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AWARENESS AND ATTITUDE TOWARDS SELF-MEDICATION FOR DENTAL PROBLEMS AMONG BS NURSING STUDENTS OF DISTRICT SWABI

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ABSTRACT

Background: Self-medication is a widespread public health concern, particularly among healthcare students with limited pharmacological knowledge. Dental problems such as toothache, gum pain, oral ulcers, and halitosis frequently prompt self-medication. BS Nursing students are especially vulnerable due to their clinical exposure and easy access to medications. Objective: To assess the awareness and attitudes of BS Nursing students toward self-medication for dental problems in District Swabi, Khyber Pakhtunkhwa, Pakistan. Methods: A descriptive cross-sectional study was conducted at nursing institutes in District Swabi from December 2025 to March 2026. A total of 268 BS Nursing students were selected through nonprobability convenience sampling. Data were collected using a structured, validated questionnaire and analyzed in SPSS using descriptive statistics and Pearson chi-square tests. Results: Among 268 participants, 80.6% were male and 19.4% were female; 66.8% were third-year students. About 24.6% reported using over-the-counter (OTC) drugs for dental problems in the previous six months, most using them 2–3 times. Toothache (29.1%) was the most common reason for self-medication. Ibuprofen (21.3%) and Amoxicillin (28.4%) were the most frequently used analgesics and antibiotics, respectively. Most participants considered self-medication risky (78.7%), acknowledged its harmful effects (76.9%), and believed frequent use may lead to misuse or dependency (73.5%). No significant association was found between academic year and attitudes toward self-medication ($p > 0.05$). Conclusion: BS Nursing students demonstrated good awareness of the risks of dental self-medication; however, a notable gap existed between awareness and practice. Analgesics and antibiotics were the most commonly self-administered drugs. The findings highlight the need to incorporate dental pharmacology education, awareness programs, and stricter regulation of prescription medications to encourage responsible medication practices among future nursing professionals.

Keywords: *Self-medication, dental problems, BS Nursing students, awareness, attitudes, antibiotics, analgesics, Swabi District, Khyber Pakhtunkhwa*

Introduction

Self-medication is defined as the selection and use of medicines by individuals to treat self-diagnosed conditions or symptoms without professional medical supervision. It is a globally prevalent practice, encompassing over-the-counter (OTC) drugs, herbal preparations, and prescription medications repurposed for non-prescribed indications (1). While self-medication can offer benefits for managing minor ailments in areas with limited healthcare access, its indiscriminate use carries significant risks, including incorrect diagnosis, inappropriate drug selection, delayed professional care, drug interactions, and the escalation of antimicrobial resistance (2,3). Dental conditions such as toothache, gum pain, oral ulcers, and halitosis are among the most frequently self-treated ailments worldwide. According to a systematic review and meta-analysis, approximately 59% of individuals self-medicate for dental disorders, with analgesics and antibiotics being the most commonly used agents (4). The urgency of dental pain, experience, financial constraints, and limited access to dental facilities are the primary drivers of this behavior.

Nursing students occupy a unique position in the landscape of self-medication. Their partial pharmacological knowledge, clinical exposure, and easy access to medications make them particularly susceptible to inappropriate self-prescribing (5). Studies conducted in Pakistan and internationally consistently report high rates of self-medication among health sciences students, often exceeding those of the general population (6,7). Another study listed minor illnesses and excessive wait times in medical facilities as additional reasons for self-medication. Headache, cough, fever, and pain are common reasons for self-medication. Self-medication is frequently caused by oral health issues like dental pain, gum bleeding, discomfort, and foul breath, among other issues. People take their symptoms lightly and self-medicate, which is concerning because self-medication is a common problem in underdeveloped nations, and antibiotic resistance is also growing common these days(8). A persistent, solid swelling that results from using antibiotics incorrectly and for an extended period of time without clearing the pus is known as an antimicrobial substance, meaning antibacterial. An abscess that is smooth, firm to the touch, fibrous, sterile, and painless develops.(9) Despite possessing awareness of risks, these students frequently continue to self-medicate — a phenomenon described as the 'knowledge-practice gap' (10). District Swabi, Khyber Pakhtunkhwa (KPK), Pakistan, is characterized by limited access to dental care facilities, socioeconomic constraints, and cultural reliance on non-professional healthcare advice. These conditions collectively promote dental self-medication practices. However, no study specifically addressing dental self-medication among BS Nursing students in this district has been published to date. This research gap motivated the present study, which aimed to assess the awareness and attitudes of BS Nursing students toward dental self-medication in District Swabi.

Literature Review

To determine the frequency and contributing factors of self-medication of oral and dental problems, a systematic review and meta-analysis study was conducted. Up until August 2023, the authors manually searched Google Scholar and gray literature sources in addition to databases like Scopus, PubMed, and Web of Science for pertinent studies. This study included 37 papers totaling 12,110 subjects, the majority of which were conducted in low- and middle-income nations. The findings showed that 59% of people self-medicate for dental conditions, with analgesics and antibiotics being the most frequently utilized medications. Self-medication is frequently caused by several factors, such as past experiences, excruciating pain, unavailability of time, financial issues, access to oral healthcare facilities, and pharmacies as the common sources of medication (11). A systematic review and meta-analysis by Katebi et al. (2024) evaluated 37 studies involving 12,110 subjects, predominantly from low- and middle-income countries. The review found a pooled prevalence of 59% for dental self-medication, with analgesics and antibiotics being the most common agents. Key drivers included experience, acute pain, financial barriers, and proximity to pharmacies as sources of medication (4). Madhulika Johnson and Dinesh Kumar Badyal conducted a cross-sectional study to determine the prevalence of self-medication among medical, dentistry, and

paramedical students in a tertiary care hospital, as well as the knowledge, attitudes, and practices related to it (12). According to the findings, self-medication is common for some reasons, including the availability of over-the-counter drugs, their price when compared to medical consultations, and their ability to provide instant pain relief. Self-medication has been shown to provide many risks, including incorrect diagnosis, medication abuse, and postponing necessary medical attention. This study also demonstrated that poverty, illiteracy, and a lack of suitable healthcare facilities are socioeconomic factors of self-medication.(13)

Saira Abbas et al. assessed knowledge, attitudes, and self-medication practices among 160 BSN students in Lahore and found that approximately 70% had self-medicated in the previous year. Despite 92.5% demonstrating good pharmacological knowledge and 92.1% holding positive attitudes toward safe medication use, many continued to self-medicate without professional consultation (14). Kamran Shah et al. conducted a hospital-based study on 377 dental patients in Peshawar, revealing that 52% self-medicated for dental conditions. Toothache and dental caries were the primary triggers, while painkillers (60.5%) and antibiotics (39.5%) were the most used agents. High treatment costs and limited access to dental care were cited as major barriers to professional consultation (15). Nayak et al. surveyed 400 medical students in Jeddah and found a self-medication prevalence of 65.5%, with higher rates among pharmacy (76.9%) and dental (72.7%) students, and significantly higher rates among females (74.9%) compared to males (51.6%). Toothache was the predominant indication, with ibuprofen and paracetamol as the most used drugs (16). Nadia Saddique et al. evaluated nursing students at Mayo Hospital and noted that 32% used self-prescribed medications two or three times within six months. Young, unmarried individuals aged 20–23 comprised the majority of self-medicators, with the oral route being the predominant mode of administration (17). The risk of orofacial antiboom — a chronic sterile abscess arising from prolonged and inappropriate antibiotic use — has been documented as a serious clinical complication of dental self-medication, underscoring the need for regulated antibiotic dispensing (18). These findings collectively highlight the complexity and clinical implications of dental self-medication among health sciences students, justifying the present local investigation in Swabi.

Methodology

A descriptive cross-sectional study was conducted in nursing colleges of District Swabi, Khyber Pakhtunkhwa, Pakistan, from December 2025 to March 2026. The study aimed to determine the awareness and attitudes of BS Nursing students regarding dental self-medication and to identify the medications most commonly used for dental problems. Participants were selected using a non-probability convenience sampling technique. A sample size o 268 students was calculated using Cochran's formula, , assuming a population proportion of 78.3%, a 95% confidence level (Z = 1.96), and a margin of error of 5%. All BS Nursing students from the 4th semester onward were eligible for inclusion in the study. Students undergoing active dental treatment and health personnel were excluded. Following ethical approval from KMU-IHS Swabi and permission from the respective institutions, trained researchers visited the nursing colleges, explained the objectives of the study, and obtained both written and verbal informed consent from participants. Data were collected using a structured and validated questionnaire that assessed awareness of the risks associated with dental self-medication, attitudes toward self-medication practices, commonly used medications for dental problems, and relevant sociodemographic characteristics. The collected data were entered and analyzed using SPSS software. Descriptive statistics were used to summarize the data, while Pearson's Chi-square test was applied to assess associations between variables. A p-value of less than 0.05 was considered statistically significant.

Results and Analysis

4.1 Sociodemographic Characteristics

A total of 268 BS Nursing students participated. Males constituted 80.6% (n=216) and females 19.4% (n=52). In terms of academic year, 66.8% (n=179) were in their third year and 33.2% (n=89) in their fourth year. Regarding marital status, 92.5% (n=248) were single, and 7.5% (n=20) were married (Table 1).

Table 1: *Sociodemographic Characteristics of Participants (n = 268)*

Variable	Category	Frequency (n)	Percent (%)
Gender	Male	216	80.6
	Female	52	19.4
Academic Year	3rd Year	179	66.8
	4th Year	89	33.2
Marital Status	Single	248	92.5
	Married	20	7.5

4.2 Practice of Self-Medication for Dental Problems

Of 268 participants, 24.6% (n=66) reported using OTC medications for dental problems without a prescription in the previous six months, while 75.4% (n=202) had not. Among those who self-medicated, 81.3% did so 2–3 times and 18.7% more than three times within the same period (Table 2).

Table 2: *Practice of Self-Medication for Dental Problems (n = 268)*

Variable	Response	Frequency (n)	Percent (%)
Use of OTC Drugs (Last 6 Months)	Yes	66	24.6
	No	202	75.4
Frequency of Self-Medication	2 to 3 times	218	81.3
	More than 3 times	50	18.7

4.3 Participant Beliefs on Cost, Availability, and Clinical Implications

The majority of respondents (65.3%) agreed that dental self-medication is widespread due to its low cost and easy availability. More than half (57.1%) believed it can interfere with natural healing, and 53.7% acknowledged that continuous self-medication reduces the effectiveness of medicines (Table 3)

Table 3: *Participant Beliefs on Cost, Availability, and Clinical Implications of Dental Self-Medication (n = 268)*

Statement	Agree (%)	Neutral (%)	Disagree (%)
Self-medication is inexpensive and easily available	73.5	7.8	18.6
Self-medication may interfere with natural healing	57.1	9.7	33.2
Continuous self-medication reduces the efficacy	75.3	4.5	20.1

4.4 Attitudes Toward Self-Medication

Overall attitudes toward self-medication were mixed. While 46.6% agreed or strongly agreed that self-medication is preferable to visiting a dentist for minor dental problems, 76.9% agreed it may cause harmful effects, and 78.7% agreed it can be risky. A clear majority demonstrated awareness of the inherent dangers of self-medication (Table 4).

Table 4: *Attitudes Toward Self-Medication for Dental Problems (n = 268)*

Statement	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)
Self-medication is better than a dentist visit (minor problems)	25 (9.3)	100 (37.3)	15 (5.6)	108 (40.3)	20 (7.5)
Self-medication may cause harmful effects	46 (17.2)	160 (59.7)	15 (5.6)	43 (16.0)	4 (1.5)
Self-medication for dental problems can be risky	47 (17.5)	164 (61.2)	12 (4.5)	43 (16.0)	2 (0.7)

4.5 Perception of Dental Self-Medication Risks

A large majority (75.0%) agreed or strongly agreed that frequent self-medication may lead to misuse or dependency. However, 47.8% believed they could manage a toothache without consulting a dentist, and 46.6% agreed that higher/stronger doses provide better dental pain relief, revealing knowledge gaps. Most participants (79.1%) agreed that a dentist should be consulted before using dental medicines (Table 5).

Table 5: *Respondents' Perceptions of Self-Medication Risk and Pain Management (n = 268)*

Statement	Agree/Strongly Agree n (%)	Neutral n (%)	Disagree/Strongly Disagree n (%)
Frequent self-medication may lead to misuse or dependency	201 (75.0)	12 (4.5)	55 (20.5)
I can manage a toothache without consulting a dentist	128 (47.8)	12 (4.5)	128 (47.8)
A dentist should be consulted before using dental medicines	212 (79.1)	10 (3.7)	46 (17.2)

4.6 Symptoms Treated and Drugs Used

Toothache was the most common dental symptom prompting self-medication (29.1%), followed by gum pain and swelling (17.2%) and mouth ulcers (15.7%). For analgesia, Ibuprofen was most used (21.3%), followed by Panadol (11.9%) and Paracetamol (11.2%). Among antibiotics, Amoxicillin was predominant (28.4%), followed by Amoxicillin-clavulanate (7.5%). Somogel was the most commonly used topical gel (33.6%), while 39.6% reported no mouthwash use (Tables 6, 7).

Table 6: *Distribution of Analgesics Used by Respondents for Dental Pain Management (n = 268)*

Drug Name	Frequency (n)	Percent (%)
Ibuprofen	57	21.3
Panadol	32	11.9
Paracetamol	30	11.2
Diclofenac	22	8.2
Disprin	19	7.1
Inflamatix (variants)	21	7.8
Others	49	18.3
None	28	10.4

Table 7: *Distribution of Antibiotics Used by Respondents for Dental Disorders (n = 268)*

Drug Name	Frequency (n)	Percent (%)
Amoxicillin	76	28.4
Amoxicillin-clavulanate (Amoxiclavs)	20	7.5
Ibuprofen (misuse)	38	14.2
Panadol (misuse)	38	14.2
Riyam	39	14.6
None	57	21.3

4.7 Side Effect Awareness

Regarding awareness of negative drug effects, 57.1% of participants were fully aware, 14.9% were partially aware, and 28.0% had no awareness of potential adverse reactions from the dental medications they used (Table 8).

Table 8: *Awareness of Potential Negative Effects of Dental Medications (n = 268)*

Response	Frequency (n)	Percent (%)
Yes (aware)	153	57.1
In part (partial awareness)	40	14.9
No (unaware)	75	28.0

4.8 Association Between Academic Year and Attitudes

Chi-square analysis revealed no statistically significant association between academic year (3rd vs. 4th year) and any of the attitude domains assessed. All p-values exceeded the significance threshold of 0.05, indicating that students' core attitudes toward dental self-medication are established by the third year and are not substantially altered by an additional year of study (Table 9).

Table 9: *Chi-Square Analysis: Academic Year vs. Attitude Domains (n = 268)*

Attitude Domain	χ^2 Value	df	p-value
Self-medication interferes with natural healing	8.452	4	0.076
Continuous use reduces the efficacy	3.670	4	0.453
Self-medication leads to adverse outcomes	5.435	4	0.246
Self-medication hazardous to dental health	1.025	4	0.906
Frequent use leads to misuse/dependency	1.589	4	0.811
Accessibility and need for dental consultation	3.040	4	0.551

$p > 0.05$ for all comparisons; null hypothesis upheld in all cases.

Discussion

The present study recruited 268 BS Nursing students, with males constituting 80.6% of the sample. This gender distribution differs from studies by Abbas et al. and Saddique et al., which reported female-majority nursing student populations. The observed male predominance is attributable to the sociocultural norms of Khyber Pakhtunkhwa, where female mobility to educational institutions in Swabi remains restricted (14,17).

The 24.6% prevalence of OTC dental self-medication observed in this study is notably lower than the 59% global pooled prevalence reported by Katebi et al. and the 73% documented among dental patients in Pakistan by Shah et al. (4). This difference may reflect the specificity of the six-month recall period, the study's exclusive dental focus, and the comparatively cautious healthcare-seeking behavior of rural Swabi populations. Despite lower absolute prevalence, the habitual pattern — 81.3% of self-medicators did so 2–3 times within

six months — is consistent with Saddique et al.'s findings and underscores the repetitive and potentially dependency-forming nature of the practice (17).

The most commonly used analgesic was ibuprofen (21.3%), consistent with the King Abdulaziz University survey identifying ibuprofen and paracetamol as the dominant analgesics for toothache in health sciences students (16). NSAIDs remain universally preferred for dental pain due to their wide availability, low cost, and demonstrated short-term efficacy. The predominance of amoxicillin (28.4%) as a self-prescribed antibiotic aligns with Katebi et al.'s systematic review and represents a major concern given amoxicillin's role in generating resistance (4). The clinical severity of such practices is exemplified by documented cases of orofacial antiboom — a chronic sterile abscess — resulting directly from inappropriate antibiotic self-medication (13). While 78.7% of participants recognized dental self-medication as risky and 76.9% acknowledged its potential for harmful effects, 46.6% still preferred self-medication over professional consultation for minor dental problems. This pattern confirms the widely reported knowledge-practice gap, wherein health students acknowledge risks but nevertheless self-medicate due to the urgency of pain, experience, peer influence, and cost considerations (8, 10). Jitca et al. demonstrated that even pharmacy and medical students — arguably the most pharmacologically educated — continue to self-medicate despite awareness of risks (19). Chi-square analysis demonstrated no significant differences between 3rd- and 4th-year students across all attitude domains (all $p > 0.05$). This is consistent with Muhammad et al.'s finding that academic seniority did not significantly modify self-medication attitudes in dental students, suggesting that critical attitudinal formation occurs early in the curriculum and is not meaningfully reinforced by subsequent clinical exposure in the KPK nursing context (20). The urgency of dental pain (21.6%) and experience (20.5%) emerged as the dominant motivators for self-medication, followed by social influence (12.7%) and lack of time (11.9%). These drivers are consistent with patterns documented globally by Katebi et al. and locally by Shah et al. in Peshawar, confirming the cross-contextual universality of these determinants (4). The findings collectively suggest that structural barriers — including limited dental facilities, financial constraints, and inadequate pharmacology education in nursing curricula — perpetuate self-medication practices irrespective of awareness levels.

Conclusion

BS Nursing students in District Swabi demonstrated a high level of awareness regarding the dangers of dental self-medication, including interference with natural healing, reduction of medicine efficacy, adverse health consequences, and risk of drug misuse or dependency. Approximately four out of five students considered dental self-medication risky, yet nearly one in four had practiced it within the previous six months. Analgesics (ibuprofen) and antibiotics (amoxicillin) were the most commonly used agents, consistent with global and local literature. No significant relationship was found between academic year and any attitude dimension, implying that core attitudes are formed early in the nursing curriculum and are not substantially modified by an additional academic year. These findings emphasize the critical need to incorporate targeted dental pharmacology education, structured awareness campaigns, and stricter enforcement of prescription regulations to cultivate responsible medication practices among future nursing professionals in underserved districts of Khyber Pakhtunkhwa.

Limitations

The study was limited to third- and fourth-year BS Nursing students in District Swabi, restricting generalizability to other academic years and regions. The cross-sectional design precludes causal inference. Detailed information on drug dosage, frequency, and duration was not collected. Social desirability bias may have influenced self-reported responses.

Recommendations

Dental pharmacology, antibiotic stewardship, and safe medication use should be integrated into the BS Nursing curriculum during early years when core attitudes are formed. Case-based learning on complications such as antiboom and antibiotic resistance should be included. Awareness seminars, workshops, and peer education programs should be conducted at

nursing institutions in District Swabi. Healthcare authorities should enforce stricter over-the-counter dispensing regulations, particularly for antibiotics.

References

1. Rathod P, Sharma S, Ukey U, Sonpimpale B, Ughade S, Narlawar U, et al. Prevalence, Pattern, and Reasons for Self-Medication: A Community-Based Cross-Sectional Study From Central India. Cureus. 2023 Jan 18. doi:10.7759/CUREUS.33917
2. Shaikh OA, Asghar Z, Aftab RM, Amin S, Shaikh G, Nashwan AJ. Antimicrobial-resistant strains of Salmonella typhi: The role of illicit antibiotics sales, misuse, and self-medication practices in Pakistan. J Infect Public Health. 2023 Oct 1;16(10):1591–7. doi:10.1016/J.JIPH.2023.08.003 PubMed PMID: 37572573.
3. Loni SB, Eid Alzahrani R, Alzahrani M, Khan MO, Khatoon R, Abdelrahman HH, et al. Prevalence of self-medication and associated factors among female students of health science colleges at Majmaah University: A cross-sectional study. Front Public Health. 2023;11. doi:10.3389/FPUBH.2023.1090021 PubMed PMID: 36875361.
4. Katebi K, Eslami H, Jabbari S. Prevalence and causes of self-medication for oral health problems: a systematic review and meta-analysis. BMC Oral Health. 2024 Dec 1;24(1):1115. doi:10.1186/S12903-024-04900-8 PubMed PMID: 39300478.
5. Khatony A, Soroush A, Andayeshgar B, Abdi A. Nursing students' perceived consequences of self-medication: a qualitative study. BMC Nurs. 2020 Jul 25;19(1). doi:10.1186/S12912-020-00460-8 PubMed PMID: 32724298.
6. Ahmad1 S, Khan2 A, Iqbal3 J, Ihtisham3 S, Iqbal4 A, Iqbal2 A, et al. Knowledge, Attitude, and Practices of Self-Medication Among Undergraduate Nursing Students in Malakand Division, Pakistan. Journal of Health, Wellness and Community Research. 2025 Aug 20;e671–e671. doi:10.61919/BF4BYQ35
7. Ali T, Yaqoob M, Hameed S, Aziz G, Naseer A, Tariq S. Perception and Practices of Self-Medication among University Students in Lahore, Pakistan. Pakistan Journal of Health Sciences. 2023 May 31;212–7. doi:10.54393/PJHS.V4I05.619
8. Surenthar M, Kumaran JV, Srinivasan SV, Daniel MJ. Self-medication Practices and Ignorance to Seek Treatment for Oral Health Problems amongst Adult Dental Patients: A Cross-sectional Survey. Journal of Dental Research and Reviews. 2021 Mar;8(1):12–5. doi:10.4103/jdrr.jdrr_67_20
9. Rilna P, Guna TP, Joseph N, Raghu K. Role of Antibiotics in Orofacial Antibioma and its Management: A Case Report. J Sci Dent. 2019 Jun 1;9(1):13–4. doi:10.5005/jp-journals-10083-0901
10. Ghasemyani S, Roohravan Benis M, Hosseinifard H, Jahangiri R, Aryankhesal A, Shabaninejad H, et al. Global, WHO Regional, and Continental Prevalence of Self-medication from 2000 to 2018: A Systematic Review and Meta-analysis. Annals of Public Health. 2022 Jan 18. doi:10.55085/APH.2022.585
11. Katebi K, Eslami H, Jabbari S. Prevalence and causes of self-medication for oral health problems: a systematic review and meta-analysis. BMC Oral Health. BioMed Central Ltd; 2024. doi:10.1186/s12903-024-04900-8 PubMed PMID: 39300478.
12. Johnson M, Badyal DK. Prevalence, knowledge, attitude, and practice regarding self-medication among medical, dental, and paramedical students in a tertiary care hospital. Int J Basic Clin Pharmacol. 2018 Aug 23;7(9):1822. doi:10.18203/2319-2003.IJBCP20183497
13. Bouqoufi A, Lahlou L, Ait El Hadj F, Boujraf S, Abdessadek M, Khabbal Y, et al. Prevalence and determinants of the use of antibiotics by self-medication in the pediatric population in Oujda, Morocco. cureus.com. 2023;14:1233678. doi:10.3389/fphar.2023.1233678
14. Abbas S, Saleem I, Bibi LtF, Zahra LtU. PERCEPTIONS AND PRACTICES OF UNDERGRADUATE NURSING STUDENTS TOWARD SELF-MEDICATION IN PUNJAB, PAKISTAN. Frontier in Medical and Health Research [Internet]. 2025 Sep 9 [cited 2026 Jun 20];3(7):247–52. Available from:

https://fmhr.net/index.php/fmhr/article/view/1064
15. Shah K, Nawaz R, Basit A, Khan OR. Practices of Self-Medication for Oral health Problems in Dental Patients of Peshawar: Hospital-based study. Journal of Rehman College of Dentistry. 2023 Jan 15;4(2):2–5. doi:10.52442/JRCD.V4I2.80
16. Nayak UA, Alhussini KH, Asiri BAM, Alzahrani AOS, Jali TM, Nayak PA, et al. Self-medication of Dental Pain amongst Medical Students in Jeddah, Saudi Arabia: Determinants, Attitude and Clinical Aspects. Advances in Human Biology. 2024 Jul;14(3):246–52. doi:10.4103/AIHB.AIHB_42_24
17. Nadia Saddique, Nafeesa Safdar, Aiman Zahra, Qamer Ali, Rizwan Khalid, Muhammad Zeeshan Sarwar [Internet]. [cited 2026 Jun 20]. Available from: https://pjmhsonline.com/published-issues/71722
18. Rilna P, Guna TP, Joseph N, Raghu K. Role of Antibiotics in Orofacial Antibioma and its Management: A Case Report. J Sci Dent. 2019 Jun 1;9(1):13–4. doi:10.5005/JP-JOURNALS-10083-0901
19. Jîtcă G, Jîtcă CM, Buț MG, Vari CE. Self-Medication: Attitudes and Behaviors Among Pharmacy and Medical Students. Pharmacy 2025, Vol 13, Page 127. 2025 Sep 4;13(5):127. doi:10.3390/PHARMACY13050127
20. Muhammad UN. Evaluation of practices of self-medication among undergraduate dental students in Riyadh. Saudi Journal of Oral Sciences. 2021;8(1):22–7. doi:10.4103/SJOS.SJORALSCI_80_20