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A PROSPECTIVE QUESTIONNAIRE-BASED STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICE OF SELF-MEDICATION AMONGST MEDICAL UNDERGRADUATES OF A TERTIARY CARE TEACHING RURAL HOSPITAL, PIPARIA

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ABSTRACT

Self-medication has been public health issue and is discussed globally as it is developing fast, being convenient and affordable. Self-medication is defined as any person resorting to one or more drugs for their own treatment without the help of a doctor or healthcare personal. Hence, there is a dire need to create awareness regarding self-medication through survey. Therefore, this present short term EviGenCHIP (Evidence Generating Community Health Project) study was designed as a prospective questionnaire-based study which was conducted amongst 200 medical undergraduate students, through Google-form based questionnaires. Data were analyzed by using appropriate analytical tests like percentile. Among the total of 200 participants (n=200) who participated in this present research study, it was observed that 98% of students were aware of the effects of drugs on the body. Moreover, 95% of students were aware of the term xenobiotics. It was observed that for various conditions participants practice self medication out of which 64% were for fever and headache while for nausea and vomiting (54%), cough and cold (48%), diarrhoea (45%), acidity (29%), and only 5% for eye and ear problems. The commonly used drugs for various conditions were analgesics and antipyretics (70%), antacids (66%) gastrointestinal (53%) antihistaminic (33%), ointments for skin problems (15%) & for eye and

ear problems (11%). Thus, it can be concluded that the study investigated the medical undergraduate students of self medication which is frequently used for various conditions. A better understanding of what the student knows/belief about self medication and perception is observed.

Keywords: Self-care, self-medication, World Health Organization (WHO), medical undergraduates, questionnaire-based study, OTC (over the counter) drugs

INTRODUCTION

Self-medication has been public health issue and is discussed globally as it is developing fast, being convenient and affordable. Self-medication is defined as any person resorting to one or more drugs for their own treatment without the help of a doctor or healthcare personal. As per World Health Organization (WHO), "the primary public health resource in the health care system is self-care. Self- care includes self-medication, social support in illness, and first aid in everyday life. However, it also includes the health activities and health-related decision-making of own individual, family member, friends or colleagues at work". It involves the risk of adverse drug reactions, drug-drug interactions, medication errors, difficulty in self-diagnosis and/or masking the underline disorder and also to some extent risk of drug addiction or drug abuse [1-4].

Pharmacology encompasses all aspects of knowledge about drugs, but most importantly those that are relevant to effective and safe use of drugs for medical purposes [1, 2]. Apart from the medicines, the current trend of using therapeutic agents is observed to be with the herbal preparations, which amounts to 80% of the world's population who prefer the herbal preparations for therapeutic purposes, as shown by the World Health Organization (WHO) estimate in 1998 [3].

Clinical pharmacy practice is concerned with the promotion of effective, safe and economical drug therapy. It is a legal requirement that pharmaceutical products must carry the date of manufacture and the date of expiry on their label. The period between the two dates is called life period or shelf-life of the medicine [4-6]. As per the WHO guidelines, the rational use of medicines requires that the patients receive medication appropriate to the clinical needs, in doses that meet their own individual requirements for an adequate period of time, and at the lowest cost to them and to their community [4-6].

Self-medication is highly prevalent in medical students, which is quite alarming. Medical students are at high risk for self medication because of early exposure and access to drugs and related information which is often unreliable and incomplete. It assumes a special significance among

medical students as they are the future medical practitioners [5].

Self-medication wastes resources, raises pathogen resistance, and poses a variety of major health risks, including unpleasant drug reactions, extended pain, and drug addiction. Self-medication is a human behavioural response in which an individual utilises medications to cure self-diagnosed minor symptoms or diseases. Because it involves the use of drugs, it has the ability to do both good and harm [6]. Non-prescription drugs like antacids, analgesics, laxatives, vitamins etc. are being abused by youngsters, particularly students, due to media and advertising exposure. It has evolved into a serious illness, raising concerns about misdiagnosis and drug reactions [4-6].

Inappropriate usage of pharmaceuticals is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and could lead to a wide range of health issues which could lead to significant damage. Monitoring systems, a partnership between patients, physicians and pharmacists and the provision of education and information to all concerned on safe self medication, are proposed strategies for maximising benefit and minimising risk [7].

To utilise a prescription drug safely and effectively, the consumer must accurately diagnose symptoms, determine therapeutic goals, and employ the proper drugs, dosage, and therapy durations. Medical history, contraindications, concurrent co-morbidities, probable adverse effects, and finally treatment response should all be carefully evaluated [8]. For this, appropriate history of the patient and assessment of underlying comorbidities must be done. If the patient is under other medication, drug-drug interactions should be duly noted before the consumption of other medications.

Medical undergraduates in the first years of MBBS have a limited knowledge about medicine and pathological conditions. With this in mind, the current study was aimed to investigate the pattern of self medication practises among medical undergraduates, as well as identify common diseases and drugs utilised and assess the relationship between medical education and self-medication practices.

MATERIALS & METHOD

Study design and place of study

This present short term EviGenCHIP (Evidence Generating Community Health Project) study was designed as a prospective questionnaire-based study which was conducted amongst medical undergraduate students (n=200) of 2nd and 3rd year MBBS, SBKS MI & RC, Sumandeep Vidyapeeth Deemed to be University, for the duration of 3 months; after approval from SVIEC, SVDU. The participants were enrolled as

per the selection criteria, from June 2022 to August 2022.

Selection criteria:

Medical undergraduates from 2ⁿᵈ and 3ʳᵈ Year of MBBS, SBKS MI & RC, Sumandeep Vidyapeeth, Piparia, Vadodara, Gujarat.

Inclusion criteria:

1.   Any UG Medical student of SBKSMIRC who is willing to participate.

2.   Who gives consent for the present study.

3.   Any gender.

Exclusion criteria:

1.   Any UG Medical student of SBKSMIRC who is not willing to participate.

2.   Who does not give consent for the present study.

Sample description

By using this information, we calculated the sample size by using the formula given below

Unlimited population: $n = \dfrac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2}$

Finite population: $n' = \dfrac{n}{1+\dfrac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2 N}}$

where

z is the z score - for 95% it is 1.96

ε is the margin of error - 5%

N is the population size- 200

$\hat{p}$ is the population proportion- 20%

The sample size turned out to be 152, n= 152

We assumed (*n= 200*) or more for improving the statistical significance of the study and ease of calculation. Hence sample size was 200 (n=200).

Study tool:

Google form **(Annexure 1)** questionnaires were circulated amongst the enrolled participants who fulfilled the selection criteria, which included total 20 questions, out of which, first six questions were pertaining to demographic data and remaining 14 questions were regarding KAP (knowledge 05, perception 05, and practice 04). The questionnaires were prepared from primary reference and from similar research studies **[6, 10-16]**. General characteristics such as Name & age of the participant, demographics, and contact details were noted through initial first six questions. Relevant information regarding practice of Self medication was assessed through Questionnaire **(Annexure 1)**.

Statistical analysis:

Data gathered via the Google forms questionnaire, were compiled and computerized for further statistical analysis and the Data were analyzed by using appropriate analytical tests like percentile, expressed as percentage (%). The statistical calculations were performed using computer-based statistical software SPSS version 21.0. The information was represented in the form of various graphs

and charts for better understanding of the outcomes.

RESULTS & DISCUSSION

Total participants were 200 of II & III Year MBBS Undergraduate medical students (n=200). The results were depicted in percentage (%). The results were grouped into three sets from the questionnaire based on the participants' Knowledge, Attitude and Practice towards self-medication.

Set I question (05 questions) were related to participants' Knowledge of self-medication as shown **(Table 1 & Figure 1)**. We observed that 98% of students were aware of the effects of drugs on the body. The result shows as in Table 1 and figure 1, the majority of participants' were aware of the term self medication and what are the effects of drugs on the body. When asked about self medication on routinely basis 99.5 % had agreed. Nearly 95% of participants' were aware of the term 'xenobiotics'. Also, 84% of students were aware of the dose/frequency of self medicated drugs, while 16% were not.

Set II questions (05 questions) were related to participants' Attitude of self-medication as shown **(Table 2 & Figure 2)**. We observed that nearly 64% of participants' have opted for the source of self medication from family members and relatives; while others, sources of self medication were from the previous prescription (38%), pharmacist (30%) and rest of them, found it from the

social media. As shown in the table no. 2 there were 54% of students whose reason for self medication was for minor ailments while for remaining was for quick relief (43%), time saving (29%) and urgency (32%). We noted that nearly 84% of participants' who had completed their course of medication while 16% denied. When asked about accessibility of drugs majority of participants' procured from pharmacist which was 75% while others source of drug procurement was friends/family members 36%, unused medicine (4.50%) and others (11%). We noted that when the medication has no effect 84% of the participants stopped taking the medication and would prefer to visit a physician and nearly 13% would consult the pharmacist.

Set III questions (04 questions) were related to participants' practice of self-medication as shown **(Table 3 & Figure 3)**. It was observed that nearly 59% of participants practice self medication while 40% participants denied. Self medication not only means consumption of drugs but also includes ayurvedic ailments, topical ointments and home remedies. It was observed that for various conditions participants practice self medication out of which 64% were for fever and headache, whereas, other participants practiced self medication for nausea and vomiting (54%), cough and cold (48%), diarrhoea (45%),

acidity (29%), and only 5% for eye and ear problems. The commonly used drugs for various conditions were analgesics and antipyretics (70%), antacids (66%) gastrointestinal ailments (53%) antihistaminics (33%), ointments for skin

problems (15%) eye and ear problems (11%).

The gender ratio was also evaluated which is depicted in **Table 4** and the percentage distribution of male and female participants is depicted in **Figure 4**.

Table 1: Details of Questionnaire to access participants' knowledge regarding self-medication

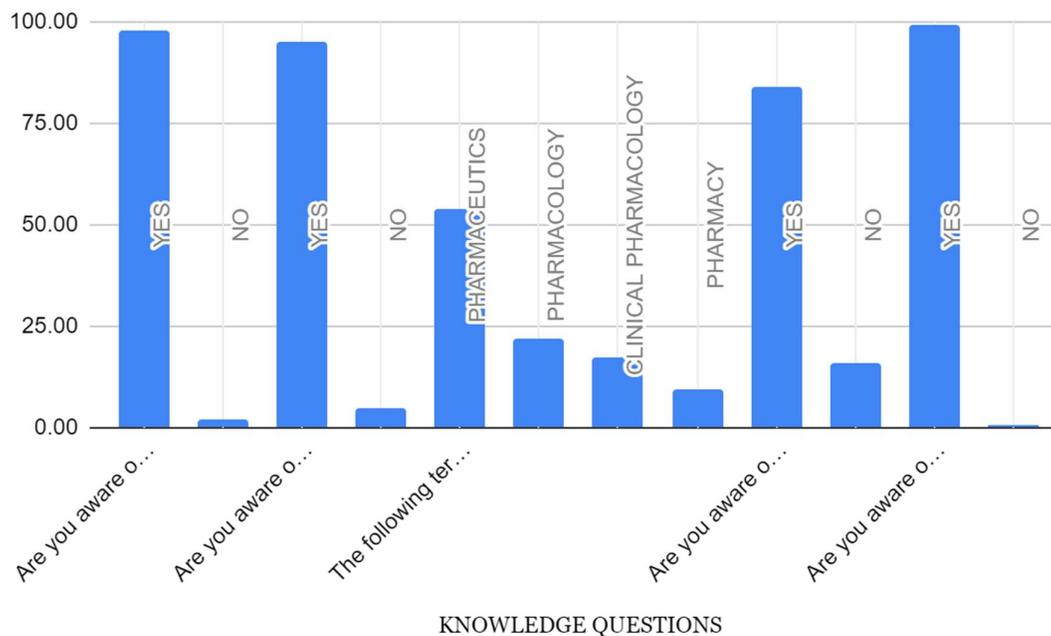| SET-I	Questions related to Knowledge about self-medication [6, 10-16]	Answer Options	Participants' response (*n=200*) Percentage (%)
1	Are you aware of the effects of drugs on the body?	Yes	98
		No	2
2	Are you aware of the term xenobiotics?	Yes	95.09
		No	4.9
3	The following term is used for stability, shelf life and handling?	a. Pharmaceutics	53.96
		b. Pharmacology	22
		c. Clinical Pharmacology	17.56
		d. Pharmacy	9.5
4	Are you aware of the dose/frequency of self medicated drugs?	Yes	84
		No	16
5	Are you aware of self medication?	Yes	99.5
		No	0.5

Figure 1: Representation of participants' Knowledge regarding self-medication:

Table 2: Details of Questionnaire to access participants' Attitude regarding self-medication

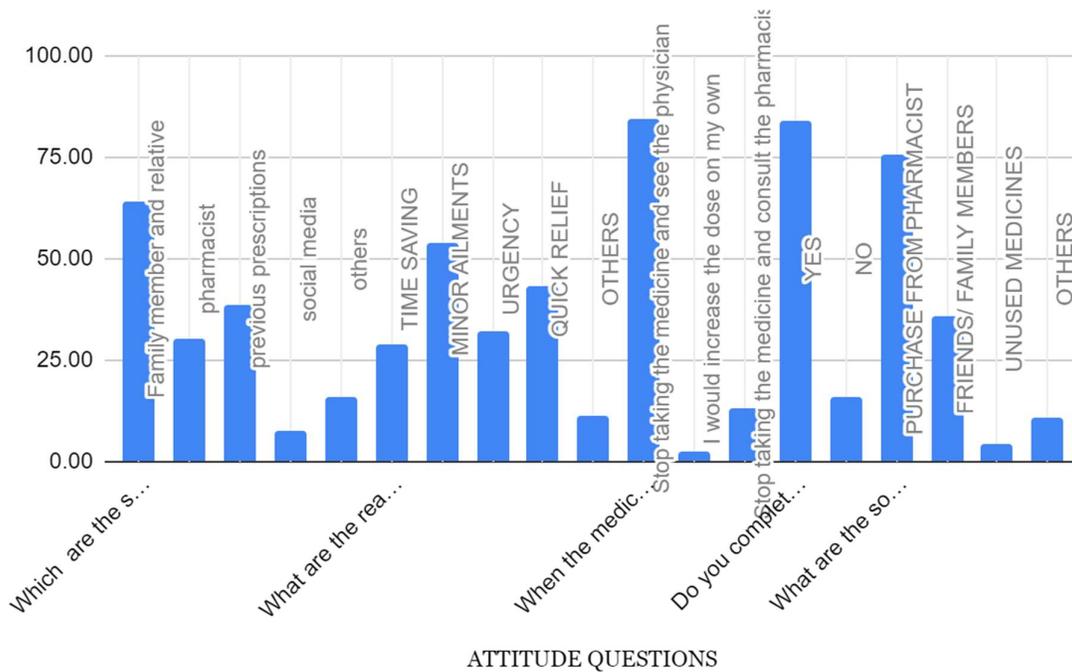| SET-II	Questions related to Attitude about self-medication [6, 10-16]	Answer Options	Participants' response (*n=200*) Percentage (%)
1	Which are the sources of self medication?	a. Family member and relative	64
		b. Pharmacist	30.5
		c. Previous prescriptions	38.5
		d. Social media	7.5
		e. Others	16
2	What are the reasons for self medication?	a. Time saving	29
		b. Minor ailments	54
		c. Urgency	32
		d. Quick relief	43.5
		e. Others	11.5
3	When the medication has no effect, what do you do?	a. Stop taking the medicine and see the physician	84.5
		b. I would increase the dose on my own	2.5
		c. Stop taking the medicine and consult the pharmacist	13
4	Do you complete the course of medication?	Yes	84
		No	16
5	What are the sources of drug procurement?	a. Purchase from pharmacist	75.5
		b. Friends/ family members	36
		c. Unused medicines	4.5
		d. Others	11

Figure 2: Representation of participants' attitude regarding self-medication

Table 3: Details of Questionnaire to access participants' perspective regarding self-medication

| SET-III	Questions related to perspective about self-medication [6, 10-16]	Answer Options	Participants' response (*n=200*) Percentage (%)
1	Do you practice self medication?	Yes	59.5
		No	40.5
2	If yes, then in which conditions	a. Fever and headache	64
		b. Cough and cold	48
		c. Acidity	29.5
		d. Nausea and vomiting	54
		e. Diarrhea	45.5
		f. Skin problems	7.5
		g. Eye/ear problem	5
		h. No response	7.5
3	Have you ever used drugs for self medication?	Yes	58.5
		No	41
4	If yes, then which drugs?	a. Antacids	66
		b. Analgesics and antipyretics	70.5
		c. Antihistamines	33
		d. Gastrointestinal ailments	53
		e. Eye/ear problems	11
		f. Ointments for skin problems	15.5
		g. No response	8.5
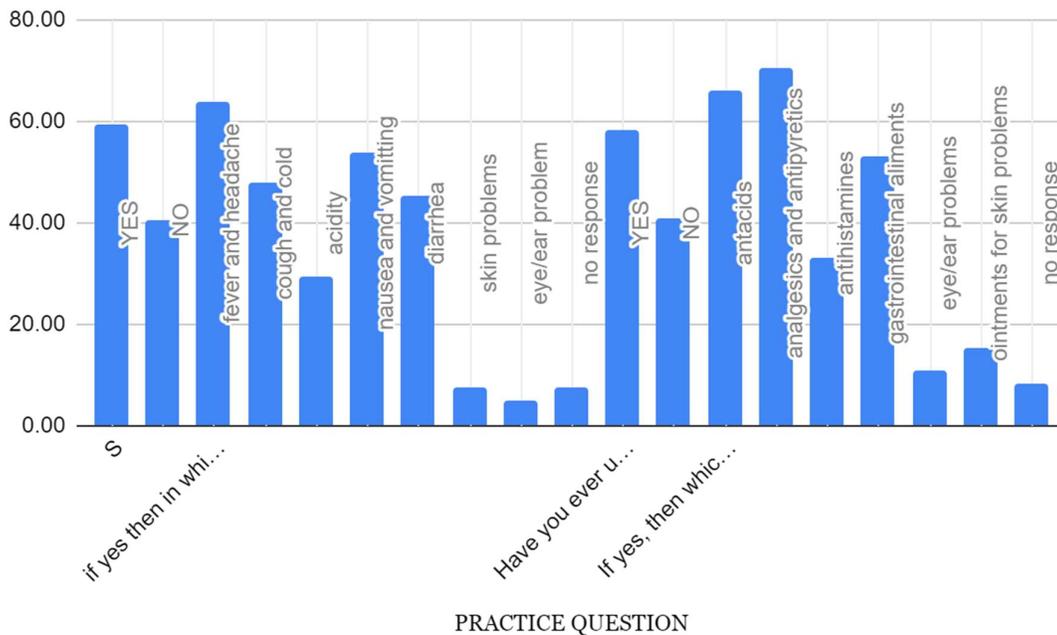
Figure 3: Representation of participants' perspective regarding self-medication

Table 4: Gender distribution among participants'

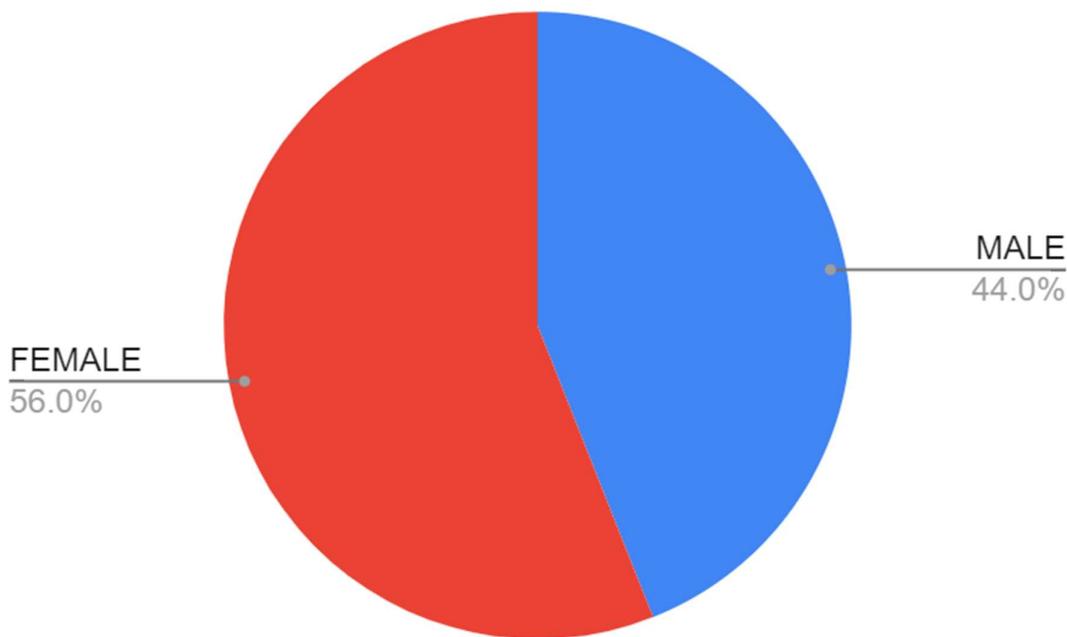| Gender	No. of Participants (n=200) %
Male	44 %
Female	56 %

Figure 4: Representation of Gender distribution among participants'

The present study provides an important insight regarding the knowledge, attitude and practice of self medication among medical undergraduate. People practice self medication for their health problems/conditions such as headache, fever, sore throat, gastrointestinal tract problems, respiratory problems, skin disorders, ear symptoms.

CONCLUSION

The result of the study gives useful information about the knowledge, attitude, practice of self medication amongst medical undergraduates. The study investigated the medical undergraduate students of self medication which is frequently used for various conditions. It has become widely accepted that self-medication has an important place in the healthcare system. Recognition of the responsibility of individuals for their own health and awareness that professional care for minor ailments is often unnecessary has contributed to this view. Improvements in people's general knowledge, level of education and socio-economic status in many countries form a reasonable basis for successful self-medication. A better

understanding of what the student knows/ belief about self medication and practice is observed throughout the study.

COMPETING INTERESTS

Nil

REFERENCES

[1] https://apps.who.int. Guidelines for the Regulatory Assessment of Medicinal Products for use in Self-Medication (2000).

[2] Gualano MR, Bert F, Passi S, Stillo M, Galis V, Manzoli L, *et al*. Use of self-medication among adolescents: a systematic review and meta-analysis. Eur J Pub Health. (2015) 25:444–50. doi: 10.1093/eurpub/cku207.

[3] Hughes CM, McElnay JC, Fleming GF. Benefits and risks of self medication. Drug Saf. (2001) 24:1027–37. doi: 10.2165/00002018-200124140-00002

[4] Ruiz ME. Risks of self-medication practices. Curr Drug Saf. 2010 Oct;5(4):315-23. doi: 10.2174/157488610792245966. PMID: 20615179.

[5] Badiger S. Self-medication patterns among medical students in South India. AMJ. 2012 May 1;5(4):217-20.

[6] Kasulkar A, Gupta M. Self medication practices among medical students of a private institute. Indian J Pharm Sci. 2015;77(2):178.

[7] Hughes CM, McElnay JC, Fleming GF. Benefits and Risks of Self Medication. Drug Safety. 2001;24(14):1027-37.

[8] Hashemzaei M, Afshari M, Koohkan Z, Bazi A, Rezaee R, Tabrizian K. Knowledge, attitude, and practice of pharmacy and medical students regarding self-medication, a study in Zabol University of Medical Sciences; Sistan and Baluchestan province in south-east of Iran. BMC Med Educ. 2021 Dec;21(1)

[9] World Health Organization. The Role of Pharmacist in Health Care System; 1998.

[10] Shah K, Halder S, Haider SS. Assessment of knowledge, perception, and awareness about self-medication practices among

university students in Nepal. Heliyon. 2021 Jan;7(1):e05976.

[11] Shrestha D, Barakoti A, Shakya Gurung R, Paudel R, Sapkota J, Deo S. Antibiotics Self-Medication Practice Among Medical Students. J Nepal Health Res Counc. 2021 Dec 15;19(3):613-7.

[12] Mandal NK, Rauniyar GP, Rai DS, Panday DR, Kushwaha R, Agrawal SK, *et al*. Self-medication Practice of Antibiotics among Medical and Dental Undergraduate Students in a Medical College in Eastern Nepal: A Descriptive Cross-sectional Study. JNMA J Nepal Med Assoc. 2020 May 30;58(225):328-32.

[13] Banerjee I, Bhadury T. Self-medication practice among undergraduate medical students in a tertiary care medical college, West Bengal. J Postgrad Med. 2012 Apr-Jun;58(2):127-31.

[14] Montgomery AJ, Bradley C, Rochfort A, Panagopoulou E. A review of self-medication in physicians and medical students. Occup Med (Lond). 2011 Oct;61(7):490-7.

[15] Dass, Ervilla, *et al*. "A non-interventional comparative study between medical and dental undergraduates regarding their knowledge, attitude and practice of antibiotic use in a tertiary care teaching rural hospital: emphasis on WHO fact-sheets." International Journal of Basic & Clinical Pharmacology 8.9 (2019): 1.

[16] Dass, Ervilla, *et al*. "A cross-sectional questionnaire-based study of knowledge, attitude and practice of antibiotic usage among the undergraduate students of a tertiary care teaching rural hospital: with an emphasis of WHO fact-sheets." International Journal of Basic & Clinical Pharmacology 8.9 (2019): 2113.

Google Form - Questionnaire [6, 10-16]: Annexure 1

A structured questionnaire was used for the study to collect information regarding age, gender, awareness of self-medication practice, type of drugs self-medicated, source of information. Prior to administering the questionnaire, the students were addressed regarding the purpose and process of data collection. They were informed that data collected would be anonymous and their participation would be voluntary. Questionnaires were distributed through Google-form link, among the participants after taking informed consent.

Demographic data

Sr no.

Que. 1:　　Name :

Que. 2:　　Age :　　　　　　　　　　　(in completed years)

Que. 3:　　Gender :　male / female

Que. 4:　　Email id :*

Que. 5:　　Mobile number :*

Que. 6:　　Year :

　　　　1. Second year MBBS

　　　　2. Third year MBBS

Que. 7　　Are you aware of the effects of drugs on the body?

　　　　Yes/no

Que. 8　　Are you aware of the term xenobiotics?

　　　　Yes/no

Que. 9　　The following term is used for stability, shelf life and handling?

- pharmacy
- pharmaceutics
- clinical pharmacy
- pharmacology

Que. 10　　Are you aware of self medication?

　　　　Yes/no

Que. 11　　Do you practice self medication?

　　　　yes/no

　　　　if yes then-

- fever and headache
- cough and cold
- acidity

- nausea and vomiting
- diarrhea
- skin problems
- eye/ear problem
- anxiety

Que. 12   Have you ever used drugs for self medication?

yes/no

if yes then-

- antacids
- analgesics and antipyretic
- antihistamines
- gastrointestinal aliments
- ointments for skin problems
- eye/ear drops

Que. 13   Which are the sources of self medication?

- family member and relative
- pharmacist
- previous prescription
- social media
- others

Que. 14   What are the reasons for self medication?

- time saving
- minor ailment
- urgency
- quick relief
- others

Que. 15   What are the sources of drug procurement?

- purchase from pharmacist
- friends/family members
- unused medicine
- others

Que. 16   Are you aware of the dose/frequency of self medicated drugs?

(Yes/no)

Que. 17   Do you complete the course of the medication?

(Yes/no)

Que. 18   When the medication has no effect, what do you do?

- Stop taking the medicine and see the physician

- Stop taking the medicine and consult the pharmacist

- I would increase the dose on my own

Que19.   Any other information you would like to set gate with us, regarding the study?