Research Paper

A study on knowledge, attitude and practice of self-medication with antibiotics among undergraduate students in a tertiary care hospital of Assam

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Abstract:
Objective:
To evaluate knowledge, attitude and practice of self-medication with antibiotics among undergraduate students in a tertiary care hospital of Assam
Material and Methods:
Across sectional study with sample size of 150 was done in a tertiary care hospital of Assam withundergraduate students. Apredesigned, pretested questionnaire consisting of 30 questions (multiple choice questions). A face-to-face questionnaire-based interview was held for collecting the data after obtained written informed consent from participants. After collecting the questionnaire, the data were analysed and results were expressed as percentage.
Results:
150 questionnaires were used out of which 131 (87.33%) students responded for practising self-medication with antibiotics. Among the respondents, 90 (69%) were males and 41 (31%) females. Mean age of students was 23. Most common cause for practising self-medication was time saving (35.88%). Most common symptom for which antibiotic was used was Fever (31.3%) and cough (25.95%). The most common source of information was textbooks (37.40%) and most common source of medicine was medical stores (48.09%). The most commonly used antibiotic was Amoxyclav (54.19%) and around 58.02% students stopped taking antibiotics after disappearance of symptoms. The most common adverse effect experienced was diarrhoea (86.26%). The percentage of students having awareness about the harmful effects of antibiotics was 84.73%.
Conclusion:
This study has shown that self-medication with antibiotics is common among undergraduate medical students and most of them stop antibiotics without completion of course after disappearance of symptoms. There is a need for awareness program to educate the students, including the health care professional about the advantages, disadvantages and possible complications of antibiotic self-medication.
Education regarding this issue should be taken into consideration along with proper guidance and counselling as self-medication with antibiotics among students can be a serious concern keeping in mind the rise in antibiotic resistance occurring due to unnecessary and overuse of antibiotics.
Keywords- Self-medication, antibiotics, undergraduate students, Amoxyclav.

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]Self-medication is very common and is practiced due to various reasons like lack of time, lack of health facility, easy availability of the drugs, financial constraints, advertisements, etc.The inappropriate overuse/misuse of antimicrobial drugs has resulted in the worst scenario of bacterial mutations and developing resistant strains. The rate at which bacteria develop resistance to antibiotics is alarmingly high, demonstrating resistance to antibiotics that always showed high specificity and popularity.[2]

Objective:

To evaluate knowledge, attitude and practice of self-medication with antibiotics among undergraduate students in a tertiary care hospital of Assam

II. Material and Methods:

- Type of study- Cross sectional study
- Period of study- 15/01/2021 to 15/02/2021
- Study area- A tertiary care hospital of Assam
- Study participants- Undergraduate students of 2nd and 3rd Year of Assam Medical College
- Sample size- Considering prevalence of self-medication with antibiotics to be 23%[3], absolute error of 5% and non-response rate of 2%, it was calculated to be 139 and the total sample was taken to be 150.
- Study tool- predesigned and pretested questionnaire consisting of 30 questions (multiple choice questions)
- Inclusion criteria- All students willing to participate
- Exclusion criteria- 1. Students not willing to participate

2. Students absent on the day of data collection

- Data collection: A face to face questionnaire-based interview was held for collecting the data after obtained verbal consent from participants
- Analysis: After collecting the questionnaire the data were analysed and results were expressed as percentage
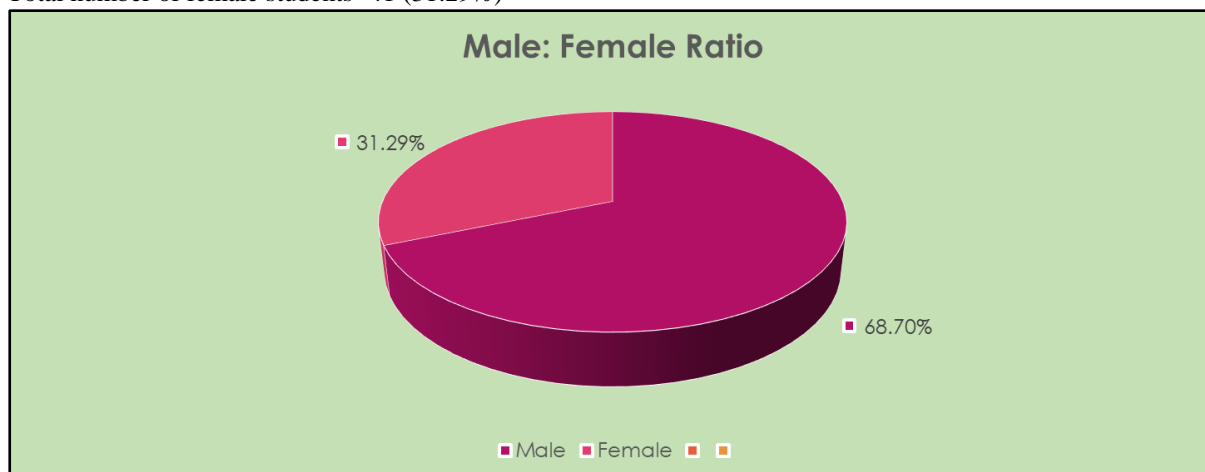
III. Results:

1.   Number of students responded of practising self-medication with antibiotics- 131 (87.33%)
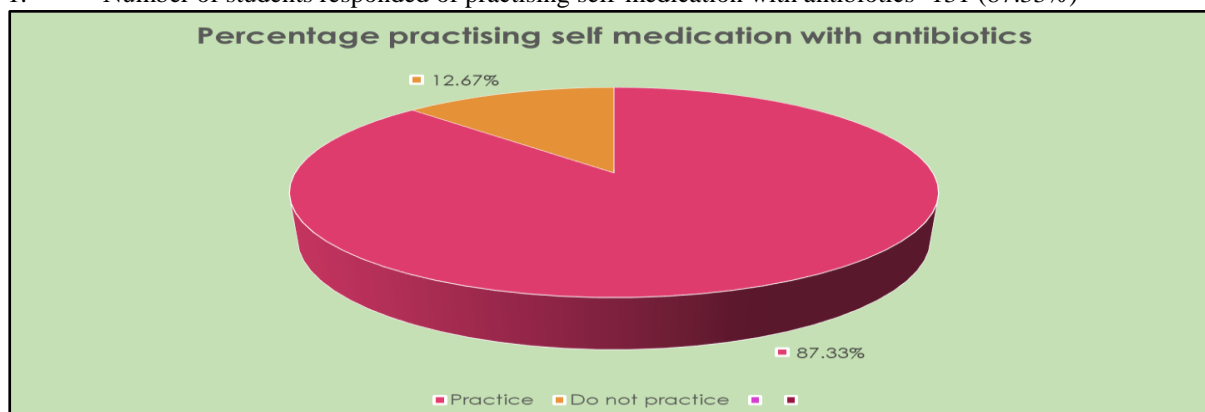
2.   Total number of male students- 90 (68.7%)
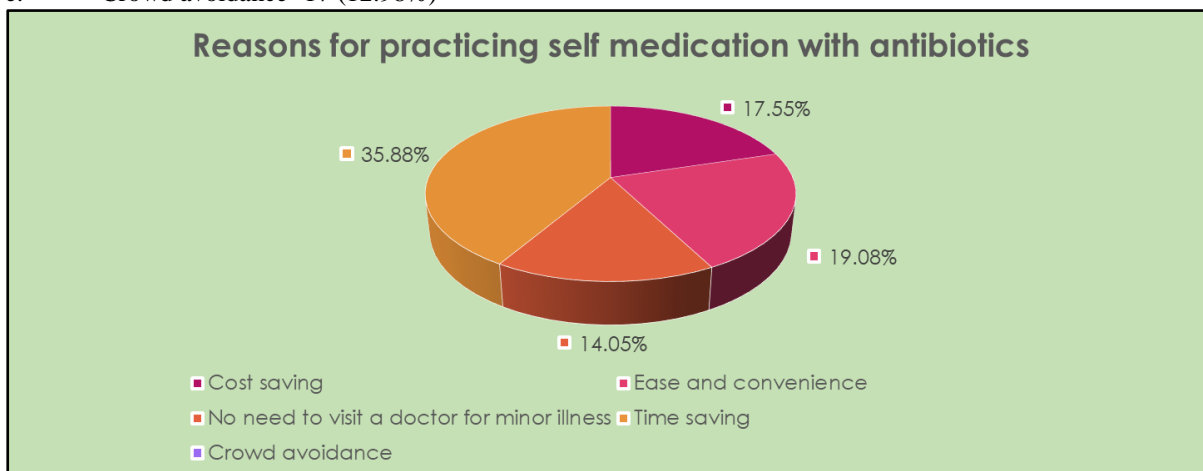Total number of female students- 41 (31.29%)

3.   Reason(s) of self-medication with antibiotics
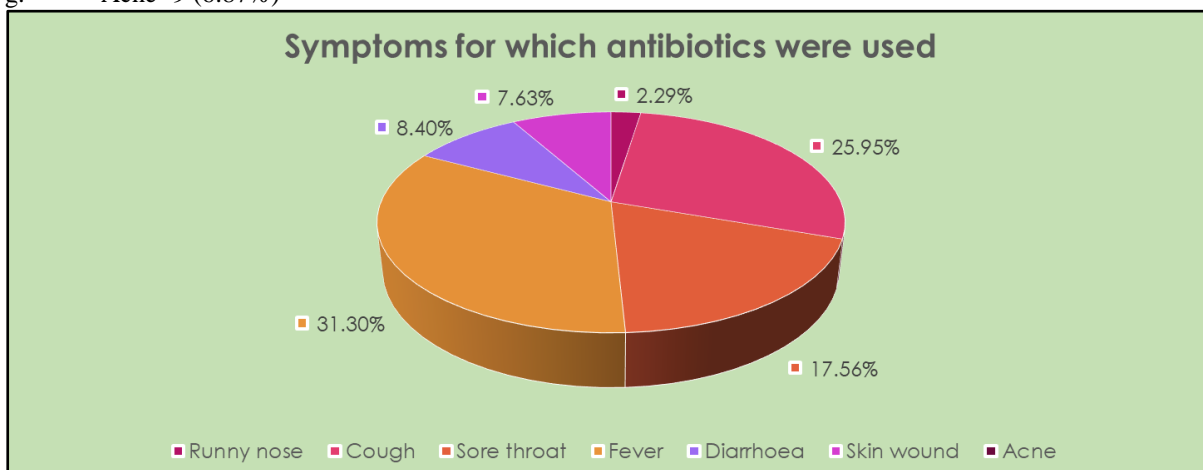a.   Cost saving- 23 (17.55%)
b.   Convenience-25 (19.08%)

c.   No need to visit doctor for minor illness- 19 (14.50%)
d.   Time saving- 47 (35.88%)
e.   Crowd avoidance- 17 (12.98%)

Reasons for practicing self medication with antibiotics

- 17.55%
- 19.08%
- 14.05%
- 35.88%

■ Cost saving   ■ Ease and convenience
■ No need to visit a doctor for minor illness   ■ Time saving
■ Crowd avoidance

4.   Most common symptom for which antibiotic was used
a.   Runny nose- 3 (2.29%)
b.   Cough- 34 (25.95%)
c.   Sore throat- 23 (17.56%)
d.   Fever- 41 (31.3%)
e.   Diarrhoea- 11 (8.4%)
f.   Skin wounds- 10 (7.63%)
g.   Acne- 9 (6.87%)

Symptoms for which antibiotics were used

- 7.63%
- 2.29%
- 8.40%
- 25.95%
- 31.30%
- 17.56%

■ Runny nose ■ Cough ■ Sore throat ■ Fever ■ Diarrhoea ■ Skin wound ■ Acne
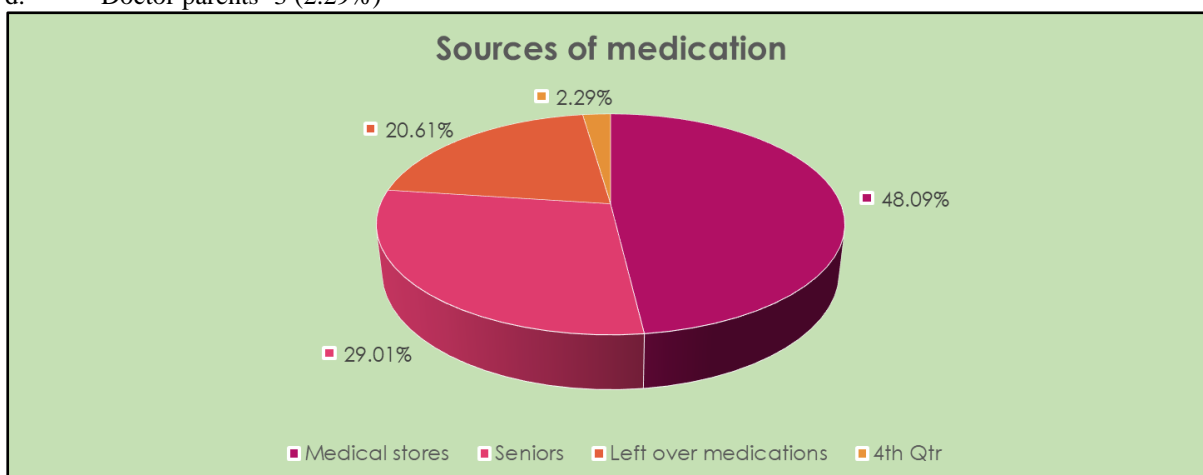
5.   Sources of information
a.   Classroom teaching- 35 (26.72%)
b.   Textbook- 49 (37.40%)
c.   Internet-26 (19.85%)
d.   Previous prescriptions- 17 (12.98%)
e.   Advertisement- 4 (3.05%)
f.   Others- 0

Sources of drug information
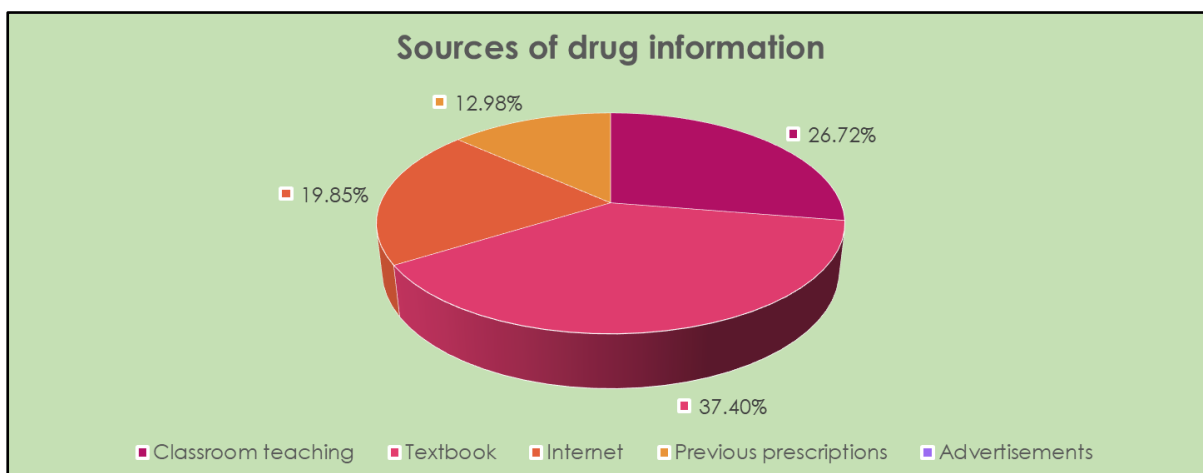
6. Source of medication
a. Medical stores- 63 (48.09%)
b. Seniors- 38 (29.01%)
c. Left over medications- 27 (20.61%)
d. Doctor parents- 3 (2.29%)

Sources of medication

7. Antibiotics used most commonly
a. Amoxyclav- 71 (54.19%)
b. Azithromycin- 34 (25.95%)
c. Cefixime- 9 (6.87%)
d. Ciprofloxacin- 14 (10.69%)
e. Doxycycline- 3 (2.29%)
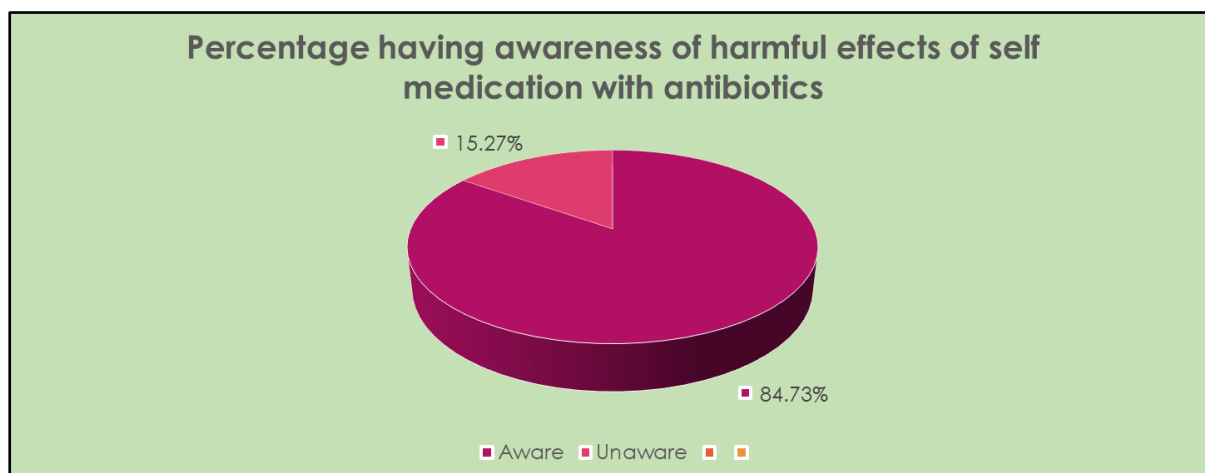
Antibiotics most commonly used
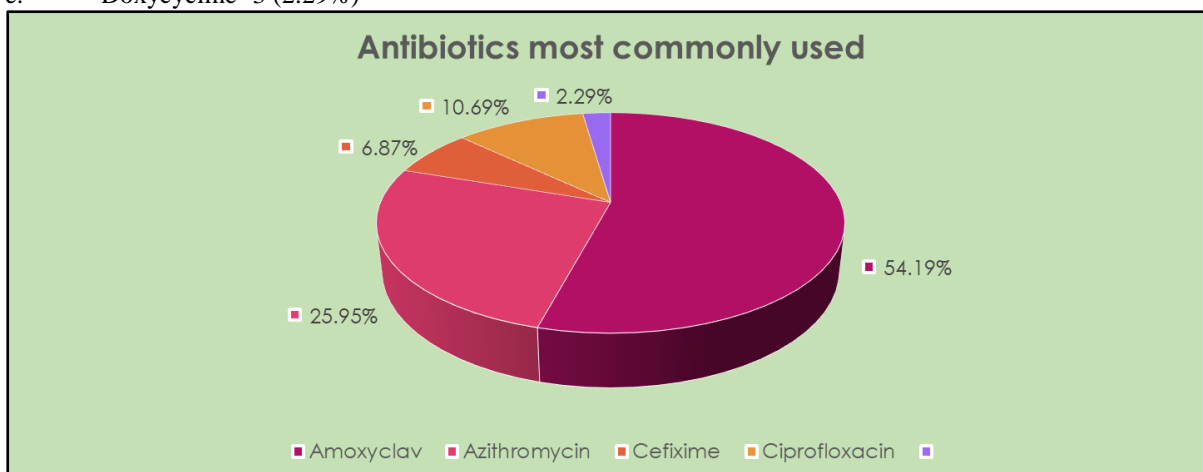
8.   Reason for stopping antibiotics
a.   After completion of course- 39 (29.77%)
b.   After symptoms subsided- 76 (58.02%)
c.   After development of adverse effects- 7 (5.34%)
d.   After they ran out of antibiotics- 9 (6.87%)
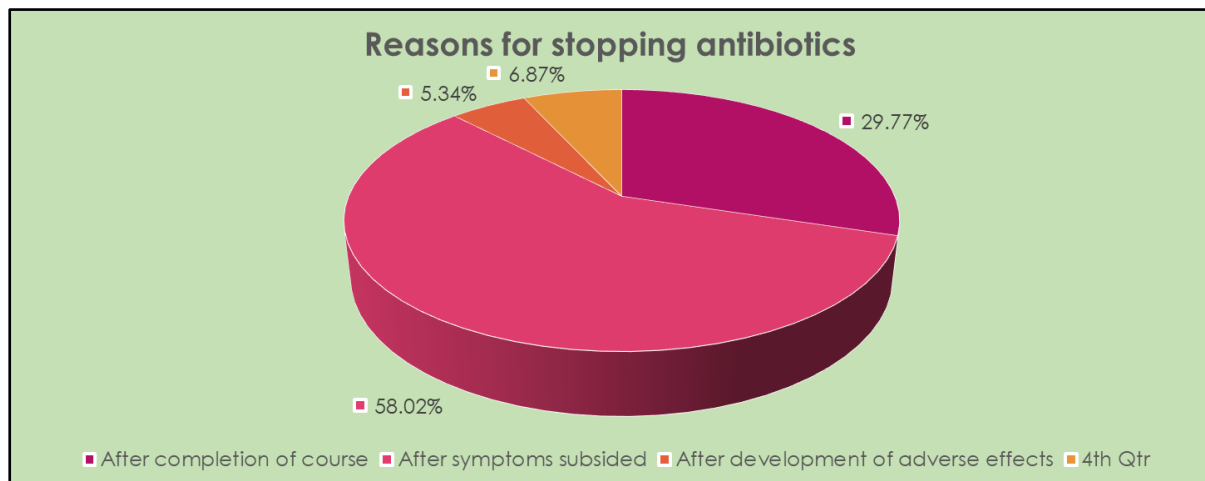
9.   Most common adverse effects experienced during antibiotic course
a.   Diarrhoea- 113 (86.26%)
b.   Rash- 2 (1.53%)
c.   Nausea- 16 (12.21%)
d.   Other- 0
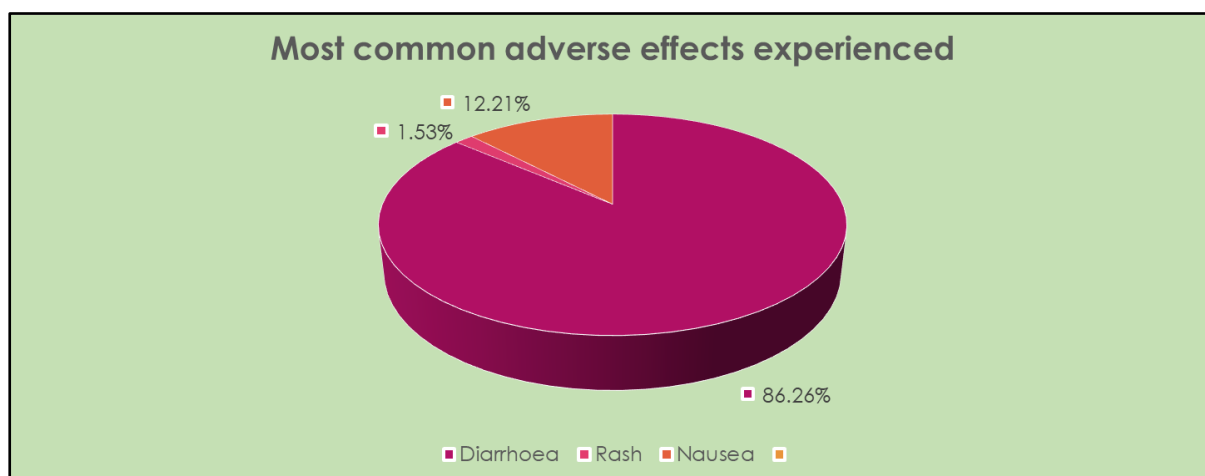
10.   Students having awareness about harmful effects of antibiotics
Number of students having awareness- 111 (84.73%)
Number of students unaware- 20 (15.27%)

Percentage having awareness of harmful effects of self medication with antibiotics

- 15.27%
- 84.73%

■ Aware ■ Unaware ■ ■

IV.   Discussions:

150 questionnaires were used out of which 131 (87.33%) students responded for practising self-medication with antibiotics. Among the respondents, 90 (69%) were males and 41 (31%) females. Mean age of students was 23. Most common cause for practising self-medication was time saving (35.88%). Most common symptom for which antibiotic was used wasFever (31.3%). The most common source of information was textbooks (37.40%) and most common source of medicine was medical stores (48.09%). The most commonly used antibiotic was Amoxyclav (54.19%) and around most students stopped taking antibiotics after disappearance of symptoms (58.02%). The percentage of students having awareness about the harmful effects of antibiotics was 84.73%.

Biswas et al, 2015 & Pal et al, 2016 also did similar kind of studies in medical colleges of West Bengal and North India respectively and found that the prevalence of self-medication with antibiotics among medical students was very high.[4]

Irrational use of antibiotics is a key reason for higher incidence of antibiotics resistance. There are several factors that may enhance irrational antibiotics usage, which could be doctor's knowledge,antibiotics selling without a prescription, uncertain diagnosis, expectations of the patient, marketing,etc.

V.   Conclusion:

This study has shown that self-medication with antibiotics is common among undergraduate medical students. There is a need for awareness program to educate the students, including the health care professional about the advantages, disadvantages and possible complications of antibiotic self-medication.

There must be propereducation regarding the irrational use of antibioticsand along with that proper guidance and counselling should be provided as self-medication with antibiotics among students can be a serious concern which may lead to antibiotic resistance occurring due to unnecessary and overuse of antibiotics.

References:
[1].   Bennadi D. Self-medication: A current challenge. J Basic Clin Pharm. 2014;5(1):19.
[2].   Ghaieth MF, Elhag SRM, Hussien ME, Konozy EHE. Antibiotics self-medication among medical and nonmedical students at two prominent Universities in Benghazi City, Libya. J Pharm Bioallied Sci. 2015;7(2):109–15.
[3].   Kumar V, Mangal A, Yadav G, Raut D, Singh S. Prevalence and pattern of self-medication practices in an urban area of Delhi, India. Med J Dr DY Patil Univ. 2015;8(1):16.
[4].   Pal B, Murti K, Gupta AK, Choudhury U, Rastogi M, Pandey H, et al. Self Medication with Antibiotics among Medical and Pharmacy Students in North India. Curr Res Med [Internet]. 2016 Dec 30 [cited 2022 Apr 11];7(2):7–12. Available from: https://thescipub.com/abstract/amjsp.2016.7.12