

(RESEARCH ARTICLE)



Survey on perception for over the counter medicine use without prescription among the general people in the Gazipur, Bangladesh

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Open Access Research Journal of Biology and Pharmacy, 2023, 09(01), 019–026

Publication history: Received on 29 August 2023; revised on 04 October 2023; accepted on 07 October 2023

Article DOI: <https://doi.org/10.53022/oarjbp.2023.9.1.0041>

Abstract

The use of over-the-counter (OTC) medications is a global phenomenon, particularly among people in general in developing nations. This kind of drug can be used without a prescription. Alarming the use of medication without prescriptions among the general people for longer duration is increasing day by day. The study was meant to evaluate the prevalence of non-prescribed medications among people living in the Gazipur city corporation of Bangladesh. From January to March 2023, a cross-sectional survey was carried out in the Gazipur City Corporation (GCC). Data were gathered from patients and non-patients who self-administered medications using a semi-structured questionnaire, and descriptive statistics were used to analyze the results. Total study population were 300, among them 261 were non-prescription medicine user, of which participants were Govt. Job holder (16.8%), garments worker (11.1%), housewife (7.7%) and students (64.3%). Aged between 22 and 45 years, there were 56.3% males and 43.7% females. Mostly used medication groups were Anthelmintic 33% NSAIDs (24%), antacids (8.5%) and antibiotics (17%). The compliance was rated as excellent (13.4%) and good (55.5%). Unexpectedly, the majority of people regularly take anti-gut worm medications because they virtually always develop at the same period in almost everyone. They believe a prescription is not necessary in order to take an anthelmintic medication at any time.

Keywords: Prescription; Students; People; Anthelmintic; Bangladesh; Gazipur

1. Introduction

Self-medication, which is the use of medications, herbs, or home remedies on one's own initiative or on the advice of a third party without seeing a doctor, is the term used to describe the practice of non-prescribed medicine [1]. Currently, non-prescription drugs (drugs available without a prescription) are widely used to prevent or treat minor illnesses as well as to maintain physical fitness. This tendency is most prevalent in developing nations like Bangladesh and is correlated with social status, education, economic status, and standard of living [2, 3]. Self-medication increases the risk of adverse drug responses and other issues due to the patient's incorrect drug selection despite being less expensive and requiring no doctor's intervention [4, 5]. Self-medication can be seen as the goal of the younger generations to participate intelligently, independently, and consciously in the treatment of illnesses [6]. Due to the drugstore salespeople's frequent involvement in the unprescribed drug trade and their recommendations to patients, without prescription medications are easily available in Bangladesh [7, 8]. Thus, it is an essential component of patients' self-care, which is actually the first option and one of the most important tools when someone experiences typical health issues that don't necessitate visiting a doctor [9, 10]. It is now a fairly prevalent occurrence in many nations throughout the world due to inadequate medical facilities, the free accessibility of over-the-counter (OTC) pharmaceuticals in the local market, and the weak national drug regulatory policy. Other causes of self-medication include lack of time to see a doctor, difficulty getting an urgent appointment, mild illness, distances between hospitals and clinics and, ultimately, the high cost of medical care. Additionally, obtaining a lot of knowledge from publications, magazines, or online sources encourages people to take charge of their own health [11]. Self-medication, however, puts people's lives in peril because

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it can result in habituation, fatal allergic responses, and under dosing on medication that may not even lessen the symptom [12]. OTC medications and dietary supplements are the ones that are used for self-medication the most frequently. In addition to analgesics, self-administration of antimalarials, antibiotics, and cold syrups occurs sporadically [13]. Self-medication is sometimes used to treat the signs of mental anguish, stress, and anxiety. This includes the use of psychoactive substances such recreational drugs, alcohol, and comfort foods [14]. Self-medication has gained popularity around the globe [15–18], with a high prevalence rate in poorer nations [19, 20]. In light of all of this information, the goal of this study is to evaluate Bangladeshi citizens' perceptions of the usage of self-medication.

2. Material and method

2.1. Methods and study design

The Gazipur City Corporation, a district of Bangladesh, served as the study's location. On the basis of the target population's availability and comfort, the places for data collecting were chosen. The survey was carried out among residents of Bangladesh's Gazipur city corporation. In the Gazipur City Corporation (GCC), a cross-sectional survey was conducted from January to March 2023. A semi-structured questionnaire was used to collect information from individuals who self-administered drugs, including both patients and non-patients, and descriptive statistics were employed to evaluate the findings. There were 300 participants in the survey, of whom 12 percent worked for the government, 16 percent in the garment industry, 8 percent were housewives, and 64 percent were students. There were 36% women and 64% men, with ages ranging from 22 to 45.

Patients were randomly chosen based on their age group and asked directly about their usage of over-the-counter medications when they expressed interest in participating in the study.

2.2. Inclusion and exclusion criteria

Residents of the GCC (Gazipur City Corporation), aged 22 to 45, who have lived in Gazipur for more than five years and who can understand the term "non-prescription drugs" after being explained to them in their native tongue, as well as educated female respondents, were included in the survey.

The study excluded respondents who were younger than 22 years old, non-residents of the GCC, or visitors with short stays who had a poor understanding of prescriptions and self-drug administrations, as well as those who were uneducated or only in school. We inquired about the use of drugs over the previous six months from the voluntarily participating individuals. In order to avoid any potential observation period.

2.3. Ethics and approval

The review committee for the pharmacy department at Jahangirnagar University gave its approval to this study. A patient-based questionnaire was filled up by questioning the subjects; no extra sample was taken.

2.4. Statistical analysis

Microsoft Excel 2016 was used to conduct a descriptive analysis in order to determine the prevalence of non-prescription drug usage. Complete numbers and percentages were used to illustrate the outcomes.

3. Results

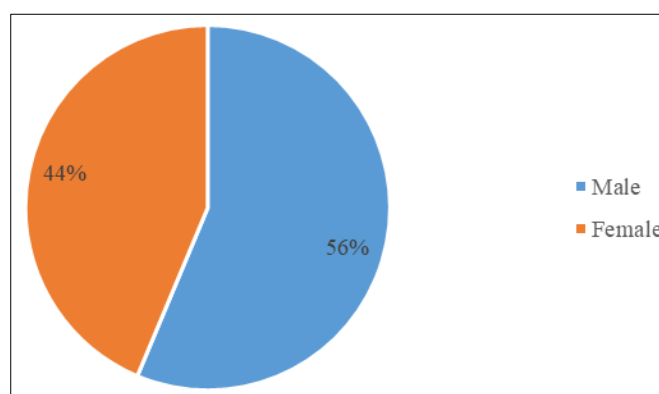
In this study we used demographic characteristics only for those who had used non-prescription medicines and this number of individuals were 261.

Table 1 Incidence of prescribed & non prescribed medicine user

Variables	Number	Percentage (%)
Non-prescribed medication users	261	87%
Do not uses non-prescribed medication	39	13%

Table 2 Demography of selected population

Parameters		Number	Percentage (%)
Sex	Male	147	56.3
	Female	114	43.7
Age years	22-30	176	67.4
	30-40	48	18.4
	41-45	37	14.2
Occupation	Students	168	64.3
	Govt. Job holder	44	16.8
	Garments employee	29	11.1
	Housewife	20	7.7

**Figure 1** Male & female percentage approx

Here, male 147 (56.3%) and female 114 (43.7%), amongst them students were 168, government job holder 44, garment worker 29 and housewife 20 shown in table 2.

3.1. Causes of non-prescribed medication use

The primary drivers of non-prescription drug use were subjective drug knowledge (52%), recommendations from others (21%), prior usage experience (15%), expense of doctor visits (10%), and self-doubt regarding doctor's treatment (2%). The outcomes are shown in table 3 of the report.

Table 3 Causes of nonprescribed medication use

No.	Reason	Percentage (%)
1	subjective drug knowledge	52
2	recommendations from others	21
3	prior usage experience	15
4	expense of doctor visits	10
5	self-doubt regarding doctor's treatment	2

3.2. The illness

Table 4 shows that consuming medications without a prescription was significantly influenced by illness. The research reveals that the drugs were used to treat approximately the following conditions: fever (54%), gastric acidity (12.5%), headache and other pain (13%), dysentery and diarrhea (7.5%), allergy (2%), common cold and cough (24%), vitamin deficiency (4%), skin disease and inflammation (11%) and gut worms (78%). Some participants have taken many medications for various illnesses. As a result, the percentage and the total number of responses are not always identical.

Table 4 Disease for Medication uses

No.	Disease	Percentage (%)
1	Gut worms	78
2	Fever	54
3	Gastric acidity	12.5
4	Headache and other pain	13
5	Common cold and cough	24
6	Dysentery and diarrhea	7.5
7	Allergy	2
8	Vitamin deficiency	4
9	Skin disease	11

3.3. Types of medicine used without prescription

The most often utilized drugs are listed in Table 5. Anthelmintic (33%) NSAIDs (24%), antacid (8.5%), antibiotic (17%), antiallergic (3.7%), anti-amoebic (dysentery) (6.9%), vitamins (2.6%), antiemetic (1.5%), analgesic (1.8%), and antitussive (1%) were the most commonly used pharmacological groups. Surprisingly most of the people use anti gut worms drugs commonly as gut worms occur automatically in almost all person at a certain time. They think it is not needed a prescription to take a anthelmintic medicine at any time. Some participants have taken many medications for various illnesses. As a result, the percentage and the total number of responses are not always identical.

Table 5 Drug class used without prescription

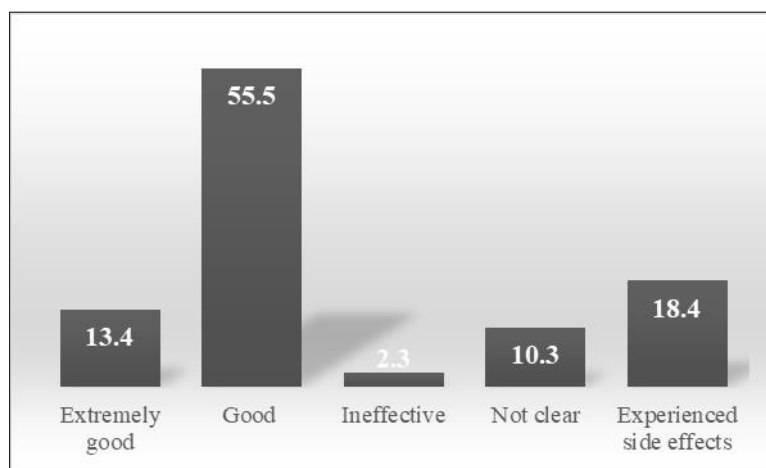
No.	Class of drugs	Percentage (%)
1	Anthelmintic	33
2	NSAIDs	24
3	Antacid	8.5
4	Antibiotic	17
5	Anti-allergic	3.7
6	Anti-amoebic	6.9
7	Vitamins	2.6
8	Antiemetic	1.5
9	Analgesic	1.8
10	Antitussive	1

3.4. Effects of medicine according to their opinion

Most of the users (55.5%) found good action of the drug against their diseases, where 35% got extremely good effect of drugs. About 18.4% user's experienced side effects on the other hand 2.3% didn't get desired effect and the effect was not clear for 10.3% users. Observations are illustrated in the Table 6.

Table 6 Effects of medicine reported by participants

Effects of drug	Person (n=261)	Percentage (%)
Extremely good	35	13.4
Good	145	55.5
Ineffective	6	2.3
Experienced side effects	48	18.4
Not clear	27	10.3

**Figure 2** Schematic presentation of drug effect by percentage

4. Discussion

According to some previously published publications [21,22–24], the most often cited symptoms for self-administration of drugs by the respondents were headache, common cold, fever, pain, and vomiting. In our research report, it was stated that the insignificance of the sickness, which did not necessitate a doctor's appointment, was the most frequent reason for self-treatment with medications. The study carried out in India [25] revealed similar results. As previously mentioned, the most frequent groups of medications that almost all of the respondents in our survey self-prescribed for therapy were antipyretics, analgesics, antacids, and antidiarrheal medications. Nearly findings were discovered in research carried out in India [26], Pakistan [25], Iran [27], and Ethiopia [13].

The participants from various social classes, particularly the young students, had the highest prevalence of self-medication, followed by the housewives of service recipients and other professions. These numbers matched very well with those found in Palestine among young medical and non-medical university students who showed an age-dependent pattern [28]. The results were similar for Bangladeshi medical students residing in Dhaka, too [29]. It was discovered that patients' awareness of the medications was one of the motivating elements for self-medication. They primarily got this information from recommendations made by others and their prior medical history, neither of which are trustworthy sources or accepted as safe and effective medical practices [30]. This finding also highlights the link between participants' socioeconomic status and their propensity for medicine, which indicates a lack of knowledge about the risks associated with such behavior [31].

The ubiquity of antibiotic risks around the globe, not just in the Indian subcontinent, poses an unsolved problem for disease prevention and treatment [32,33]. Antibiotics are frequently used carelessly by urban and metropolis people, especially Asians. The scenario outlined in this study shows that, as documented by the WHO [34], the overall trend in the consumption of antibiotics together with painkillers is increasing among educated individuals. Previously, this trend was found to be common for the general public.

It was discovered that the salesman's resistance to asking clients for prescriptions and conducting the necessary verification was inadequately handled. This finding suggests that the patients' medications, including the antibiotics they used, were quite simple to obtain. On the other hand, it is possible to claim that the medications were selected based on their availability and convenience of purchase [35]. This image calls for the assurance that laws would be implemented to ensure that young people use drugs safely and effectively. In order to overcome the difficulties posed by growing drug resistance [36,37].

Limitations

The study was to examine how young adults, people in positions of authority, and educated female participants who lived in the GCC used non-prescribed medications. As a result, the findings from this research cannot be taken as representing the entire situation for residents of the Gazipur district. Secondly the study only represents scenario of one portion of Bangladesh not whole nation.

5. Conclusion

The survey found that the general public is now allowed to choose self-medications on their own without knowing the long-term effects thanks to the availability of information sources in the modern period. On the basis of this study, it may be concluded that the government must establish regulations for the safe distribution and sale of medications to all people. It's also important to spread knowledge among the younger generations about the dangers of self-medication. To limit the practice of self-administration of medications and ensure the safe use of drugs, drug regulatory agencies and health care professionals have sole duty for explaining the overall effects of the drugs on the body. To assess the prevalence of self-medication practices among the general population and how these vary by kind of drug, more study is required. Additionally, stakeholders should take action to monitor the drug distribution system, particularly for those drugs that may have negative side effects.

Compliance with ethical standards

Acknowledgments

The authors are thankful to the management and participants who participated

Disclosure of conflict of interest

The author reports no conflict of interests in this work.

Statement of ethical approval

The review committee for the pharmacy department at Jahangirnagar University gave its approval to this study. A patient-based questionnaire was filled up by questioning the subjects; no extra sample was taken.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Author contribution

All author contributed significantly to design and development of this work

References

- [1] Hernandez-Juyol M, Job-Quesada JR. Dentistry and self-medication: a current challenge. *Med Oral*. 2002;7(5):344-7.
- [2] Holloway K, van Dijk L. *The World Medicines Situation 2011 Rational Use of Medicines*. 3rd edition. World Health Organization, Health Action International global. Geneva Switzerland: WHO Press; 2011. Available at: https://www.who.int/medicines/areas/policy/world_medicines_situation/WMS_ch14_wRational.pdf. Accessed on 10 December 2022
- [3] World Health Organization. *Guidelines for the regulatory assessment of medicinal products for use in self-medication*. World Health Organization. 2000. Available at: <https://apps.who.int/iris/handle/10665/66154>.

- [4] Kayalvizhi S, Senapathi R. Evaluation of the perception, attitude and practice of self-medication among business students in 3 select cities, south India. *IJEIMS*. 2010;1(3):40-4.
- [5] Abubakar AR, Simbak NB, Haque M. Adverse drug reactions: predisposing factors, modern classifications and causality assessment. *Res J Pharm Tech*. 2014; 7(9):1091-8.
- [6] Laporte JR. Self-medication: does information to users increase at the same rate as consumption. *Med Clin*. 1997; 109(20):795-6.
- [7] Roy J. Health status, treatment and drug use in rural Bangladesh: a case study of a village. *Aust J Rural Health*. 1997; 5(2):70-5.
- [8] Babu MM. Factors contributing to the purchase of over the counter (OTC) drugs in Bangladesh: an empirical study. *Internet J Third World Med*. 2008; 6(2):9-24.
- [9] Kumar, N.; Kanchan, T.; Unnikrishnan, B.; Rekha, T.; Mithra, P.; Kulkarni, V.; Papanna, M.K.; Holla, R.; Uppal, S. Perceptions and practices of self-medication among medical students in coastal South India. *PLoS ONE* 2013, 8, e72247
- [10] Klemenc-Ketis, Z.; Hladnik, Z.; Kersnik, J. A cross sectional study of sex differences in self-medication practices among university students in Slovenia. *Coll. Antropol*. 2011, 35, 329–334
- [11] Kumari, R.; Kiran, K.D.; Bahl, R.; Gupta, R. Study of knowledge and practices of self-medication among medical students at Jammu. *J. Med. Sci*. 2012, 15, 141–144
- [12] Mehta, R.K.; Sharma, S. Knowledge, attitude and perception of self-medication among medical students. *IOSR J. Nurs. Health Sci*. 2015, 4, 89–96
- [13] Afolabi, A.O. Factors influencing the pattern of self-medication in an adult Nigerian population. *Ann. Afr. Med*. 2008, 7, 120–127. [CrossRef] [PubMed]
- [14] Harris, K.M.; Edlund, M.J. Self-medication of mental health problems: New evidence from a national survey. *Health Serv. Res*. 2005, 40, 117–134. [CrossRef] [PubMed]
- [15] Angeles-Chimal, P.; Medina-Flores, M.L.; Molina-Rodriguez, J.F. Self-medication in a urban population of Cuernavaca, Morelos. *Salud Publ. Mex*. 1992, 34, 554–561.
- [16] Figueiras, A.; Caamano, F.; Gestal-Otero, J.J. Sociodemographic factors related to self-medication in Spain. *Eur. J. Epidemiol*. 2000, 16, 19–26.
- [17] Hayran, O.; Karavus, M.; Aksayan, S. Help-seeking behavior and self-medication of a population in an urban area in Turkey: Cross sectional study. *Croat. Med. J*. 2000, 41, 327–332. [PubMed]
- [18] Martins, A.P.; Miranda, A.C.; Mendes, Z.; Soares, M.A.; Ferreira, P.; Nogueira, A. Self-medication in a Portuguese urban population: A prevalence study. *Pharmacoepidemiol. Drug Saf*. 2002, 11, 409–414. [CrossRef]
- [19] Chang, F.R.; Trivedi, P.K. Economics of self-medication: Theory and evidence. *Health Econ*. 2003, 12, 721–739. [CrossRef] [PubMed]
- [20] Alam, N.; Saffoon, N.; Uddin, R. Self-medication among medical and pharmacy students in Bangladesh. *BMC Res. Notes* 2015, 8, 763.
- [21] Abay, S.M.; Amelo, W. Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar university, Ethiopia. *J. Young Pharm*. 2010, 2, 306–310.
- [22] Hughes, C.M. Monitoring self-medication. *Expert Opin. Drug Saf*. 2003, 2, 1–5. [CrossRef] [PubMed]
- [23] Nandha, R.; Chhabra, M.K. Prevalence and clinical characteristics of headache in dental students of a tertiary care teaching dental hospital in northern India. *Int. J. Basic Clin. Pharmacol*. 2013, 2, 51–55. [CrossRef]
- [24] Sarahroodi, S.; Maleki-Jamshid, A.; Sawalha, A.F.; Mikaili, P.; Safaeian, L. Pattern of self-medication with analgesics among Iranian university students in central Iran. *J. Family. Community Med*. 2012, 19, 125–129.
- [25] Hughes, C.M.; McElnay, J.C.; Fleming, G.F. Benefits and risks of self medication. *Drug Saf*. 2001, 24, 1027–1037.
- [26] Sontakke, S.D.; Bajait, C.S.; Pimpalkhute, S.A.; Jaiswal, K.M.; Jaiswal, S.R. Comparative study of evaluation of self-medication practices in first and third year medical students. *Int. J. Biol. Med. Res*. 2011, 2, 561–564.

- [27] Lukovic, J.A.; Miletic, V.; Pekmezovic, T.; Trajkovic, G.; Ratkovic, N.; Aleksic, D.; Grgurevic, A. Self-medication practices and risk factors for self-medication among medical students in Belgrade, Serbia. *PLoS ONE* 2014, 9, e114644
- [28] Sawalha AF. Assessment of self-medication practice among university students in Palestine: therapeutic and toxicity implications. *Islamic Univ J.* 2007;15(2):67-82
- [29] Nasir M, Zahan T, Parvin RA. Comparative study on knowledge, attitude and practice of self-medication among the medical and non-medical undergraduate students in Dhaka city. *WJPLS.* 2017;4(3):17-20
- [30] Smeulers M, Verweij L, Maaskant JM, de Boer M, Krediet CT, Nieveen van Dijkum EJ, et al. Quality indicators for safe medication preparation and administration: a systematic review. *PLoS One.* 2015;10(4):e0122695
- [31] Ramay BM, Lambour P, Ceron A. Comparing antibiotic self-medication in two socio-economic groups in Guatemala City: a descriptive cross-sectional study. *BMC Pharmacol Toxicol.* 2015; 16:11.
- [32] Barker A, Verhoeven K, Ahsan M, Alam S, Sharma P, Sengupta S, et al. Social determinants of patient antibiotic misuse in Haryana, India. *J Investig Med.* 2016; 64(4): 935.
- [33] CDC (2019). Antibiotics resistance threats in the United States. US department of health and human services centers for disease control and prevention. Available at: <https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf>.
- [34] World Health Organization. Antimicrobial Resistance Global Report on Surveillance. Geneva, Switzerland: World Health Press; 2014. Available at: https://apps.who.int/iris/bitstream/handle/10665/112647/WHO_HSE_PED_AIP_2014.2_eng.pdf.
- [35] Zafar SN, Syed R, Waqar S, Zubairi AJ, Waqar T, Shaikh M, et.al. Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes. *J Pak Med Assoc.* 2008; 58(4):214-7.
- [36] De Bolle L, Mehuys E, Adriaens E, Remon JP, Van Bortel L, Christiaens T. Home medication cabinets and self-medication: a source of potential health threats? *Ann Pharmacother.* 2008; 42(4):572-9.
- [37] Bennadi D. Self-medication: a current challenge. *J Basic Clin Pharm.* 2013; 5(1):19-23.