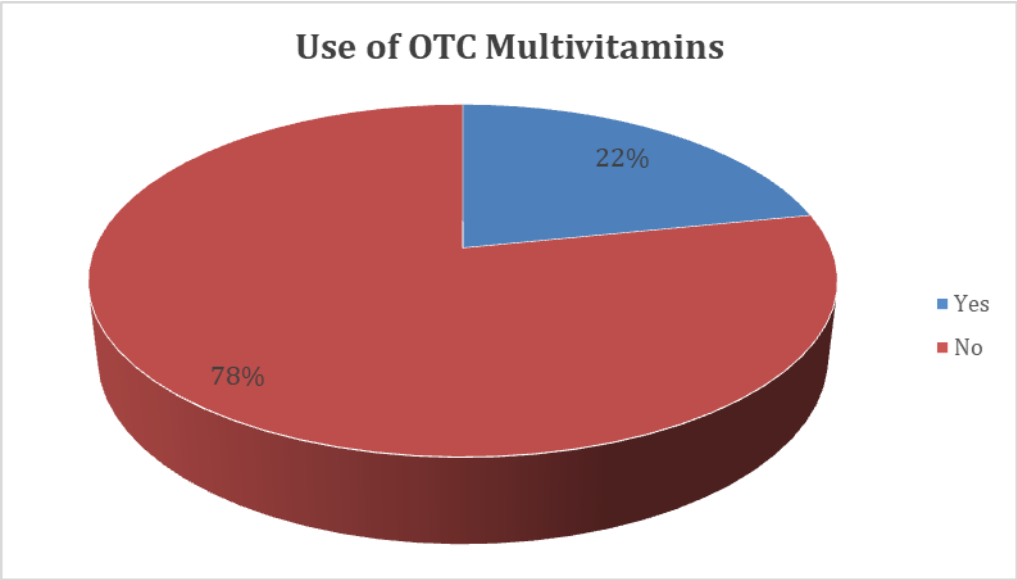
The assessment of knowledge demonstrated that while participants had basic awareness of OTC medications, there were notable deficiencies in critical safety aspects, including:

1. Correct dosage and duration of use
2. Potential adverse effects
3. Drug interactions and contraindications

The detailed knowledge-related responses are presented in Table 17 to Table 26. Participants from healthcare-related backgrounds showed comparatively better knowledge, yet this did not consistently translate into rational practices, highlighting a significant knowledge–practice gap.

Table 17: Use of OTC Multivitamins.

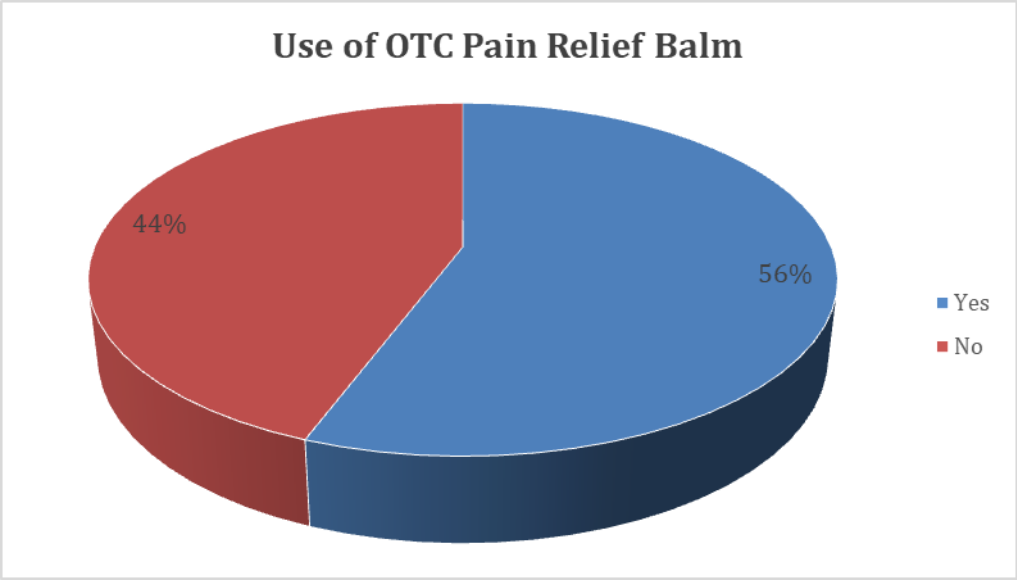
Response	Frequency (n)	Percentage (%)
Yes	72	21.8
No	258	78.2
Total	330	100.0



Only 21.8% of participants reported using OTC multivitamins, indicating relatively low usage.

Table 18: Use of OTC Pain Relief Balm.

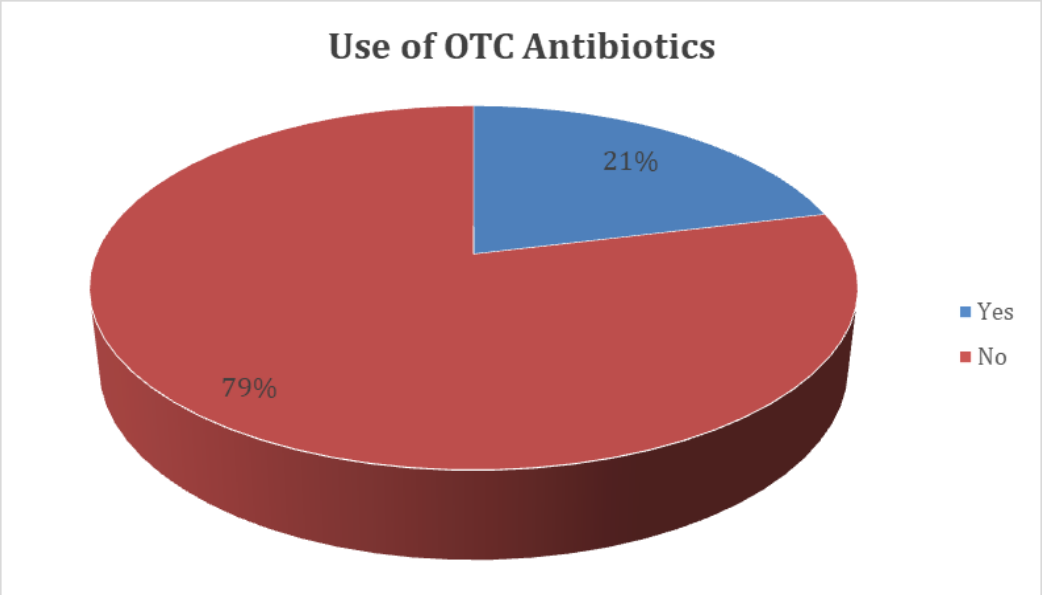
Response	Frequency (n)	Percentage (%)
Yes	184	55.8
No	146	44.2
Total	330	100.0



More than half of the participants (55.8%) used OTC pain relief balms.

Table 19: Use of OTC Antibiotics.

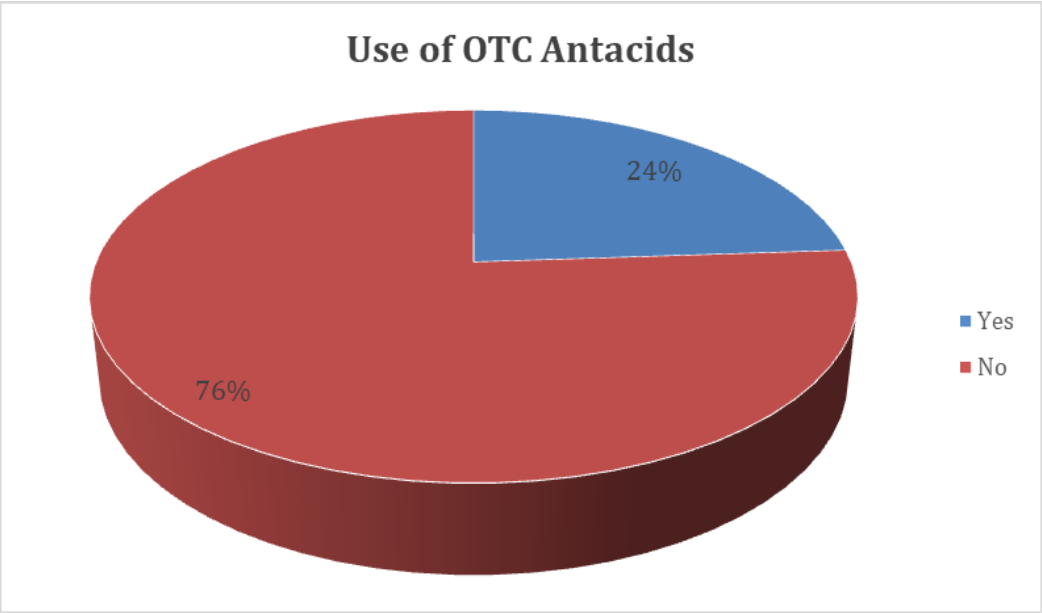
Response	Frequency (n)	Percentage (%)
Yes	70	21.2
No	260	78.8
Total	330	100.0



About one-fifth of participants (21.2%) reported using antibiotics without prescription.

Table 20: Use of OTC Antacids.

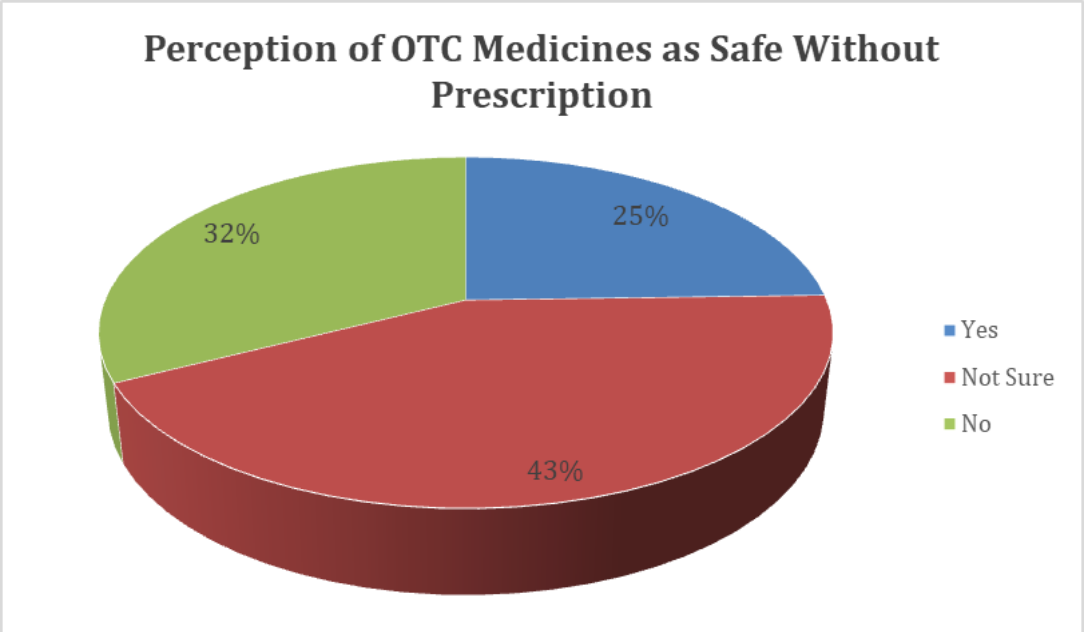
Response	Frequency (n)	Percentage (%)
Yes	79	23.9
No	251	76.1
Total	330	100.0



Approximately 23.9% of participants used OTC antacids.

Table 21: Perception of OTC Medicines as Safe Without Prescription.

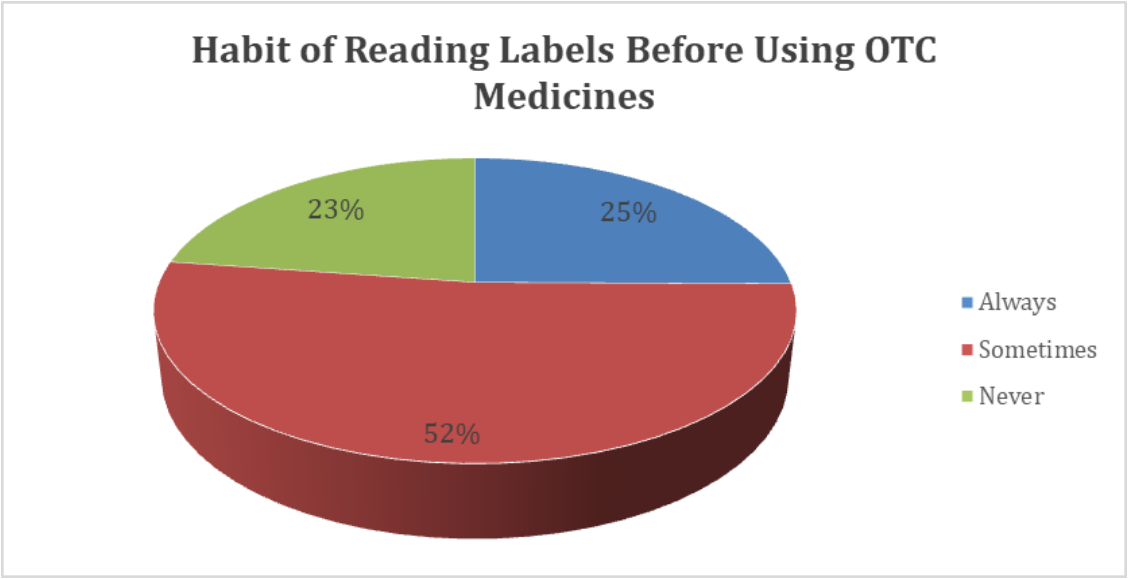
Response	Frequency (n)	Percentage (%)
Yes	81	24.5
Not Sure	142	43.0
No	107	32.4
Total	330	100.0



Most participants were either unsure or believed OTC medicines are not always safe without prescription.

Table 22: Habit of Reading Labels Before Using OTC Medicines.

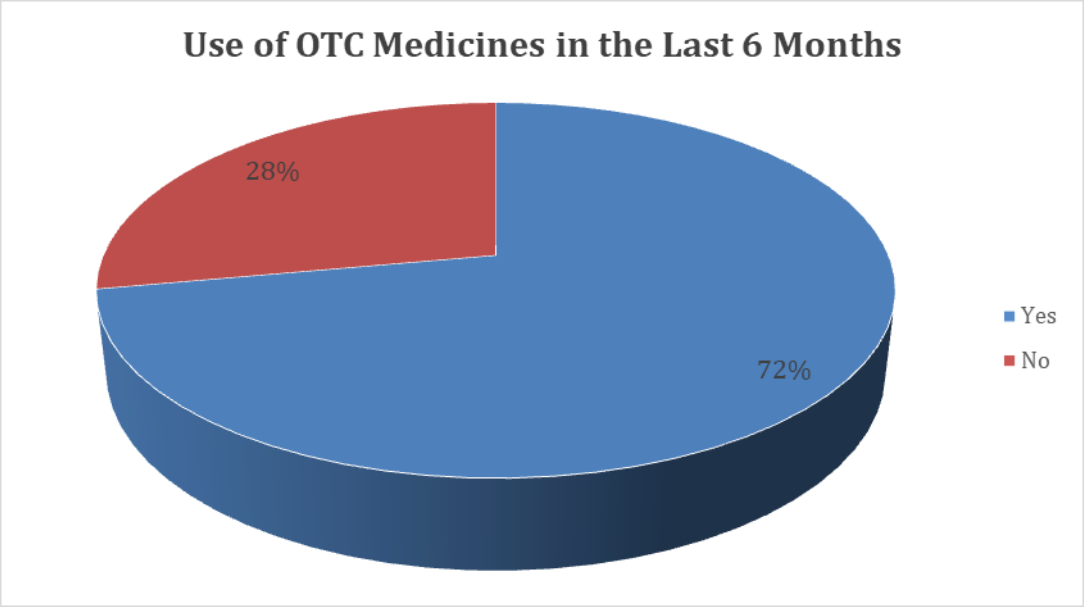
Response	Frequency (n)	Percentage (%)
Always	83	25.2
Sometimes	172	52.1
Never	75	22.7
Total	330	100.0



More than half of participants (52.1%) read labels only sometimes before OTC use.

Table 23: Use of OTC Medicines in the Last 6 Months.

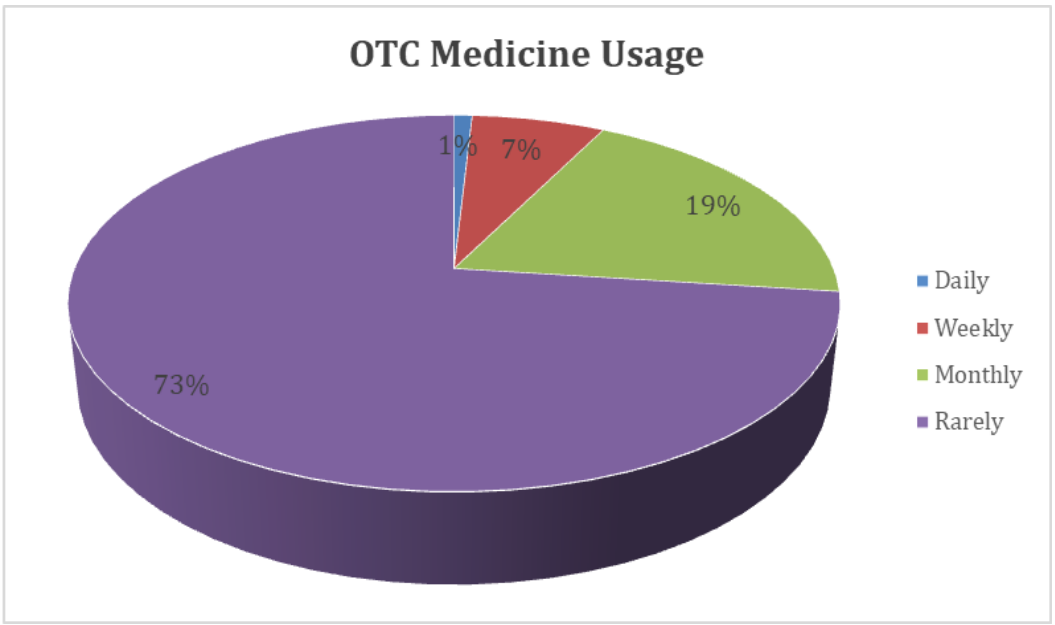
Response	Frequency (n)	Percentage (%)
Yes	238	72.1
No	92	27.9
Total	330	100.0



A large proportion of participants (72.1%) had used OTC medicines in the past six months.

Table 24: Frequency of OTC Medicine Usage.

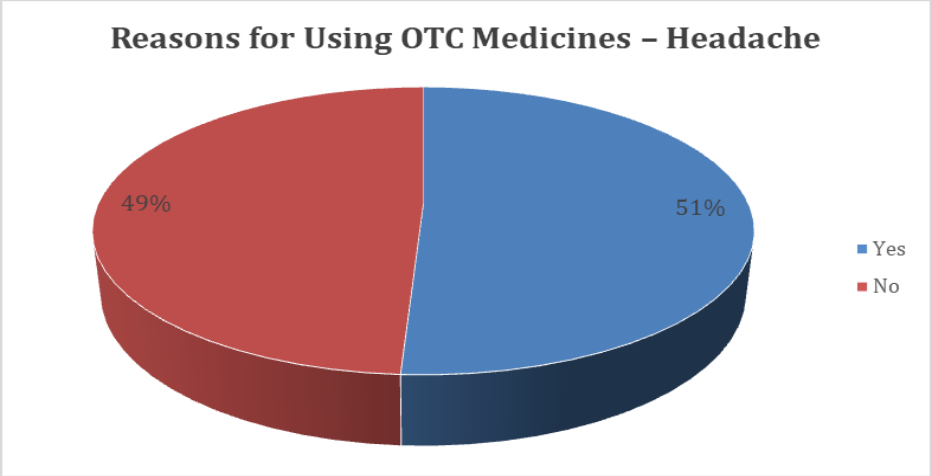
Usage Frequency	Frequency (n)	Percentage (%)
Daily	3	0.9
Weekly	22	6.7
Monthly	64	19.4
Rarely	241	73.0
Total	330	100.0



Most participants (73.0%) used OTC medicines rarely.

Table 25: Reasons for Using OTC Medicines – Headache.

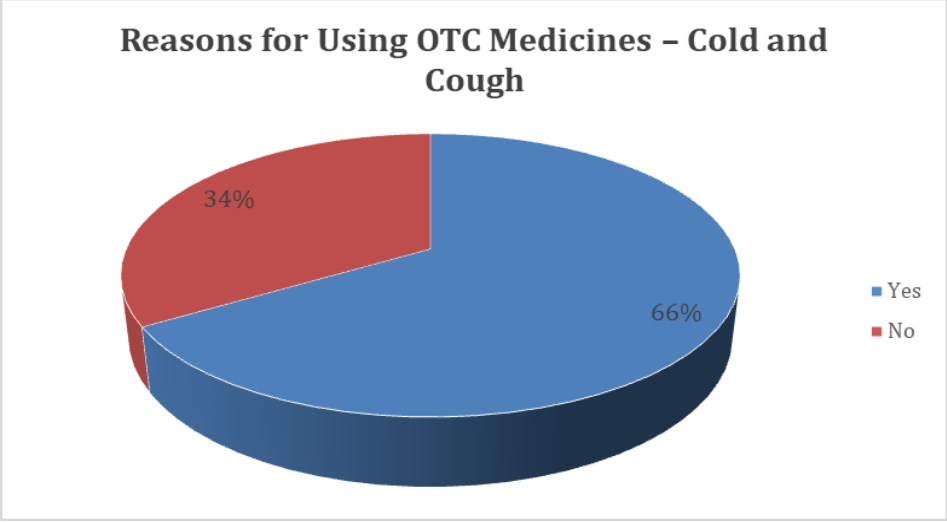
Response	Frequency (n)	Percentage (%)
Yes	168	50.9
No	162	49.1
Total	330	100.0



Headache was a common reason for OTC use, reported by 50.9% of participants.

Table 26: Reasons for Using OTC Medicines – Cold and Cough.

Response	Frequency (n)	Percentage (%)
Yes	219	66.4
No	111	33.6
Total	330	100.0



Cold and cough were the most common reasons for OTC use (66.4%).

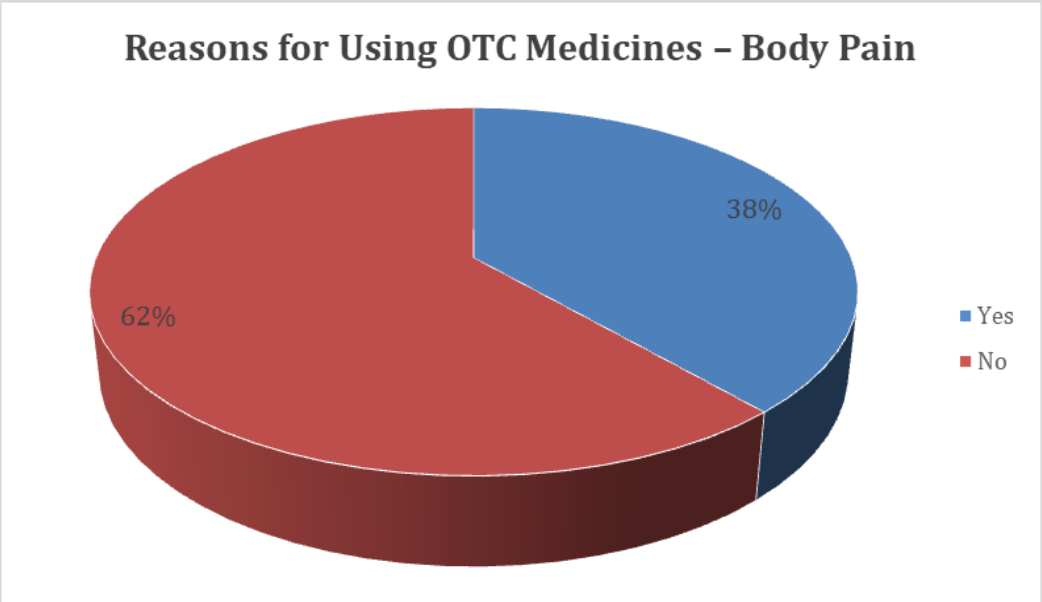
PATTERNS OF OTC DRUG UTILIZATION

The analysis of drug usage patterns indicated that analgesics and antipyretics were the most commonly used OTC medications, followed by antihistamines, antacids, and vitamin supplements. Importantly, a proportion of participants reported the use of antibiotics without prescription**,** reflecting irrational drug use behaviour. The distribution of drug

categories and usage patterns is illustrated in Table 27 to Table 36. These findings emphasize the need for enhanced monitoring and regulation of medication use, particularly in community settings.

Table 27: Reasons for Using OTC Medicines – Body Pain.

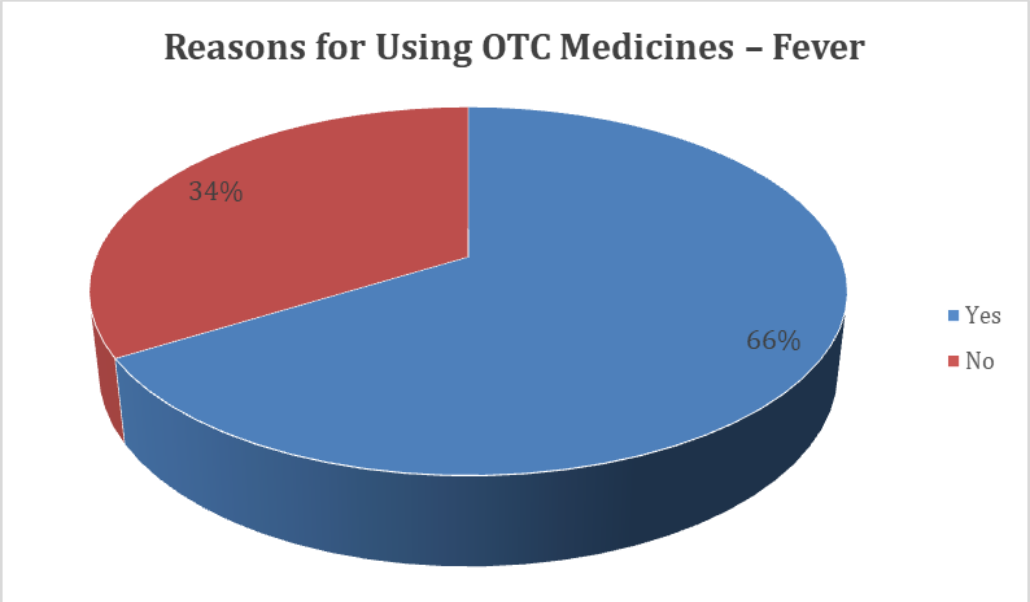
Response	Frequency (n)	Percentage (%)
Yes	127	38.5
No	203	61.5
Total	330	100.0



Body pain accounted for OTC use in 38.5% of participants.

Table 28: Reasons for Using OTC Medicines – Fever.

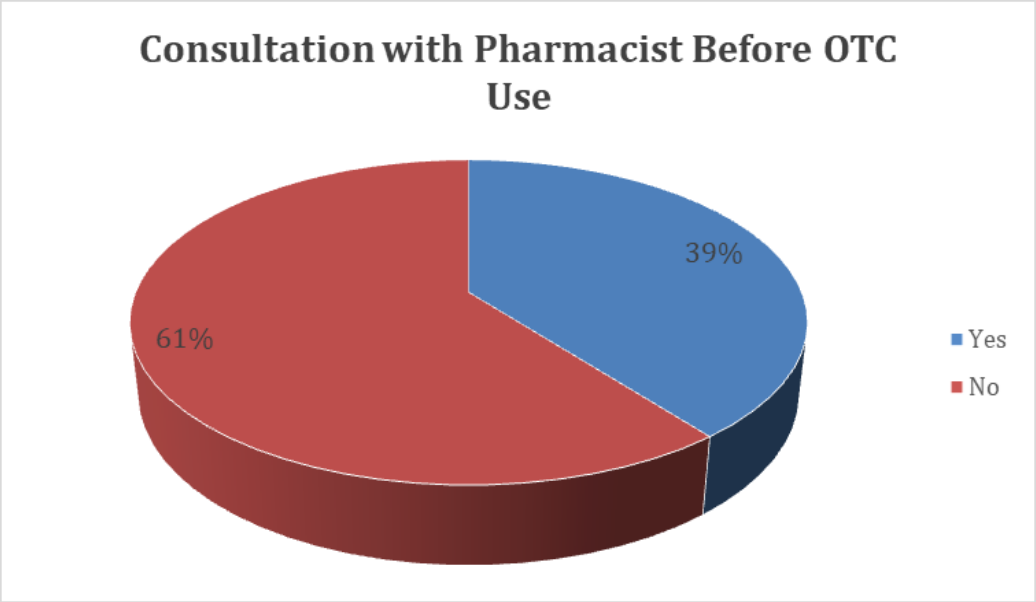
Response	Frequency (n)	Percentage (%)
Yes	219	66.4
No	111	33.6
Total	330	100.0



Fever was a major reason for OTC use among participants.

Table 29: Consultation with Pharmacist Before OTC Use.

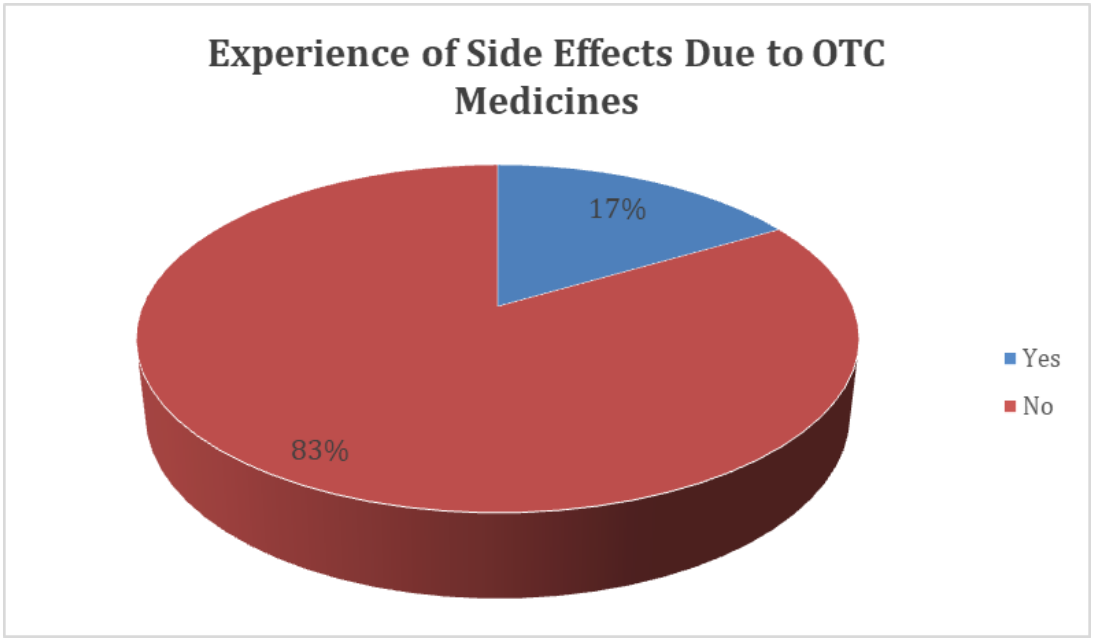
Response	Frequency (n)	Percentage (%)
Yes	130	39.4
No	200	60.6
Total	**330**	**100.0**



Majority of participants (60.6%) did not consult a pharmacist before OTC use.

Table 30: Experience of Side Effects Due to OTC Medicines.

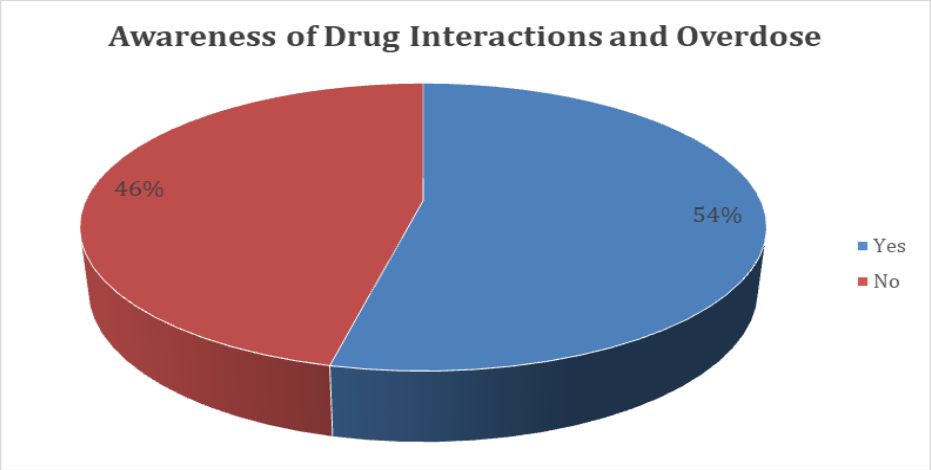
Response	Frequency (n)	Percentage (%)
Yes	55	16.7
No	275	83.3
Total	330	100.0



Only 16.7% of participants experienced side effects from OTC medicines.

Table 31: Awareness of Drug Interactions and Overdose.

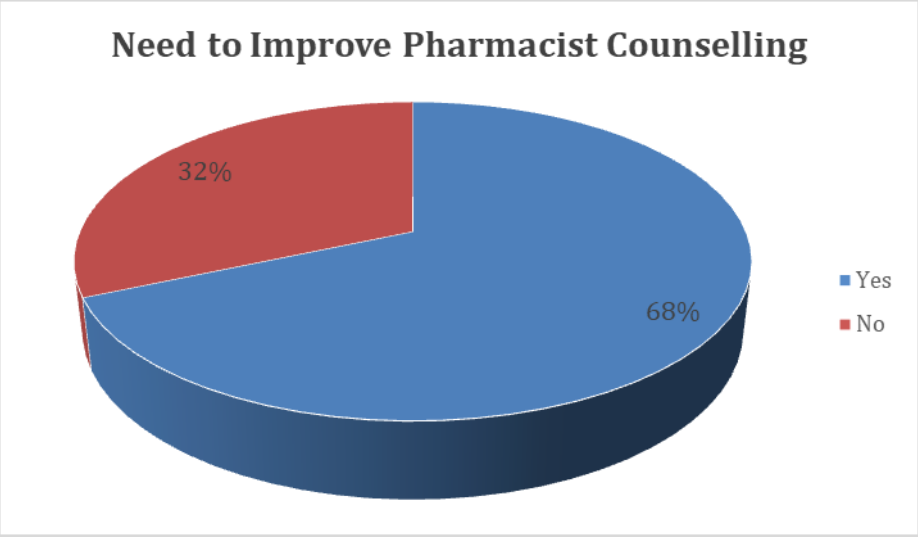
Response	Frequency (n)	Percentage (%)
Yes	177	53.6
No	153	46.4
Total	330	100.0



Slightly more than half of participants were aware of drug interactions and overdose risks.

Table 32: Need to Improve Pharmacist Counselling.

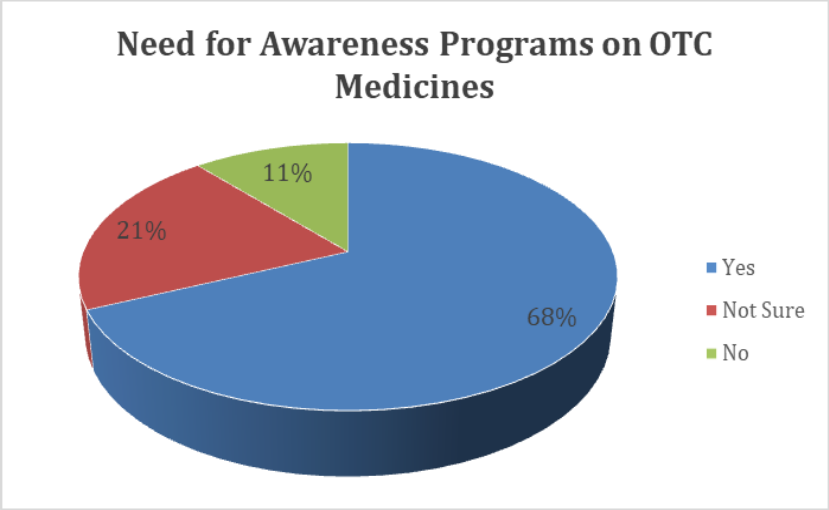
Response	Frequency (n)	Percentage (%)
Yes	226	68.5
No	104	31.5
Total	330	100.0



Most participants (68.5%) felt pharmacist counselling should be improved.

Table 33: Need for Awareness Programs on OTC Medicines

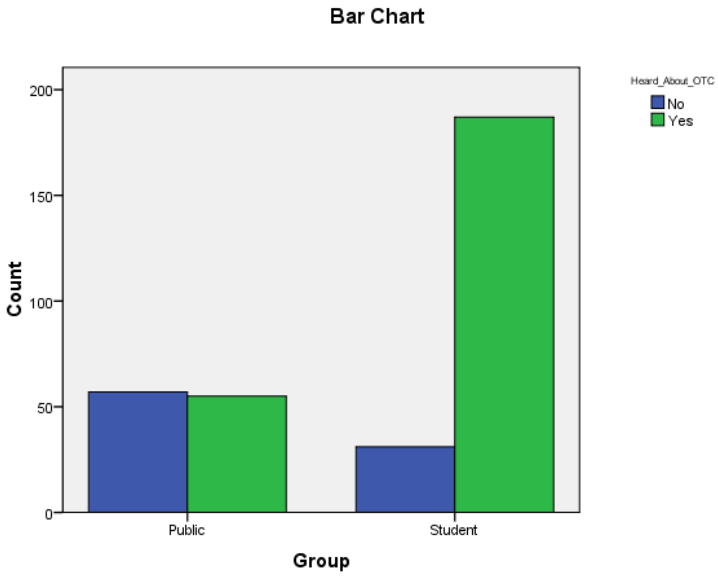
Response	Frequency (n)	Percentage (%)
Yes	225	68.2
Not Sure	68	20.6
No	37	11.2
Total	330	100.0



A strong majority supported the need for awareness programs regarding OTC medicine use.

Table 34: Association Between Study Group and Awareness About OTC Drugs.

Group	Heard About OTC – No n (%)	Heard About OTC – Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	57 (50.9%)	55 (49.1%)	112 (100.0%)	50.883	< 0.001
Student	31 (14.2%)	187 (85.8%)	218 (100.0%)		
Total	88 (26.7%)	242 (73.3%)	330 (100.0%)		



There was a statistically significant association between study group and awareness about OTC drugs ($\chi^2 = 50.883$, $p < 0.001$). Awareness was considerably higher among students (85.8%) compared to the public group (49.1%), indicating that educational background plays an important role in knowledge about OTC medicines.

Table 35: Association Between Study Group and Perception of OTC Medicines as Safe Without Prescription

Group	No n (%)	Not Sure n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	42 (37.5%)	40 (35.7%)	30 (26.8%)	112 (100.0%)	3.803	0.149
Student	65 (29.8%)	102 (46.8%)	51 (23.4%)	218 (100.0%)		
Total	107 (32.4%)	142 (43.0%)	81 (24.5%)	330 (100.0%)		

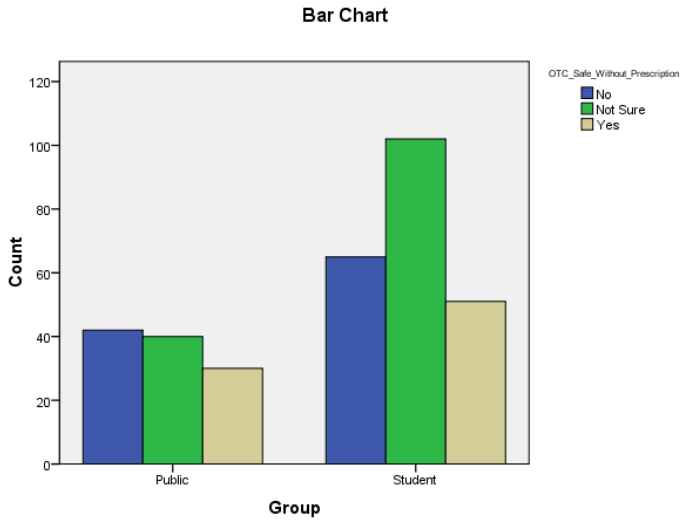


Table 35 shows no statistically significant association between study group and perception regarding the safety of OTC medicines without prescription ($\chi^2 = 3.803$, $p = 0.149$). Both public and student groups demonstrated similar levels of uncertainty, with a considerable proportion in each group being unsure about the safety of OTC medicines.

Table 36: Association Between Study Group and Awareness of Risks and Side Effects of OTC Drugs

Group	Not Aware n (%)	Aware n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	66 (58.9%)	46 (41.1%)	112 (100.0%)	6.565	0.010
Student	96 (44.0%)	122 (56.0%)	218 (100.0%)		
Total	162 (49.1%)	168 (50.9%)	330 (100.0%)		

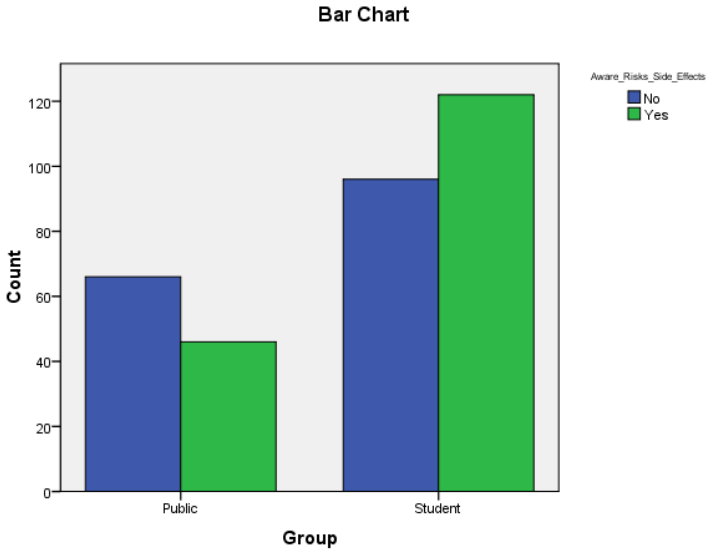


Table 36 demonstrates a statistically significant association between study group and awareness of risks and side effects of OTC drugs ($\chi^2 = 6.565$, $p = 0.010$). Awareness was higher among students (56.0%) compared to the public group (41.1%), suggesting that students have better knowledge regarding the potential risks associated with OTC medication use.

FACTORS INFLUENCING SELF-MEDICATION

Self-medication practices were influenced by multiple factors. The most prominent reasons identified include:

1. Convenience and time-saving
2. Previous experience with similar illnesses
3. Cost-effectiveness
4. Easy accessibility of drugs

Additionally, peer influence, family advice, and digital platforms played a considerable role in decision-making. These influencing factors are detailed in Table 37 to Table 44, indicating that self-medication behaviour is multifactorial and influenced by both individual and environmental determinants.

Table 37: Association Between Study Group and Habit of Reading Labels on OTC Medicines.

Group	Always n (%)	Never n (%)	Sometimes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	22 (19.6%)	45 (40.2%)	45 (40.2%)	112 (100.0%)	29.404	< 0.001
Student	61 (28.0%)	30 (13.8%)	127 (58.3%)	218 (100.0%)		
Total	83 (25.2%)	75 (22.7%)	172 (52.1%)	330 (100.0%)		

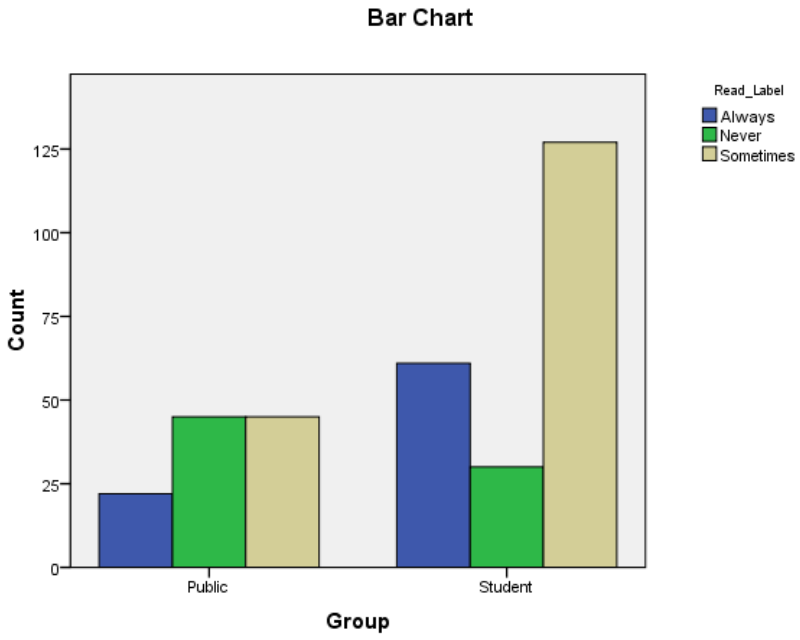


Table 37 shows a statistically significant association between study group and the habit of reading labels on OTC medicines ($\chi^2 = 29.404$, $p < 0.001$). Students were more likely to read labels either always or sometimes compared to the public group, while a higher proportion of the public group reported never reading labels. This suggests better medication-related practices among students.

Table 38: **Association Between Study Group and Awareness of Drug Interactions and Overdose.**

Group	Not Aware n (%)	Aware n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	65 (58.0%)	47 (42.0%)	112 (100.0%)	9.288	0.002
Student	88 (40.4%)	130 (59.6%)	218 (100.0%)		
Total	153 (46.4%)	177 (53.6%)	330 (100.0%)		

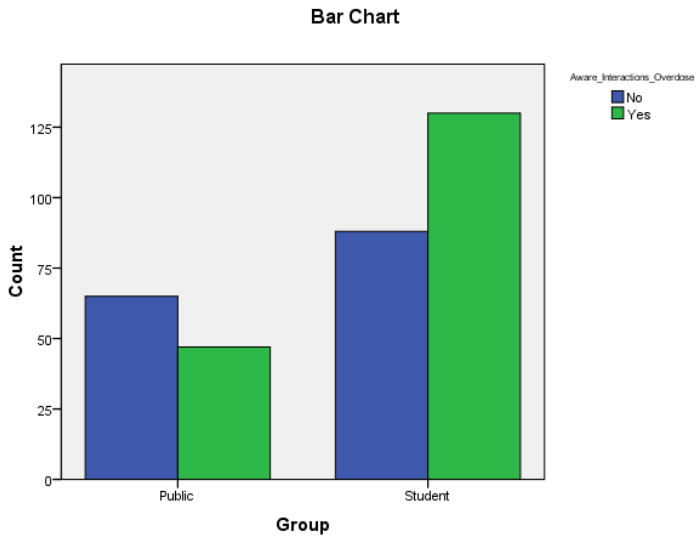


Table 38 indicates a statistically significant association between study group and awareness of drug interactions and overdose (χ^2 = 9.288, p = 0.002). Awareness was higher among students (59.6%) compared to the public group (42.0%), suggesting better understanding of medication safety among students.

Table 39: Association Between Study Group and Awareness of OTC Drug Misuse and Abuse.

Group	Not Aware n (%)	Aware n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	59 (52.7%)	53 (47.3%)	112 (100.0%)	2.462	0.117
Student	95 (43.6%)	123 (56.4%)	218 (100.0%)		
Total	154 (46.7%)	176 (53.3%)	330 (100.0%)		

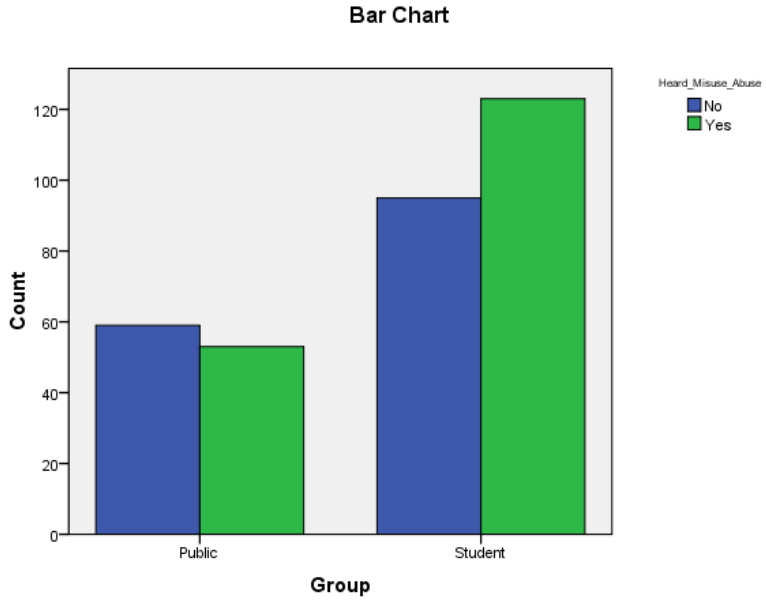


Table 39 shows no statistically significant association between study group and awareness of OTC drug misuse and abuse (χ^2 = 2.462, p = 0.117). Although a higher proportion of students (56.4%) reported awareness compared to the public group (47.3%), this difference was not statistically significant.

Table 40: Association Between Study Group and Use of OTC Medicines in the Last 6 Months.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	15 (13.4%)	97 (86.6%)	112 (100.0%)	17.694	< 0.001
Student	77 (35.3%)	141 (64.7%)	218 (100.0%)		
Total	92 (27.9%)	238 (72.1%)	330 (100.0%)		

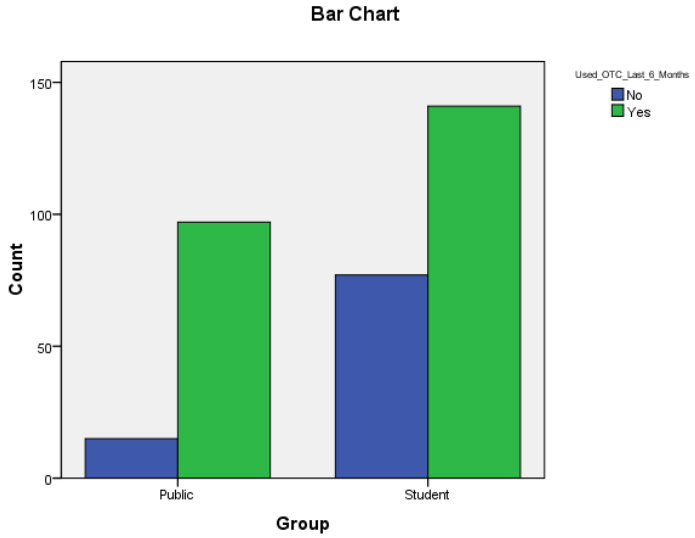


Table 40 demonstrates a statistically significant association between study group and OTC medicine use in the past six months ($\chi^2 = 17.694$, $p < 0.001$). A higher proportion of the public group (86.6%) reported recent OTC use compared to students (64.7%). This suggests more frequent reliance on self-medication among the public population.

Table 41: **Association Between Study Group and Frequency of OTC Medicine Usage**

Group	Daily n (%)	Monthly n (%)	Rarely n (%)	Weekly n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	2 (1.8%)	35 (31.2%)	63 (56.2%)	12 (10.7%)	112 (100.0%)	24.425	< 0.001
Student	1 (0.5%)	29 (13.3%)	178 (81.7%)	10 (4.6%)	218 (100.0%)		
Total	3 (0.9%)	64 (19.4%)	241 (73.0%)	22 (6.7%)	330 (100.0%)		

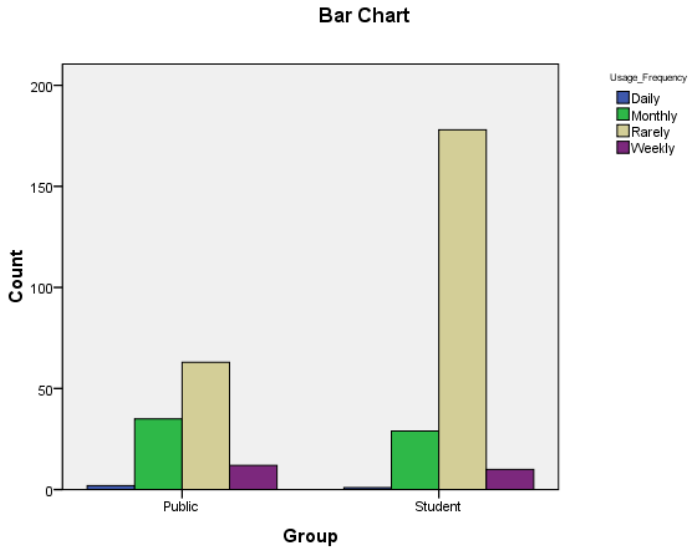


Table 41 reveals a statistically significant association between study group and frequency of OTC medicine usage (χ^2 = 24.425, p < 0.001). Public participants reported more frequent monthly and weekly use compared to students, while the majority of students reported rare usage. This suggests differing self-medication patterns between the two groups.

Table 42: Association Between Study Group and Use of OTC Paracetamol.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	9 (8.0%)	103 (92.0%)	112 (100.0%)	0.534	0.465
Student	23 (10.6%)	195 (89.4%)	218 (100.0%)		
Total	32 (9.7%)	298 (90.3%)	330 (100.0%)		

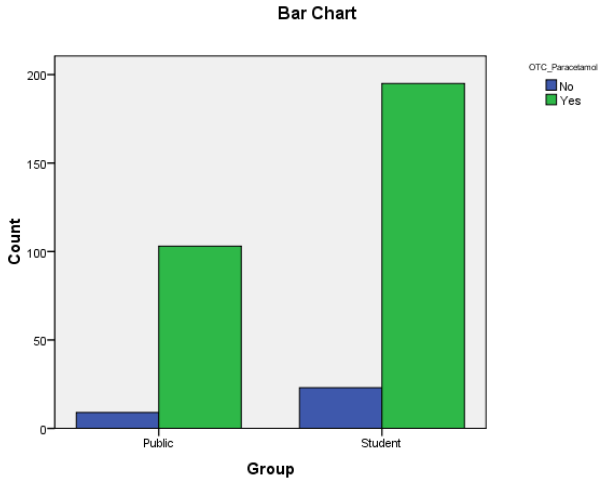


Table 42 shows no statistically significant association between study group and the use of OTC paracetamol (χ^2 = 0.534, p = 0.465). Paracetamol use was high in both groups, with over 89% of participants in each group reporting its use, indicating widespread and common consumption irrespective of group.

Table 43: **Association Between Study Group and Use of OTC Cough Syrup.**

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	35 (31.2%)	77 (68.8%)	112 (100.0%)	23.842	< 0.001
Student	130 (59.6%)	88 (40.4%)	218 (100.0%)		
Total	165 (50.0%)	165 (50.0%)	330 (100.0%)		

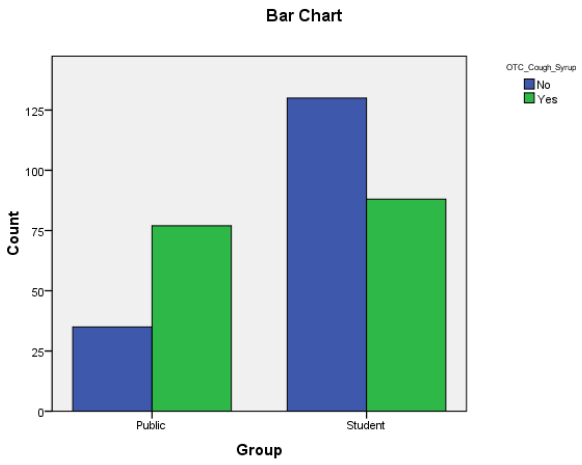


Table 43 shows a statistically significant association between study group and use of OTC cough syrup ($\chi^2 = 23.842$, $p < 0.001$). Use of cough syrup was considerably higher among the public group (68.8%) compared to students (40.4%). This suggests that the public population relies more on OTC cough syrups for managing respiratory symptoms.

Table 44: Association Between Study Group and Use of OTC Antacids.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	88 (78.6%)	24 (21.4%)	112 (100.0%)	0.587	0.444
Student	163 (74.8%)	55 (25.2%)	218 (100.0%)		
Total	251 (76.1%)	79 (23.9%)	330 (100.0%)		

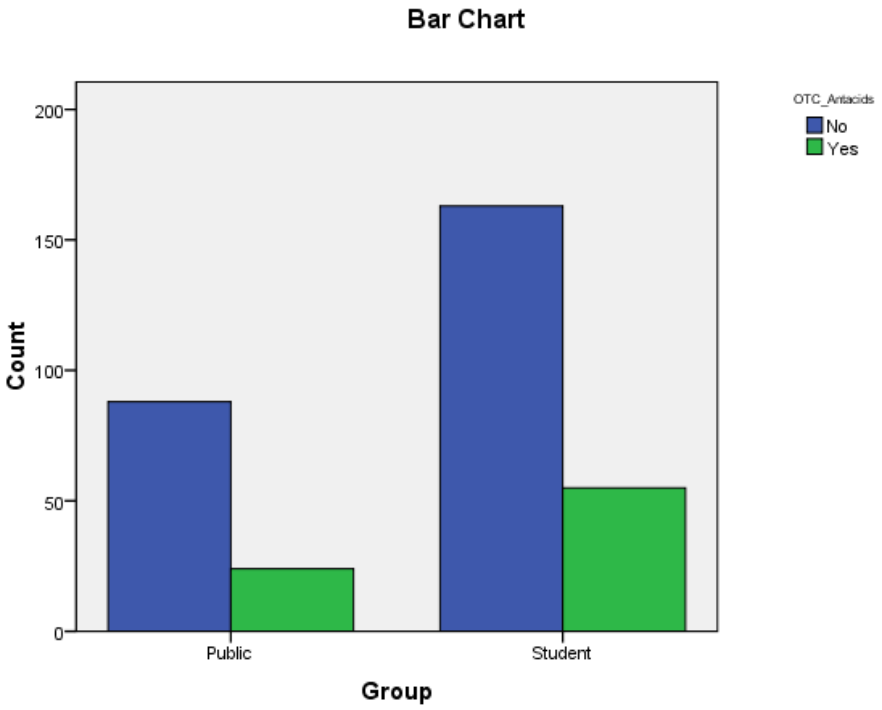


Table 44 indicates no statistically significant association between study group and the use of OTC antacids ($\chi^2 = 0.587$, $p = 0.444$). Usage patterns were similar among public and student groups, suggesting comparable self-medication behaviour for acidity-related symptoms.

ATTITUDE TOWARD OTC DRUG USE

The majority of participants perceived OTC medications as safe for the treatment of minor ailments, which contributed to their widespread use. However, adherence to recommended safety practices was inconsistent, with only a limited proportion regularly following instructions or seeking professional advice. Attitude-related findings are presented in Table 45 to Table 50, highlighting the presence of misconceptions regarding the safety profile of OTC drugs.

Table 45: Association Between Study Group and Use of OTC Medicines for Headache.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	19 (17.0%)	93 (83.0%)	112 (100.0%)	43.044	< 0.001
Student	119 (54.6%)	99 (45.4%)	218 (100.0%)		
Total	138 (41.8%)	192 (58.2%)	330 (100.0%)		

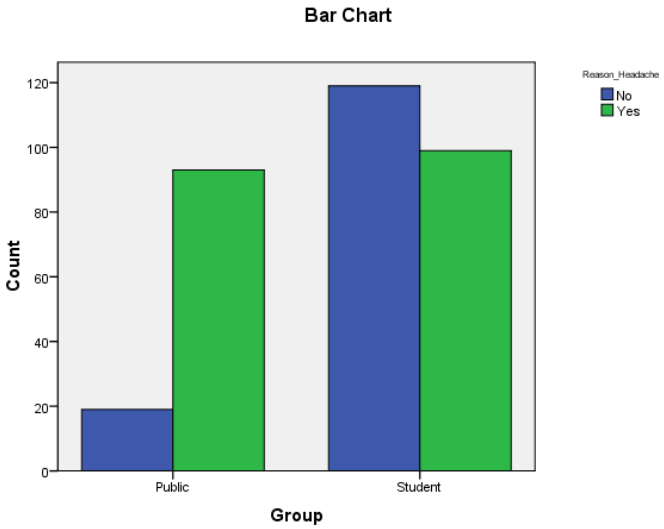


Table 45 shows a statistically significant association between study group and the use of OTC medicines for headache (χ^2 = 43.044, p < 0.001). A substantially higher proportion of the public group (83.0%) used OTC medicines for headache compared to students (45.4%). This indicates that the public population relies more heavily on OTC medications for headache management.

Table 46: Association Between Study Group and Use of OTC Medicines for Cold and Cough.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	24 (21.4%)	88 (78.6%)	112 (100.0%)	11.319	0.001
Student	87 (39.9%)	131 (60.1%)	218 (100.0%)		
Total	111 (33.6%)	219 (66.4%)	330 (100.0%)		

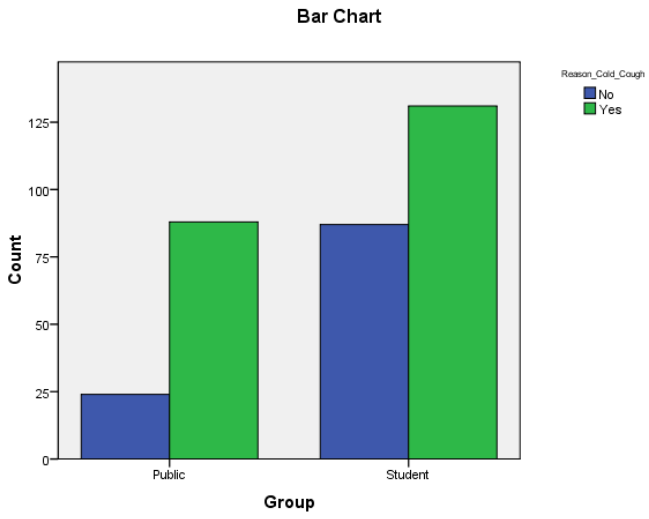


Table 46 demonstrates a statistically significant association between study group and use of OTC medicines for cold and cough (χ^2 = 11.319, p = 0.001). A higher proportion of the public group (78.6%) used OTC medicines for cold and cough compared to students (60.1%). This suggests greater reliance on self-medication for respiratory symptoms among the public population.

Table 47: Association Between Study Group and Use of OTC Medicines for Fever.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	20 (17.9%)	92 (82.1%)	112 (100.0%)	18.911	<0.001
Student	91 (41.7%)	127 (58.3%)	218 (100.0%)		
Total	111 (33.6%)	219 (66.4%)	330 (100.0%)		

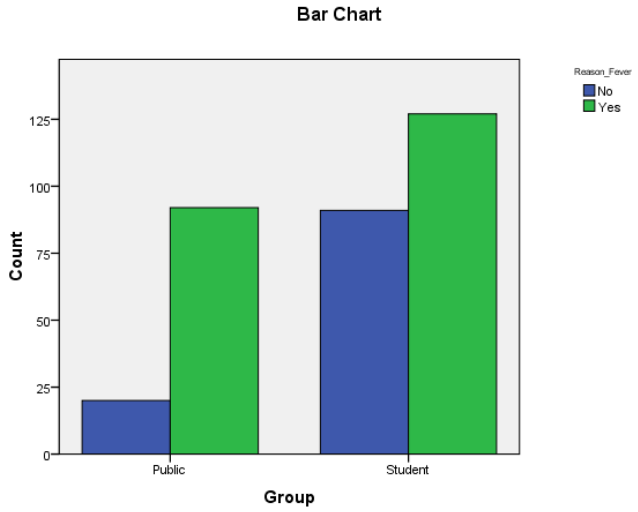


Table 47 shows a statistically significant association between study group and the use of OTC medicines for fever (χ^2 = 18.911, p < 0.001). A markedly higher proportion of the public group (82.1%) reported using OTC medicines for fever compared to students (58.3%). This indicates that the public population is more inclined toward self-medication for fever-related symptoms than students.

Table 48: Association Between Study Group and Use of OTC Medicines for Body Pain.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	39 (34.8%)	73 (65.2%)	112 (100.0%)	51.030	<0.001
Student	164 (75.2%)	54 (24.8%)	218 (100.0%)		
Total	203 (61.5%)	127 (38.5%)	330 (100.0%)		

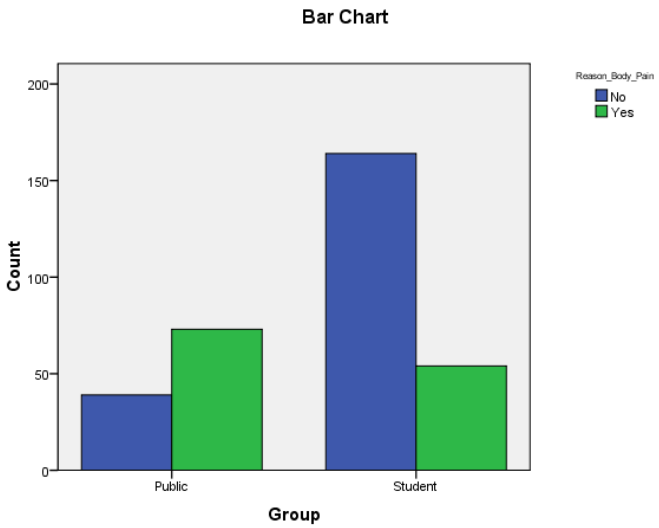


Table 48 demonstrates a statistically significant association between study group and the use of OTC medicines for body pain ($\chi^2 = 51.030$, $p < 0.001$). A substantially higher proportion of the public group (65.2%) used OTC medicines for body pain compared to students (24.8%). This indicates that self-medication for body pain is considerably more common among the public than among students.

Table 49: Association Between Study Group and Use of OTC Medicines for Acidity.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	91 (81.2%)	21 (18.8%)	112 (100.0%)	3.764	0.052
Student	194 (89.0%)	24 (11.0%)	218 (100.0%)		
Total	285 (86.4%)	45 (13.6%)	330 (100.0%)		

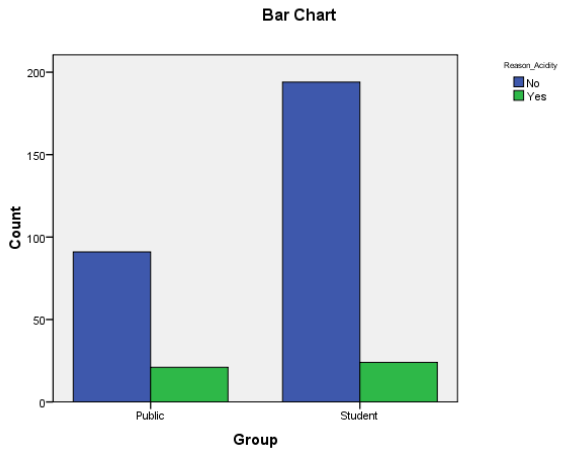


Table 49 shows the association between study group and the use of OTC medicines for acidity. A higher proportion of the public group (18.8%) reported using OTC drugs for acidity compared to students (11.0%). However, the association was **not statistically significant** ($\chi^2 = 3.764$, $p = 0.052$), indicating that the difference in OTC use for acidity between the two groups is marginal and does not reach conventional levels of statistical significance.

Table 50: Association Between Study Group and Consultation with Pharmacist Before Using OTC Medicines.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	59 (52.7%)	53 (47.3%)	112 (100.0%)	4.463	0.035
Student	141 (64.7%)	77 (35.3%)	218 (100.0%)		
Total	200 (60.6%)	130 (39.4%)	330 (100.0%)		

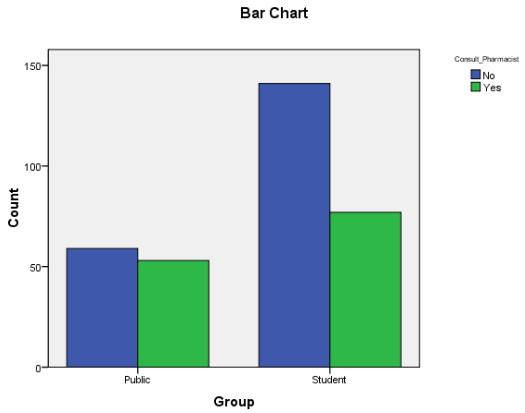


Table 50 illustrates a statistically significant association between study group and consultation with a pharmacist prior to OTC medicine use ($\chi^2 = 4.463$, $p = 0.035$). A higher proportion of the public group (47.3%) reported consulting a pharmacist compared to students (35.3%). This suggests that members of the public are more likely than students to seek professional guidance before using OTC medications.

STATISTICAL ASSOCIATION BETWEEN VARIABLES

Inferential statistical analysis revealed significant associations between demographic variables and OTC drug use patterns.

1. Educational status was significantly associated with knowledge levels
2. Age and occupation influenced frequency and type of OTC drug use
3. Field of study showed a significant relationship with awareness and practices

The statistical analysis is presented in Table 51 to Table 54. A p-value < 0.05 was considered statistically significant, confirming meaningful relationships between variables.

Table 51: Association Between Study Group and Experience of Side Effects from OTC Medicines.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	91 (81.2%)	21 (18.8%)	112 (100.0%)	0.530	0.467
Student	184 (84.4%)	34 (15.6%)	218 (100.0%)		
Total	275 (83.3%)	55 (16.7%)	330 (100.0%)		

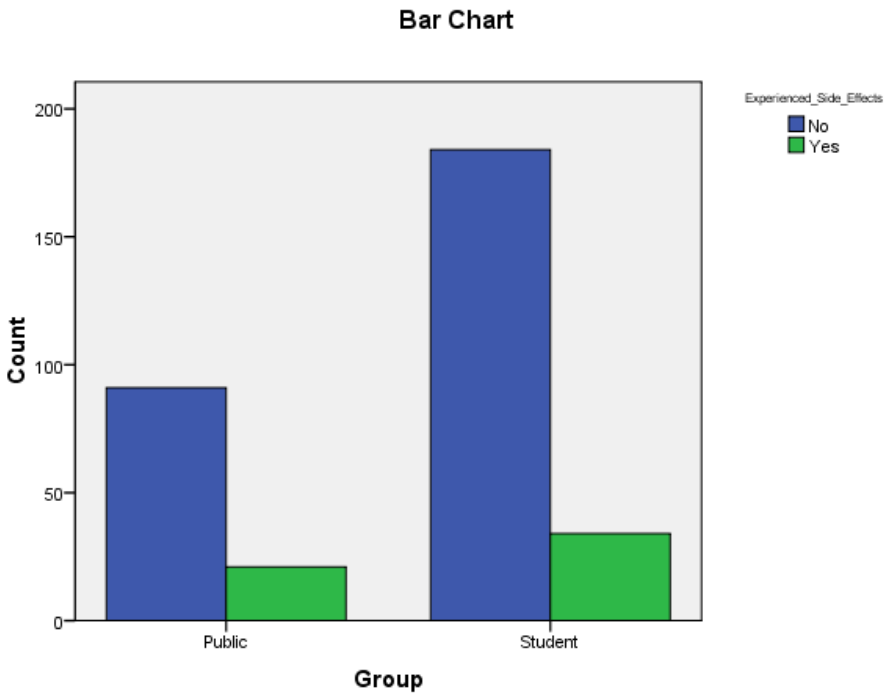


Table 51 shows the association between study group and experience of side effects following OTC medicine use. Although a slightly higher proportion of the public group (18.8%) reported experiencing side effects compared to students (15.6%), the association was not statistically significant ($\chi^2 = 0.530$, $p = 0.467$). This indicates that the occurrence of side effects does not differ significantly between public and student groups.

Table 52: Association Between Study Group and Recommending OTC Medicines Without Professional Advice.

Group	No n (%)	Sometimes n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	59 (52.7%)	32 (28.6%)	21 (18.8%)	112 (100.0%)	12.269	0.002
Student	74 (33.9%)	101 (46.3%)	43 (19.7%)	218 (100.0%)		
Total	133 (40.3%)	133 (40.3%)	64 (19.4%)	330 (100.0%)		

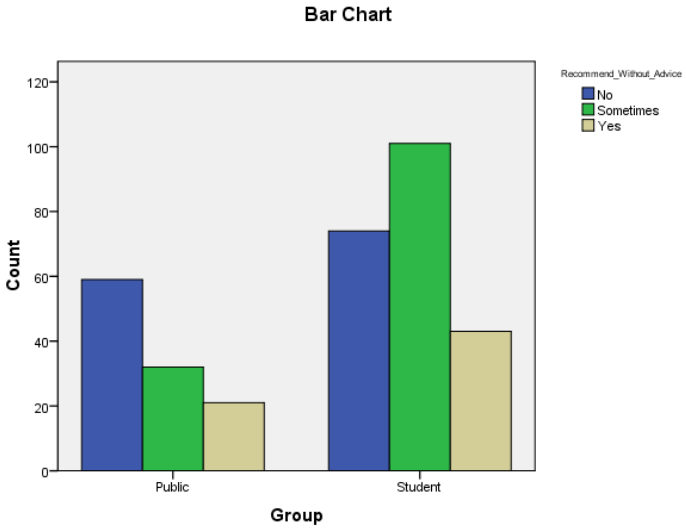


Table 52 demonstrates a statistically significant association between study group and the practice of recommending OTC medicines without professional advice (χ^2 = 12.269, p = 0.002). Students were more likely to recommend OTC medicines either *sometimes* (46.3%) or *yes* (19.7%) compared to the public group. In contrast, a greater proportion of the public (52.7%) reported that they do not recommend OTC medicines without advice. This finding suggests relatively higher risk-prone self-medication behaviours among students.

Table 53: Association Between Study Group and Perceived Need for Awareness Programs on OTC Medicines.

Group	No n (%)	Not Sure n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	17 (15.2%)	16 (14.3%)	79 (70.5%)	112 (100.0%)	5.803	0.055
Student	20 (9.2%)	52 (23.9%)	146 (67.0%)	218 (100.0%)		
Total	37 (11.2%)	68 (20.6%)	225 (68.2%)	330 (100.0%)		

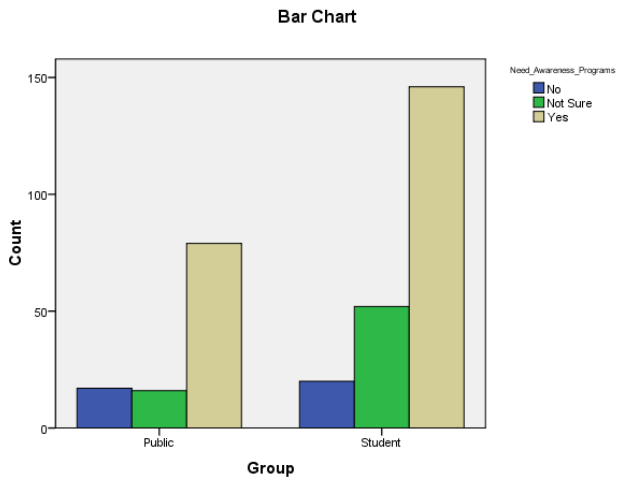


Table 53 presents the association between study group and the perceived need for awareness programs related to OTC medicines. A majority of both public (70.5%) and student (67.0%) respondents agreed on the need for awareness programs. However, the association was not statistically significant ($\chi^2 = 5.803$, $p = 0.055$), indicating that perceptions regarding the necessity of awareness initiatives were broadly similar between the two groups.

Table 54: Association Between Study Group and Perceived Need to Improve Pharmacist Counselling on OTC Medicines.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	34 (30.4%)	78 (69.6%)	112 (100.0%)	0.105	0.746
Student	70 (32.1%)	148 (67.9%)	218 (100.0%)		
Total	104 (31.5%)	226 (68.5%)	330 (100.0%)		

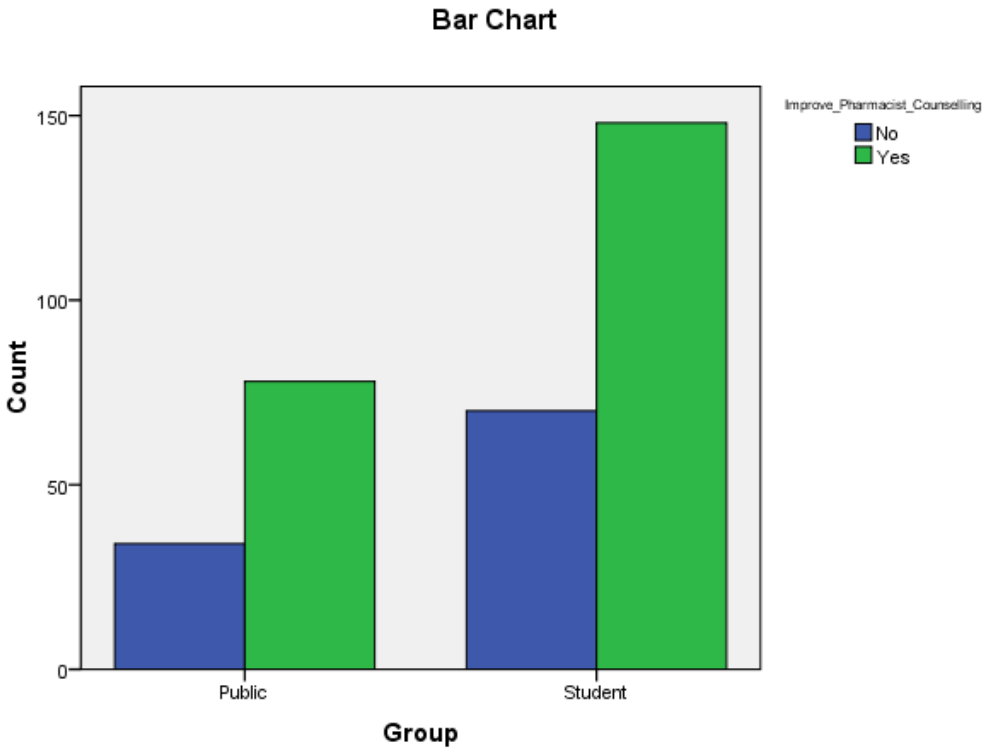


Table 54 illustrates the association between study group and the perceived need to improve pharmacist counselling regarding OTC medicine use. A similar proportion of public (69.6%) and student (67.9%) respondents supported improved pharmacist counselling. The association was not statistically significant ($\chi^2 = 0.105$, $p = 0.746$), indicating no meaningful difference in opinion between the two groups.

KNOWLEDGE–PRACTICE GAP

A key finding of the study was the existence of a substantial gap between knowledge and actual practice. Despite having moderate awareness, many participants engaged in unsafe medication behaviours, including:

1. Use of drugs without prescription
2. Incorrect dosing practices
3. Reliance on previous prescriptions or leftover medications

The detailed analysis of this gap is presented in Table 55 and Table 56, emphasizing that knowledge alone does not ensure rational drug use behaviour.

Table 55: Association Between Study Group and Perceived Need to Improve Health Education on OTC Medicines.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	70 (62.5%)	42 (37.5%)	112 (100.0%)	6.277	0.012
Student	165 (75.7%)	53 (24.3%)	218 (100.0%)		
Total	235 (71.2%)	95 (28.8%)	330 (100.0%)		

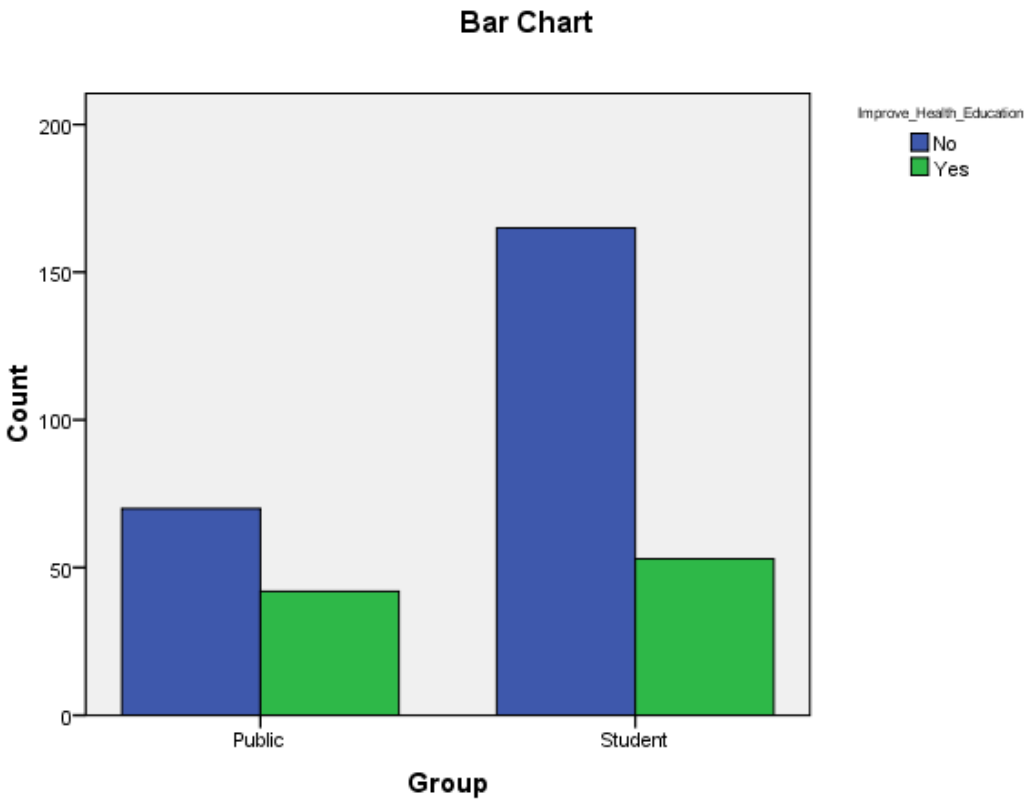


Table 55 shows a statistically significant association between study group and the perceived need to improve health education related to OTC medicine use ($\chi^2 = 6.277$, $p = 0.012$). A higher proportion of the public group (37.5%) felt that health education should be improved compared to students (24.3%). This suggests that the public perceives a greater need for enhanced health education initiatives to promote safe and rational OTC medicine use.

Table 56: Association Between Study Group and Perceived Need for Strict Regulations on OTC Medicines.

Group	No n (%)	Yes n (%)	Total n (%)	Chi-Square (χ^2)	P-Value
Public	97 (86.6%)	15 (13.4%)	112 (100.0%)	1.539	0.215
Student	177 (81.2%)	41 (18.8%)	218 (100.0%)		
Total	274 (83.0%)	56 (17.0%)	330 (100.0%)		

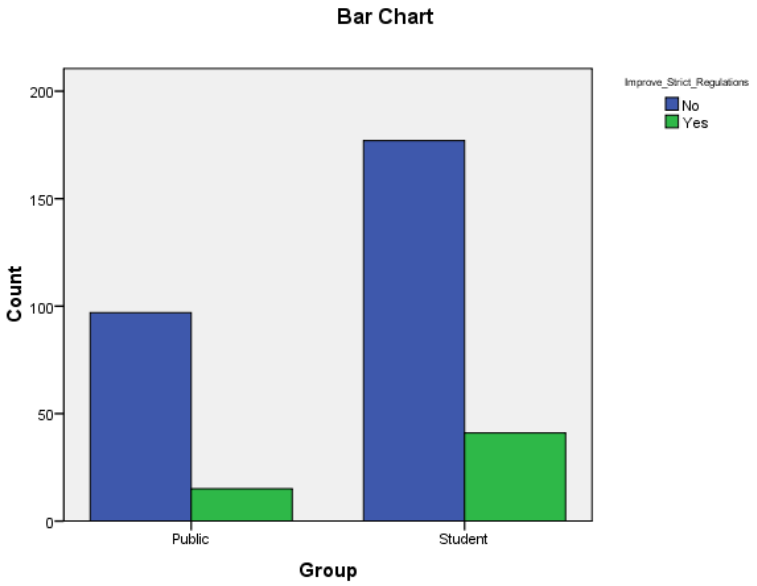


Table 56 presents the association between study group and the perceived need for strict regulations governing OTC medicines. Although a slightly higher proportion of students (18.8%) supported stricter regulations compared to the public group (13.4%), the association was not statistically significant (χ^2 = 1.539, p = 0.215). This suggests that opinions regarding regulatory strengthening are broadly similar across both groups.

OVERALL INTERPRETATION OF RESULTS

Overall, the findings of the study indicate that OTC drug use is highly prevalent, particularly among college students and younger individuals. While participants demonstrate basic awareness, there are significant gaps in safety knowledge and responsible practices. The results also confirm that self-medication is influenced by multiple socio-demographic and behavioural factors, and the presence of a knowledge–practice gap highlights the urgent need for targeted educational interventions, stricter regulatory enforcement, and improved public health strategies.

DISCUSSION

The present study provides a comprehensive evaluation of the knowledge and practice regarding the use of over-the-counter (OTC) drugs among the general public and college students. The findings indicate that self-medication is highly prevalent, which is consistent with observations reported in previous studies conducted across different populations.[2,5,9] One of the most significant observations of this study is the high prevalence of OTC drug usage**,** particularly among college students and younger individuals. This trend may be attributed to easy accessibility of medications, academic pressure, time constraints, and prior experience with similar illnesses.[2,8] The widespread availability of OTC drugs in pharmacies and online platforms has further facilitated this behaviour, reinforcing self-care practices but also increasing the risk of misuse. The study also revealed that analgesics and antipyretics were the most commonly used medications, followed by antihistamines and antacids. This finding aligns with earlier studies, which reported that individuals frequently use OTC drugs for minor ailments such as headache, fever, and respiratory conditions.[5,14] However, the reported use of antibiotics without prescription is a matter of serious concern, as it reflects irrational drug use and contributes significantly to the global issue of **antimicrobial resistance (AMR)**.[3,4] A key finding of this study is the presence of inadequate knowledge regarding critical aspects of drug safety, including

dosage, duration of therapy, side effects, and drug interactions. Although participants, especially those from healthcare backgrounds, demonstrated moderate awareness, this knowledge was often incomplete or superficial. Similar findings have been reported in studies where knowledge did not necessarily translate into safe practices.[7,11,12] Importantly, the study identified a significant knowledge–practice gap, wherein individuals with adequate awareness continued to engage in unsafe self-medication behaviours, such as skipping professional consultation, using leftover medications, and not adhering to recommended dosages. This observation highlights that knowledge alone is insufficient to ensure rational drug use, and that **b**ehavioural factors play a crucial role in influencing medication practices. The analysis of factors influencing self-medication revealed that convenience, cost-effectiveness, previous experience, and easy availability of drugs were the major determinants. Additionally, peer influence, family advice, and digital media sources were found to significantly impact decision-making. This finding is consistent with earlier research indicating that social and environmental factors strongly influence self-medication practices.[2,15] Another important observation is the misconception regarding the safety of OTC drugs. A majority of participants perceived these medications as completely safe for use without medical supervision**,** which may lead to overuse, misuse, and potential adverse effects.[3]

This perception underscores the need for targeted awareness programs focusing on the safe and rational use of medications. Statistical analysis further demonstrated that demographic factors such as age, education level, and field of study were significantly associated with knowledge and practice patterns. Participants from healthcare backgrounds showed relatively better awareness; however, their practices were not always appropriate, indicating that formal education alone does not guarantee responsible behavior.[11,19] Overall, the findings of this study emphasize that self-medication is a multifactorial behaviour influenced by accessibility, awareness, socio-economic factors, and personal attitudes. While OTC medications play a crucial role in self-care and reducing healthcare burden, their irrational use poses serious public health risks, including drug toxicity, delayed diagnosis, and antimicrobial resistance.[20]

CONCLUSION

The present study concludes that the use of over-the-counter (OTC) medications is highly prevalent among both college students and the general public, with a greater inclination observed among younger individuals. Although participants demonstrated basic awareness regarding OTC drugs, there were significant gaps in knowledge related to safety, dosage, and potential risks. A major concern identified in this study is the existence of a substantial knowledge–practice gap, where individuals continue to engage in irrational self-medication practices despite having some level of awareness. This includes use of medications without prescription, improper dosing, and reliance on previous prescriptions, which may lead to adverse health outcomes. The study also highlights that analgesics and antipyretics are the most commonly used OTC drugs, while the inappropriate use of antibiotics remains a critical issue contributing to antimicrobial resistance. Furthermore, factors such as convenience, cost, accessibility, and influence of digital media play a significant role in shaping self-medication behaviour. Based on these findings, it is evident that **s**elf-medication practices cannot be addressed solely through awareness, but require a comprehensive approach involving education, behavioural change, and regulatory enforcement.

Key Recommendations

1. Strengthening public awareness programs on safe medication practices
2. Integrating rational drug use education into academic curricula

3. Strict enforcement of regulations to control the sale of prescription drugs
4. Enhancing the role of pharmacists in patient education and guidance
5. Promoting responsible use of antibiotics to combat antimicrobial resistance

In conclusion, while OTC medications offer significant benefits in terms of accessibility and self-care, their irrational and unsupervised use poses serious health risks. Therefore, a balanced and regulated approach is essential to ensure the safe, effective, and responsible use of OTC drugs, thereby protecting both individual and public health.

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