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Perceptions and practice of self-medication among undergraduate medical students of West Bengal

Pranita Taraphdar[1], Amitabha Chattopadhyay[2]
[1](Associate Prof. Dept of Community Medicine, NRS Medical College, Kolkata, India)
[2](Assistant Prof. Dept of Community Medicine, NRS Medical College, Kolkata, India- Corresponding author)
Corresponding Author: Pranita Taraphdar

Abstract: *Background: Self medications with over the counter (OTC) drugs usage has been prevalent among medical students..*
Aim*: The aim of the study was to assess the perceptions and practice of self-medication among medical students.*
Materials and Methods:
This was a descriptive observational study with cross sectional study design carried out over a period of one month (Nov 2017) at NRS Medical College of Kolkata. 910 undergraduate medical students participated in the study. Information was elicited with the help of a predesigned, pretested, self administered questionnaire and results were analyzed and tabulated using descriptive statistics.
Results: *A large majority of the students (94%) gave history of self medications in last 6 months. Pain, fever, cough/cold were the major symptoms for which medications were taken, while quick relief, minor ailments were considered as the main cause of self medication Antipyretics(82.6%),analgesics(72.0%) and vitamins(76.5%) were the main group of drugs which were used for self medications.56.4 % of the students had good /very good attitude score regarding perception of self medication. Significant association was found between attitude score and residence and academic year of students.*
Conclusion:
Keywords: *perceptions,, practice, medical students, self medications*

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I. Introduction

Self-medication has traditionally been defined as "the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor."[1] According to WHO guidelines responsible self-medication can help prevent and treat diseases that do not require medical consultation and reduce the increasing pressure on medical services for relief of minor ailments especially when resources are limited [2]. Otherwise self medication if not based on authentic medical information can lead to irrational use of drugs, wastage of resources, increased resistance of pathogens and can lead to serious health hazards such as adverse drug reaction and prolonged morbidity [3].Studies revealed that self-medication is one of the most influential theories causation of drug abuse and addiction. The situation is further worsened in our country where there is lack of implementation of drug control. Reasons of self-medication may be[4] :

-Lack of time to see a doctor
-Illness may appear to be too mild
-Too much information available on social media which make people confident
-Lack of accessible and affordable professional health care
-Practice of not reimbursing prescription drugs
-Economic factors

Risks of self-medication are:-

-Misdiagnosis
-Prolonged duration of use leading to dependency
-Drug Resistance
-Side-effects or allergy
-Over-dosage or under-dosage
-Poly-pharmacy

The self-medication practice among doctors develops during their undergraduate training as obvious from some studies of self-medication among medical students [5]. For medical undergraduates such practice has

special significance as they are exposed to knowledge about diseases and drugs. Hence this study was undertaken to assess practice and perception of self medication among undergraduate medical students of West Bengal.

II. Material And Methods

This was a descriptive observational study with cross sectional study design carried out over a period of one month (Nov 2017) at NRS Medical College of Kolkata, West Bengal .The study participants were MBBS students studying at NRS Medical College. Total enumeration was done and out of existing 970 students (1st year to 4th year) ,910 students participated in the study. Information was elicited with the help of predesigned, pretested, self administered questionnaire. Informed consent of willing students were taken beforehand. Practice of self medication was assessed on the basis of the following-

- history of self medication within last 6 months
- frequency of self medications
- symptoms leading to self medications
- Cause/reason of Self medication
- Preferred group of drugs
-Source of medicines
- effect of self medication

Perceptions/attitude of students were assessed with the help of a perception score based on 3 point Likert scale. 10 questions were present for assessment of perception and correct responses were assigned a score of +1,incorrect responses were assigned a score of -1 , unequivocal responses were assigned a score of 0.Maximum possible score was +10 and minimum possible score was -10.Scoring of question no 1,,5,6,7 got reversed as they were questions with negative impact. A score of more than 5 was considered as very good attitude score while a score of 1 to 5 was considered as good attitude score. A score between 0 to -5 was considered as poor attitude score, while any score < 5 was considered as very poor. The results are analyzed and tabulated using descriptive statistics. For test of any association, chi square test was used with a p value of < 0.05 being significant.

III. Results

In our study, out of 970 students present across 1st to 4 th year, 93.8% of the undergraduate students participated. Table 1 represents the socio demographic characteristics of the study population.67.0% of the students were male , majority were Hindu, with more number were residing in rural area. Participation of 4 th year students were a less than other years.

Table 2 depicts the prevalence of self medications among the students. A large majority of the students (94%) gave history of self medications in last 6 months. Table 3 shows the distribution of the students according to their practices regarding self medication. About 52.3 % of the students gave history of self medication for at least 1-3 times. Pain, fever, cough/cold were the major symptoms for which medications were taken, while quick relief, minor ailments were considered as the main cause of self medication. Antipyretics (82.6%),analgesics (72.0%) and vitamins(76.5%) were the main group of drugs which were used for self medications.OTC drugs were mainly used by the students.

10 questions were used for assessment of perception of students regarding self medications and were scored accordingly on the basis of a 3 point Likert scale as shown in Table 4.13.7% of the students had a very good attitude score (>5) as shown in Table-5.42.7 % of the students had good attitude score, while 34.9% of the students had poor attitude score (0 to -5) regarding self medications. Very poor attitude score was present in 8.7% of the students.

Association between attitude score of students regarding self medications and sociodemographic variables is depicted in Table 6. Significant association was found in case of residence and academic year of students and attitude score.

IV. Discussion

In our study the prevalence of self medication among undergraduate medical students was 94.0%. In studies conducted in other countries, the prevalence of self medication was, 55.3% in Karachi [6] 25.4% in Ethiopia [7]. In some Indian studies, the prevalence of self medication was 57.05% in West Bengal [3] and 78.6% in Mangalore [8].

Most common indication for self medication was pain and fever in our study which was similar to observations made in a study conducted in Ethiopia [7] and Mangalore [8]. Antipyretics were the most common class of drugs self medicated in our study which was similar to the study from Mangalore [8] . Use of antibiotics in our study was 38.9 % while that from a study in Bahrain was only 6%[9].This suggests that the use of antibiotic is high in our study which could be due to lack of regulatory policy governing the OTC sale of antibiotics. In our study the major cause of self medication was for quick relief (74.2%) and mild nature of ailments

(61.4%); similar results were found in a study from Nepal [10] . Another study from Ahmadabad reported time saving as most common reason for self medication [5]. 47.0% of the students felt that OTC medications were better option as compared to prescription drugs, while non-prescription drugs were taken according to recommended dosage by 83.2% of the students.49.2% of the students thought that dose should be modified according to severity of symptoms. Reuse of medications prescribed for previous illness was suggested by 54.7% of the students, while treatment discontinuation was suggested by only by 27.9% . Continuous use of non-prescription drugs may cause adverse effects and dependency was suggested by more than 50% of the students which was similar to a study done at Nagpur.[11 In our study about 56.4 % of the students had good /very good attitude score, which was an encouraging finding. More number of females (60.7%) had positive attitude score than males(54.4%),while senior students also had better attitude score than junior students. But significant association was found only in case of residence and academic year.

It is generally expected that self medication practice to be more common in senior medical students as they are exposed to knowledge about diseases and drugs. But, in our study senior year students had better attitude score as compared to first year and second year students which is against the assumption and similar to observations made by Sontakke et al. The reason could be that they were more aware of potential disadvantages of self medication like side effects, drug interactions or due to under reporting.

Few limitations of our study was that it was based on self reported data about self medication in last six months hence recall bias cannot be ruled out. Also some students may had physicians in the family so their influence as a source of prescription cannot be ruled out. Overally, more multicentric studies need to be carried among medical students and general population at large to study various factors influencing self medication. These studies should be conducted on periodic basis so that they will give insight into changing pattern of drug use in society.

V. Conclusion

Self-medication was an extremely common occurrence among majority of the study subjects. Easy availability of drugs and perceiving the illness as minor, aggravated this practice. The fact that inappropriate self-medication has the potential to cause serious harm to the persons practicing it, was not perceived by all. Restriction of sale of prescription drugs with potentially harmful effects should be implemented effectively with monitoring systems between the significant stake holders. Self medication is difficult to eradicate, various measures can be taken to discourage such practices. Therefore ,the need of the hour is to sensitize the students regarding the irrational use of medicines in terms of self medications and to design various health education strategies which will help to educate the students and the community in large.

Conflict of interest

All authors declare no conflicts of interest

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TABLE -1: Socio demographic characteristic of study population (n= 910)

Socio demographic variables	No.	%
GENDER		
Male	610	67.0
Female	300	33.0
RESIDENCE		
Rural	506	55.6
Urban	404	44.4
Religion		
Hinduism	719	79.0
Islam	174	19.1
Others	17	1.9
Academic year		
1st year	241	26.5
2nd year	245	26.9
3rd year	236	25.9
4 th year	188	20.7

TABLE 2: Distribution of students according to history of self medications and academic year

Academic year	h/o of Self medication	
	Yes (%)	No (%)
1st year (n =241)	233(96.7)	08(3.3)
2nd year(n= 245)	231(94.3)	14(5.7)
3rd year (n= 236)	222(94.1)	14(5.9)
4 th year(n= 188)	170(90.4)	18(9.6)
Total(n=910)	856(94.0)	54(6.0)

TABLE 3: Distribution of study population according to practice of self medications (n= 856)

Practices	**No**	**%**
Frequency of self medications		
1-3 times	448	52.3
4-6 times	310	36.2
> 6 times	98	11.5
Symptoms leading to self medications*		
Fever		
Headache	654	76.4
Flu/Cough & cold	344	40.2
Pain	566	66.1
Sore throat	768	89.7
Vomiting	368	43.0
Diarrhoea	104	12.1
Mouth ulcer	321	37.5
Rash/Allergy	156	18.2
Insomnia	68	7.9
	47	5.5
Cause/reason of Self medication*		
Too trivial for consultation		
Confidence about pharmacological knowledge	309	36.1
Save time	217	25.3

Avoid crowd at OPD	409	47.8
Privacy	193	22.5
Save money	48	5.6
Minor ailments	398	46.5
Quick relief	526	61.4
	635	74.2
Preferred group of drugs*		
Antipyretic	707	82.6
Analgesics	616	72.0
Antibiotics	332	38.9
Tonics/Vitamin	655	76.5
Antidiarrheal	289	33.8
Sedatives	132	15.4
Antispasmodic	212	24.8
Others	346	40.4
Source of drugs*		
OTC	657	76.7
Free sample	234	27.3
Friends /relatives	112	13.1
Effect of self medication		
Cured	754	88.1
Stopped medicine & consulted doctors	102	11.9

TABLE -4: Assessment of perceptions of study population regarding self medications (n= 910)

Assessment on perception	AGREE (%)	DISAGREE(%)	CAN'T SAY(%)
OTC medications are a better option as compared to prescription drugs	428(47.0)	400(43.9)	82(9.1)
Non-prescription drugs should be taken according to recommended dosage.	757(83.2)	120(13.2)	33(3.6)
Instructions on the label of non-prescriptions drugs should be followed	765(84.1)	56(6.2)	89(9.7)
Non-prescription drugs could interfere with other prescribed medicines.	644(70.8)	145(15.9)	121(13.3)
Dose should be modified according to severity of symptoms.	448(49.2)	400(43.9)	62(6.9)
Treatment may be discontinued midway with relief of symptoms.	254(27.9)	568(62.4)	88(9.7)
Reuse of medications prescribed for previous illness can be done	498(54.7)	388(42.6)	24(2.7)
Non-prescription drugs may lose their effectiveness after chronic use.	385(42.3)	402(44.2)	123(13.5)
Continuous use of non-prescription drugs may cause adverse effects	515(56.6)	380(41.7)	15(1.7)
Continuous use of non-prescription drugs may cause dependency.	578(63.5)	210(23.1)	122(13.4)

Table 5: Distribution of study subjects by Attitude score regarding self-medication (n=910)

Attitude score	No. of students	%
>5	125	13.7
1 to 5	389	42.7
0 to -5	318	34.9
< -5	78	8.7

Table 6: Association between attitude score of students regarding self medications and sociodemographic variables.

Socio demographic variables	Attitude score >0 (%)	≤ 0(%)	Chi sq value (P value)
GENDER			
Male(n=610)	332(54.4)	278(45.6)	0.074(NS)
Female(n=300)	182(60.7)	118(39.3)	
RESIDENCE			
Rural (n= 506)	168(33.2)	338(66.8)	251.3(S)
Urban(n= 404)	346(85.6)	58(14.4)	
Religion			
Hinduism (n= 719)	402(55.9)	317(44.1)	0.45(NS)
Islam (n= 174)	102(58.6)	72(41.4)	
Others(n= 17)	10 (58.8)	07(41.2)	
Academic year			
1st year (n= 241)	94(39.0)	147(61.0)	49.6(S)
2nd year (n= 245)	136(55.5)	109 (44.5)	
3rd year (n= 236)	162 (68.6)	74 (31.4)	
4 th year (n= 188)	122(64.9)	66(35.1)	

(NS- not significant, S- Significant)

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