A Review of The Prevalence of Self-Medication and Its Associated Factors Among College Students

KUHELI SAMANTA

Brainware University

Abstract— Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms, as defined by the World Health Organization. Self-medication (SM) is common in both developed and developing countries, with prevalence rates ranging from 25.6 to 73.6%. It is also associated with a positive perception of the country's healthcare system. Study shoes that the prevalence of self-medication was 55.9 %. Regarding knowledge, most students (90.3 %) agreed that self-medication might lead to administering the wrong medication, and three-fourths (74.9 %) reported that self-medication may delay the diagnosis of the disease. Most students (85.2 %) agreed that self-medication might lead to unexpected reactions. Of the study subjects, only 5.4 % disagreed that self-medication could lead to substance abuse. About (92.0 %) reported that overusing self-medication can result in drug resistance. Study shows that out of 42 respondents, 28 (66.6%) of them had reported they were agree with the concept of self-medication is harmless (P = 0.002). When the respondents were asked for is it acceptable to use self-medication when they have same symptoms of previous illness, 37 (89.1%) of them agreed with this (P = 0.00001). More than 90% (39/42) of the respondents agreed with that they would like to use self-medication for their personal use in future (P = 0.00001). On the contrary, 31 (73.8%) of them replied that they would advise others to take self-medication (P = 0.00001). According to the data, the most frequently used non-prescription medication was pain killers (52.9%), followed by vitamins and minerals (13.1%), antihistamines (9.0%), eye drops (7.7%), and nose decongestants (3.7%). Antibiotics and sleeping pills were used without a prescription in 2.9% and 2.1% of cases, respectively. When they were asked what reasons made them prefer self-medication over visiting a doctor, the most common response was that the condition was a minor health problem (38.4%). The other reasons included: quick relief (27.5%), not having time to visit a doctor (17.3%), long waiting time at doctor's office (14.9%), did not want to go to a doctor (11.3%), lack of trust with doctor (5.1%), low cost of over-the-counter medicine (1.5%), and not easy availability of health services (1.4%).

Index Terms- Prevalence, Self- medication, Associate factors, Students

I. INTRODUCTION

Self-medication is the self-administration of a treatment (either pharmacological or behavioural) without a prescription from a physician or a caregiver. Self-medication is an umbrella term, which includes a variety of behaviours, ranging from self-care to disease prevention and disease management.[2] Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms, as defined by the World Health Organization[3]. Self-medication (SM) is common in both developed and developing countries, with prevalence rates ranging from 25.6 to 73.6%. It is also associated with a positive perception of the country's healthcare system[4]. Unfortunately, a vast number of users of self-medication take medications without being fully informed about the associated risks, contraindications and adverse effects.[3] Self-medication is a prevalent practice among university students globally and is a significant public health concern.[7]

Self-medication increases the risk of using illegal drugs, developing drug dependence, and masking the underlying medical conditions, all of which can compromise human safety, leading to drug resistance, and making diagnosis more challenging. According to the researchers, the use of over-the-counter medications is common and inappropriate among undergraduate students in universities around the world. Owing to the overwhelming use of social media, students are now relying more on the internet than healthcare professionals in their health-related information. As a result, more college students are practicing SM to treat self-diagnosed illnesses[4]. The overconsumption of prescription-only drugs can result in some disadvantages and complications for human well-being, such as liver and kidney dysfunction, allergic reactions, rash, and diarrhea. Furthermore, drug interactions, the development of drug tolerance,

and antibiotic resistance are common complications of unsupervised drug use. The overuse and misuse of antibiotics in recent decades have accelerated the creation of resistant bacterial species[1]. In New Delhi, India, the prevalence of self-medication was very high (85.4%) among college students despite majority being aware of the harmful effects of it. Even among the undergraduate medical students the prevalence of self-medication was 75.3% among males and 81.2% among females in India. A similarly high prevalence (84.0%) of self-medication was observed among undergraduate nursing students in India. In another study of the medicines dispensed in pharmacies in Bangalore, India, 66.7% (174/261) pharmacies dispensed antimicrobials without a valid prescription. The prevalence of self-medication was 69.2% (465/672) in a cross sectional study in Italy. In a rural population in Greece, 44.6% used antibiotics without medical prescription at least once in their life time[3]

Prevalence and knowledge regarding self-medication: Mali I A, Hubayni R A, Marie A M et al. conducted a study on "The prevalence of self-medication and its associated factors among college students: Cross sectional study from Saudi Arabia" on 2021. Study shoes that the prevalence of self-medication was 55.9 %. Regarding knowledge, most students (90.3 %) agreed that self-medication might lead to administering the wrong medication, and three-fourths (74.9 %) reported that self-medication may delay the diagnosis of the disease. Most students (85.2 %) agreed that self-medication might lead to unexpected reactions. Of the study subjects, only 5.4 % disagreed that self-medication could lead to substance abuse. About (92.0 %) reported that overusing self-medication can result in drug resistance[1].

"Factors influencing knowledge and practice self-medication among college students of health and non-health professions" done by Mitra A K, Imtiaz A, Ibrahim AI et al on 2016. Study reveals that among the participants, 822 (70.4%) mentioned that they have ever practiced self-medication. About 22% used self-medication once a month, about 11% used it once a year, and 10% used it as and when needed. The use prevalence rate of self-medication was significantly higher among students of non-health professions compared to those of health professions (n = 419 (35.9%) $vs.$ n = 302 (25.9%), p = 0.004, 95% CI,

6.28% to 13.73%, respectively)[3]. Selvarai K, Kumar S G and Ramalingam A conducted a study on "Prevalence of self-medication practices and its associated factors in Urban Puducherry, India" on 2013. Study shows that out of 42 respondents, 28 (66.6%) of them had reported they were agree with the concept of self-medication is harmless (P = 0.002). When the respondents were asked for is it acceptable to use self-medication when they have same symptoms of previous illness, 37 (89.1%) of them agreed with this (P = 0.00001). More than 90% (39/42) of the respondents agreed with that they would like to use self-medication for their personal use in future (P = 0.00001). On the contrary, 31 (73.8%) of them replied that they would advise others to take self-medication (P = 0.00001)[5].

Behzadifar M, Behzadifar M and Aryankhesal A et al conducted a study on
"Prevalence of self-medication in university students: systematic review and meta-analysis" on 2016. Study revealed that the prevalence of self-medication was higher in female students (76.6% (95% CI: 65.0–85.2%)) than male students (66.9% (95% CI: 56.4–75.9%)), and in medical students (97.2% (95% CI: 95.4–98.3%)) than non-medical students[2].

A study was conducted by Siraj A, Yayehrad A T and Kassaw A T et al on 2022. The study title was "Self-Medication Prevalence and Factors Associated with Knowledge and Attitude towards Self- Medication among Undergraduate Health Science Students at GAMBY Medical and Business College, Bahir Dar, Ethiopia". Study shows that 177 (58.8%) of the students (83.9% of medicine, 61.3% of pharmacy, and 47.7% of laboratory) had good knowledge.

About 187 (62.1%) students accepted that SM is self-consuming of drugs without a prescriber order. Only 108 (35.9%) agreed that SM may not always be safe and effective. Nearly half of the students (46.5%) recognized that all drugs can have adverse effects. 198 (65.8%) of the respondents agreed that increasing or decreasing doses by self could be risky and also a similar proportion of the respondents (66.8%) believed that physician help must be sought for adverse events during SM[6].

The present study revealed that the prevalence of SM at GAMBY Medical School students was 68.1%. This is a very significant number which is almost consistent with similar study reports from Rift Valley University (72.7%), Qassim University (63.9%), Wollo University, Ethiopia (64.98%), and Indian Colleges (57.1–92.0%). But, the prevalence is considerably higher than similar study reports of the Arabian Gulf University, Bahrain (44.8), universities in Kuwait (35.9%), Zabol University, Iran (57.1%), and among students and other population groups in the developed western regions such as German (8%), France (17%), USA (22%), United Kingdom (39.2%), Spain (45%), Italy (53.4%), and Norway (54%). Still, there are some studies indicating a higher prevalence of SM among health science students in those European and other developed countries such as Serbia (79.9% and 81.3%), Slovenia (92.3%) and Australia (91.7%). From these reports, it can be posed that SM is a commonly practiced part of health care all over the world, in varying degrees. Generally, SM prevalence is reported to be higher in developing than developed countries[6].

Loni1 S B, Alzahrani1 R E, A M et al conducted a study on "Prevalence of self-medication and associated factors among female students of health science colleges at Majmaah University: A cross sectional study". Study depicted that the most common types of drugs used for SM among the participants were antipyretics and analgesics (N = 146;84.4 %; X2, 5.0, P =0.03) followed by antispasmodics (N = 127,73.2%; X2, 4.0, P = 0.05), antibiotics (N = 119;68.8 %; X2, 8.04, P = 0.005), antacids (N = 118;68.2 %; X2, 44.8 P < 0.00001), multivitamins, and dietary supplements (N = 115,66.5 %; X2, 3.7, p = 0.05) showed statistical significance[4].

List of symptoms treated by self-medication practices Out of these 42 people who reported self-medication, 11 of them obtained drugs through remembering the name of the drug. Among these 11 participants, only 3 of them got it by telling the generic name of the drug. Nonsteroidal anti-inflammatory drugs (NSAIDs) (27.2%) and antibiotics (9.5%) are the common self-reported medications used by participants. Out of 14 people who used previous prescriptions, only 5 of them could say what was mentioned in that previous prescription. Out of 16 people who obtained medication through pharmacist, only 2 of them were able to report what has been given by the pharmacist[5]. According to the data, the most frequently used non-prescription medication was pain killers (52.9%), followed by vitamins and minerals (13.1%), antihistamines (9.0%), eye drops (7.7%), and nose decongestants (3.7%). Antibiotics and sleeping pills were used without a prescription in 2.9% and 2.1% of cases, respectively[3].

The most common health problems for which students practiced self-medication were: headache (47.1%), flu/cold (30.4%), fever (20.5%), allergy (17.7%), cough (13.9%), sore throat (14.3%), and joint or muscle pain (12.1%)[3].

Anti-pain (37.1%) and antimicrobial (29.8%) drugs were the most commonly self-consumed groups of medications. Headache (33.7%) and cough and common cold (29.8%) were the commonly self-treated medical conditions. 83 (40.5%) of them used self-information for their SM practice[6].

The main indications for SM included menstrual problems (N = 143, 82.7 %; X2, 4.26; P =. 04), followed by headache (N = 138, 79.8%; X2, 3.8, P=. 05), fever (N = 126, 72.8 %; X2, 5.5, P =0.02), pain (N = 123, 71.1 %; X2, 4.41, P =0.04), stress (N = 61, 35.3 %; X2, 7.3, P=. 007) showed statistically significant among the participants[4].

II. REASONS FOR USING SELF-MEDICATION

Most students (78.7 %) said self-medication eased their problems immediately. (72.2 %) of participants said their past experience with the same illness justified using the same medicine without renewing it. 69.6 % of students said self-medication reduces doctor visits[1].

When they were asked what reasons made them prefer self-medication over visiting a doctor, the most common response was that the condition was a minor health problem (38.4%). The other reasons included: quick relief (27.5%), not having time to visit a doctor (17.3%), long waiting time at doctor's office (14.9%), did not want to go to a doctor (11.3%), lack of trust with doctor (5.1%), low cost of over-the-counter

medicine (1.5%), and not easy availability of health services (1.4%)[3].

Students studying pure science or applied science reported significantly higher self-medication levels than other groups. They treated more diseases with self-medication, used a greater variety of drugs and had higher overall self-medication scores. Science students are assumed to have more knowledge about medication and its potential adverse effects, yet they still engage in self-medication[7].

Economic dependence did not significantly affect self-medication practices among the respondents[7].

The welfare status, income per capita, better quality health care, and more efficient drug supply management system can be listed as the main factors. In addition, educational level and specialty, socio-economical differences, acquired knowledge about specific disease perceptions, and other related sociodemographic variations could be reasons for the similarity and differences among those reports[6].

The most common reasons for SM were quick relief from illnesses (N = 134, 77.5 %; X2 = 4.09, P = 0.04), followed by saving time (N = 132, 76.3 %; X2, 3.8 P = 0.05), self-confidence (N = 98, 56.7%; X2, 6.2, P = 0.013), and laziness to visit the physician (N = 98,56.7 %; X2, 6.2, P =0.013)[4].

CONCLUSION

Self-medication is a widespread practice globally, particularly among university students. While it is often seen as a convenient way to manage minor health issues and avoid the time and costs associated with doctor visits, it poses significant risks. The misuse and overuse of medications, especially antibiotics, contribute to serious health issues such as drug resistance, masking of underlying conditions, and adverse drug reactions. The prevalence of self-medication varies widely across different populations, with higher rates observed in developing countries compared to developed ones. Factors influencing this practice include access to information, perceived minor nature of health issues, and convenience. Despite some awareness of the risks, many individuals continue to engage in self-medication, highlighting the need for increased education and stricter regulations to mitigate the potential dangers associated with this practice.

REFERENCES

[1] Malli I A, Hubayni R A and Marie A M; The prevalence of self-medication and its associated factors among college students: Cross-sectional study from Saudi Arabia; 2023; 10 (1016); https://doi.org/10.1016/j.pmedr.2023.102457

[2] Behzadifar M, Behzadifar M and Aryankhesal A et al; Prevalence of self-medication in university students: systematic review and meta-analysis; 2020; 7 (26); emhj; https://pubmed.ncbi.nlm.nih.gov/32794171; doi: 10.26719/emhj.20.052

[3] Mitra A K, Imtiaz A, Yusuf A et al.; Factors influencing knowledge and practice of self-medication among college students of health and non-health professions; 2018; 12 (2); IMC Journal of Medical Science; doi: 10.3329/imcjms.v12i2.39662

[4] Loni S B, Alzahrani R E and Alzahrani M et al; Prevalence of self-medication and associated factors among female students of health science colleges at Majmaah University: A cross sectional study; 2023; Frontiers in Public Health; DOI 10.3389/fpubh.2023.1090021

[5] Selvaraj K, Kumar S. G and Ramalingam A; Prevalence of self-medication practices and its associated factors in Urban Puducherry, India; 2014; 5 (1); PMC3915367; DOI: 10.4103/2229-3485.124569

[6] Siraj A, Yayehrad A T and Kassaw A T et al on 2022. The study title was "Self-Medication Prevalence and Factors Associated with Knowledge and Attitude Towards Self-Medication Among Undergraduate Health Science Students at GAMBY Medical and Business College, Bahir Dar, Ethiopia; 2022;

[7] Mortuja Mahamud Tohan , Faysal Ahmed , Israt Jahan Juie; Knowledge attitude and convenience on self-medication practices among university students in Bangladesh exploration using structural equation modelling Approach; 2024; 14 (1); ResearchGate; doi: 10.1038/s41598-024-60931-9