Study on usage of self – medication in MBBS students in a teaching hospital

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Abstract:

Aim: *Main purpose of this study was to assess the self – medication practices, the common type of illnesses for which self-medication has been taken among medical undergraduate students and to identify frequently used drugs, determinants of self – medication, drug information resources, the side effects encountered and attitude towards self-medication.*

Materials & methods: *This study has been conducted in a teaching hospital in Visakhapatnam, Andhra Pradesh. This study is an observational study with the help of a questionnaire (mentioning different groups of drugs) among the medical undergraduates. Among a sample of 156 students, 95% of the students used self-medication for their symptoms in the last 6 months. But the major concern in this study is even with exposure to the knowledge of drugs and disease, 20% of the students used anti-pyretics (like paracetamol) and 18.8% used antibiotics.*

Results: *Majority (48%) supported self-medication practice and 34% were against the practice. The study indicated the need for enforcement of regulations leading to availability of prescription medicines over the counter. The spectrum of "over the counter" drugs should be narrowed (eg.,Nimesulide).*

Conclusion: *Students need to be educated about the long term adverse effects of the drugs and that indiscriminate use of antibiotics will result in uncontrolled rise in resistant pathogens, increases the morbidity and wastes the limited health care resources.*

Key Words: *Self – medication, medical students, over-the-counter drugs.*

I. Introduction

In economically deprived countries most episodes of illness are treated by self-medication. Internationally, self-medication has been reported as being on the rise.

Self-medication is defined as the use of medication by the individual on his/her own initiative or on the advice of a pharmacist or a lay person. It has also been defined as obtaining and consuming medication without professional supervision, which comprises of acquiring medicines without a prescription, purchasing drugs by resubmitting / reutilizing an old prescription, taking medicines on advice of relative or others, or consuming left-over medicines already available at home. In the developing countries many drugs are dispensed over the counter without medical supervision.

Studies revealed that the increase in self-medication was due to a number of factors. These include medical knowledge, ready access to drugs and greater availability of medicinal products.

To our knowledge, there is no published data with regard to self-medication practice and the factors that affect the practice in Andhra Medical College students. The objective of our study was, therefore to assess the self-medication practice, trust in medicine system, assess the common types of illness, identify frequently used drugs, determinants of self-medication, drug information resources, the side effects encountered and attitude towards self-medication.

Protocol
Title: Study on usage of self medication in MBBS students in a teaching hospital.
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Objective : To assess the self medication practices, the common types of illnesses for which self medication has been taken among medical undergraduate students and to identify frequently used drugs, determinants of self medication, drug information resources, the side effects encountered and attitude towards self medication.
Methods: An observational study with the help of a questionnaire (mentioning the different groups of drugs) among the medical undergraduates. The collected data is represented in Excel 2007 for analysis and percentage calculation.

Results: 95% of the students (n-156) used self medication for their symptoms in the last 6 months. Prior experience (77%) and non seriousness of illness (44%) were the two major reasons of self medication. The major source of information for most (of those who practiced self medication) was from physician's prescription provided during their prior illness (40%) and advice from seniors /friends (33%). Paracetamol (20%) and antibiotics (18.8%), were the most commonly used drugs. Nausea / vomiting (22%) and sedation (8%) were the common side effects encountered. Among the students 48% supported self medication practice and 34% were against the practice.

Conclusion: The study indicated the need for legal regulations regarding the sale of "prescription only drugs" even to medical faculty. The spectrum of "Over the counter" drugs should be narrowed (eg. Antibiotics should be excluded). Drug authorities should pose stringent rules against pharmacies marketing banned drugs (eg. Nimesulide). Students need to be educated about the long term adverse effects of the drugs and that indiscriminate use of antibiotics will result in uncontrolled rise in resistant pathogens, increases the morbidity and wastes the limited health care resources.

II. Materials and Methods:

After taking approval from the Institutional ethics committee, this study was conducted with the help of a questionnaire. Study was carried out in Andhra Medical College, Visakhapatnam. Study population consisted of Medical undergraduates of Andhra Medical College, Visakhapatnam. The collected data is represented in Microsoft Excel 2007 for data analysis and percentage calculation and graphical depiction.

Design of the Study: Observational study.

Selection of the Subjects: Medical undergraduates who were in their second year are selected. Candidates with incomplete and ambiguous answers were excluded from the study.

Conduct of the Study: 170 self – assessment questionnaires were distributed among the participants after explaining the purpose of study and after taking informed oral consent. The queries were set on eleven categories of drugs on self-medication. They included anti-inflammatory, analgesic, anti-ulcer/ antacids, antibiotics, anti-protozoal, anti-anxiety, anti-allergic, cutaneous applications, anti-diarrhoeal, laxatives, anti-emetics, opioids, ayurvedic, homeopathy and unani. The filled in questionnaires were collected the next day. 14 questionnaires that did not fulfil the inclusion criteria were discarded. The data from thermaining 156 forms was charted in terms of age, sex, experience and attitude towards self-medication, drugs that were used. Data such entered was analyzed further in terms of percentages and represented in graphs.

Ethical Issues: To obtain the consent of students prior to data collection, a detailed explanation on the aim and objectives of the study was given and confidentiality was ensured.

III. Results:

The age group of sample is 19-23 years with mean age of 21±0.9 (SD). Number of Females and Males in the study population is 69(44.23%) and 87(55.76%) respectively. Among the total sample 98% of the candidates believed in Allopathic medicine, 0.64% believed both Allopathic and Homeopathy, 0.64% believed both Allopathy and Ayurveda, 0.64% believed only in Homeopathy. 77% of the total sample has fallen ill at least twice, and 91% have fallen ill at least once in the last six months.

44.2%, 41.6%, 36.5%, 33.3%, 11.5%, 9%, 6.4%, 3.8%, and 2.6% of the candidates visited the physician for fever/ chills, body yaches, cough/ common cold, others (like..), headache, diarrhea, eye disease, gastric pain, constipation, respectively.
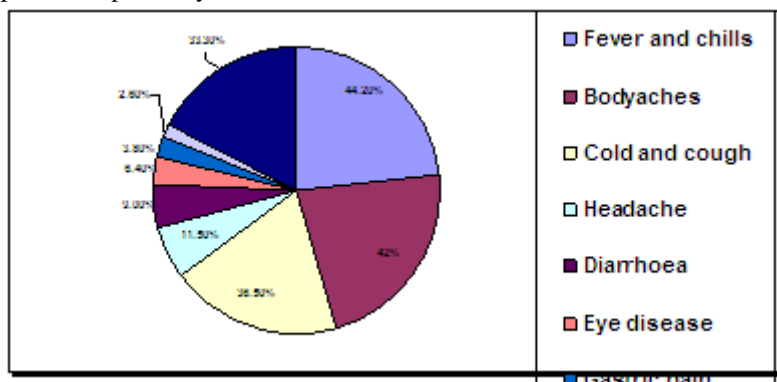
Figure 1 Common symptoms

64.3%, 48%, 44.2%, 43.5%, 31.4%, 21.7%, 9.6%, 1.9%, 1.2%, of the candidates had taken self-medication for the symptoms diarrihoea, cough/cold, fever/chills, bodyaches, headache, constipation, gastric pain, others (like…..) and eye diseases respectively (Figure 2).
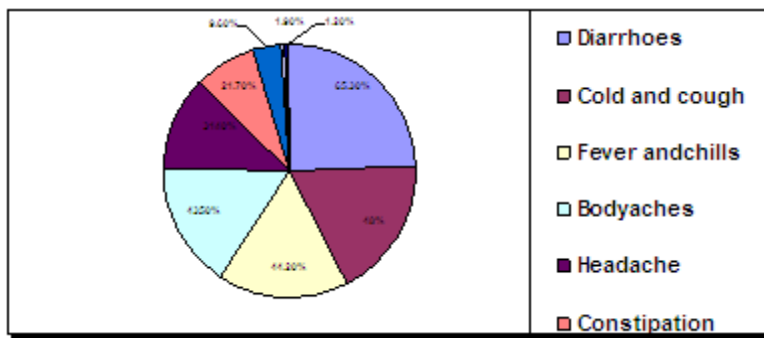

Figure 2 Symptoms for which self medication taken

77%, 44%, 3.2%, 2%, 2.5% and 1.3% of the candidate gave reasons for self-medication as prior experience, non-seriousness of fillness, saving in consultation, emergency use, others, cost effectiveness respectively as depicted in figure 3.
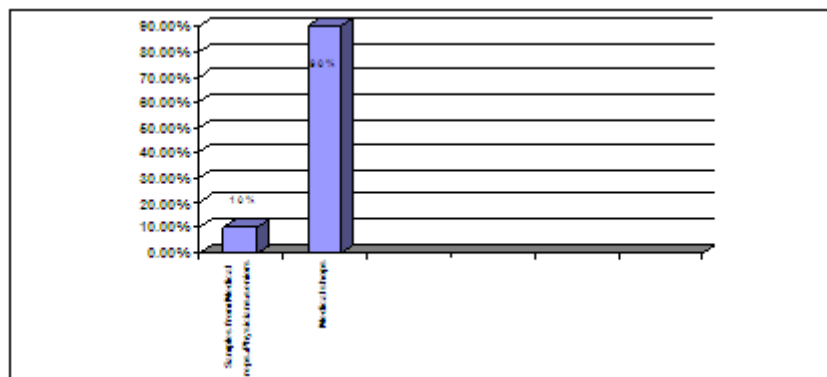
Figure 3: Reasons of self medication

90% of the candidates procured drugs from medical shops and 10% of them used samples from medical representatively /physicians seniors as shown in figure 4.
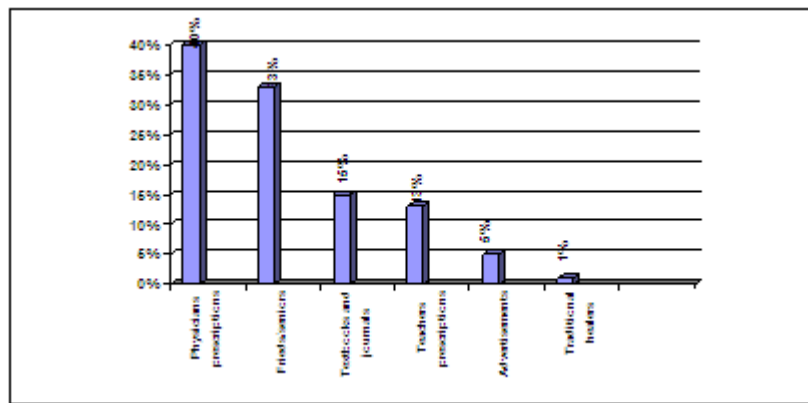

Figure -4 Source of drugs

40% 33%, 15%, 13%, 5%, 1% of the candidates source of information is physicians prescriptions provided during their prior illness, advise from friends and seniors, reading materials like textbooks journals etc., teachers prescriptions in outpatients and wards, advertisements on drug information, advise from traditional healers (naturopathy, homeopathy, others respectively as shown in figure 5.
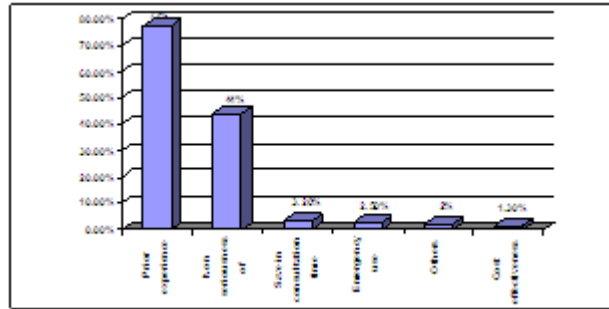
Figure 5: Sources of Information about Medication

20%, 18.8%, 16.4%, 8%, 6%, 6%, 5.7% among the total drug intakes consisted of paracetamol, antibiotics, antiprotozoal, cutaneous applications, antihistamines, antidiarrheal, NSAIDS shown in figure 5.
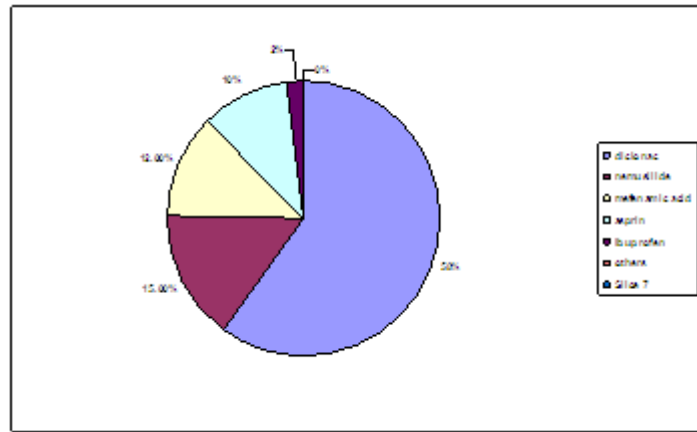

Figure 6: Total Drug Intakes

Among the NSAID's, 58%, 15%, 12%, 10%, 2% have taken dicolofenac, nimesulide, mefenemic acid, aspirin, ibuprofen respectively.
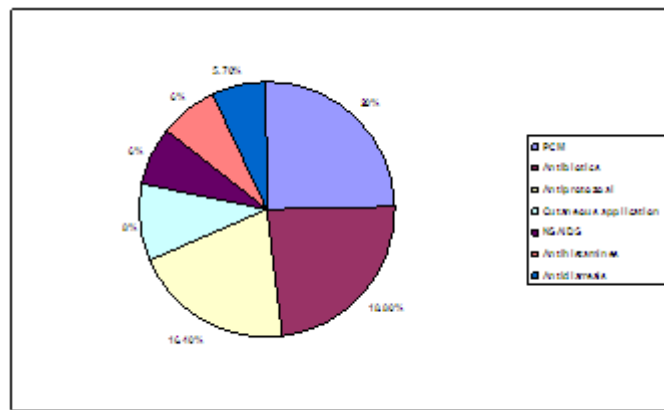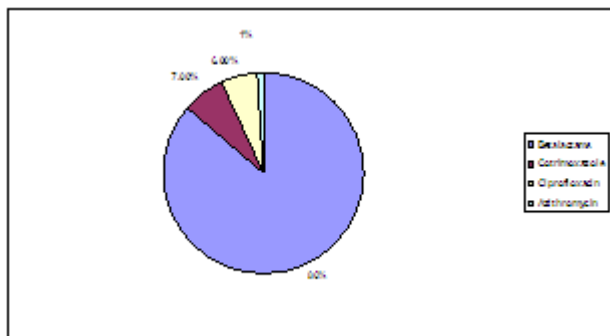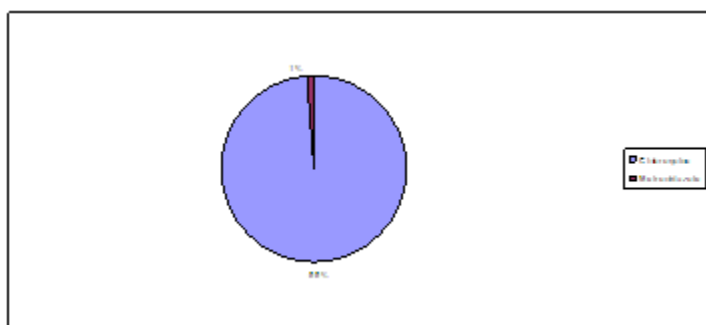

Figure 7: NSAID's usage

Among the antileer drugs 33%, 26%, 15%, 15%, 11% have taken again others omeprozole, gelusil, ranitidine, pantocid respectively.

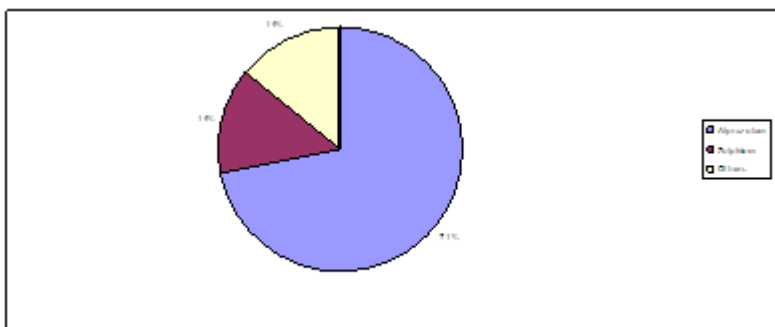| Medication	No. (%) of patients
Gelusil	4(15)
Rantac	4(15)
Omez	7(26)
Pantop	3(11)
Ohters	9(33)

Figure 8: Antibiotic usage

Among the antiprotozoals 99% used metronidazole and 1% used chloroquine,
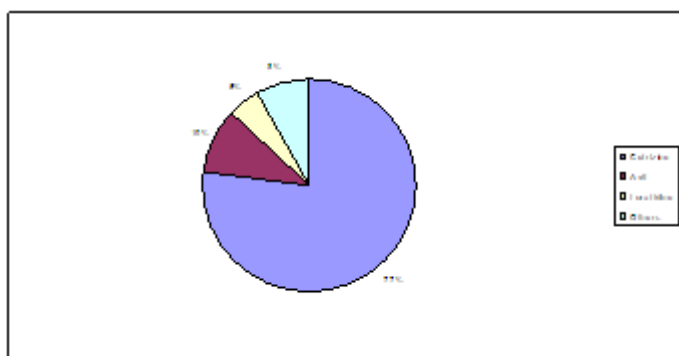

Figure 9: Antiprotozoal Drugs Usage

Among the antianxiety drugs 71%, 14%, 14% used alprazolam, zolpidem, others respectively.

Figure 10: Antianxiety Drugs Usage

Among the antihistamines 77%, 10%, 8%, 5% are used cetrizine, avil, others, loratidine

Figure 11: Antihistaminic Drugs Usage

Among the cutaneous applications 72%, 18%, 6%, 4% have used clotrimazole, soframycin, betamethasone others respectively.
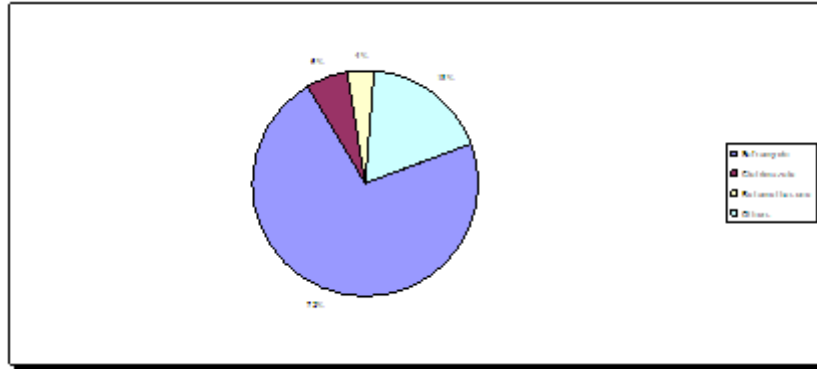
Figure 12: Cutaneous Applications

76%, 23%, 20%, 7%, 0.6% among the sample have taken paracetamol, antidiarrhoeal drugs, laxatives, antiemetics, others, opioids respectively.
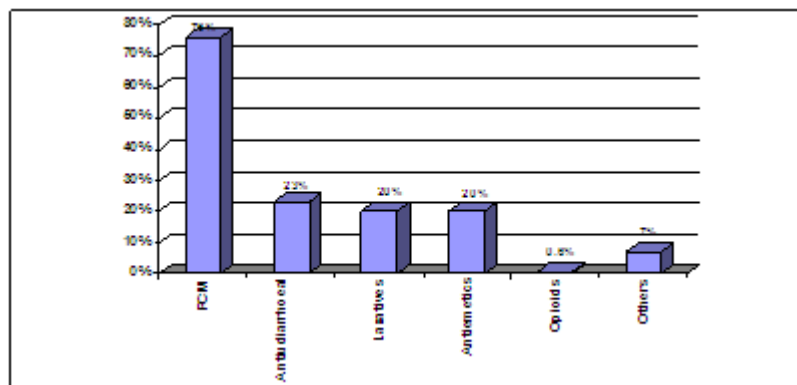

Figure 13: Other Groups of Drugs

Among the side effects encountered by the candidates 22%, 15%, 8%, 8%, 6%, 4%, 4% suffered nausea/vomiting, others, sedation, abdominal pain, rash/allergic reactions, diarrhea respectively.
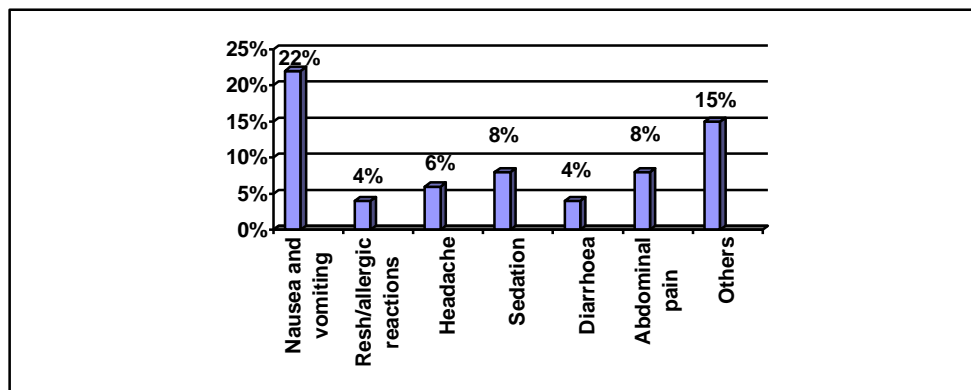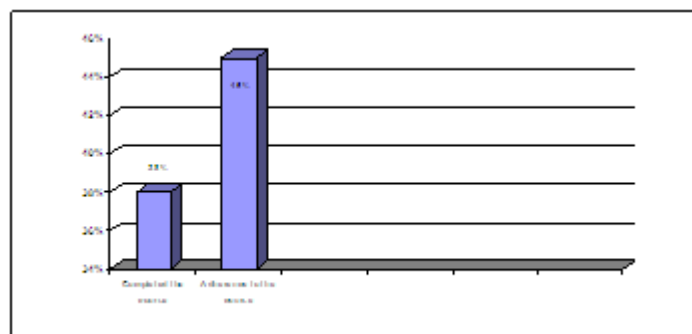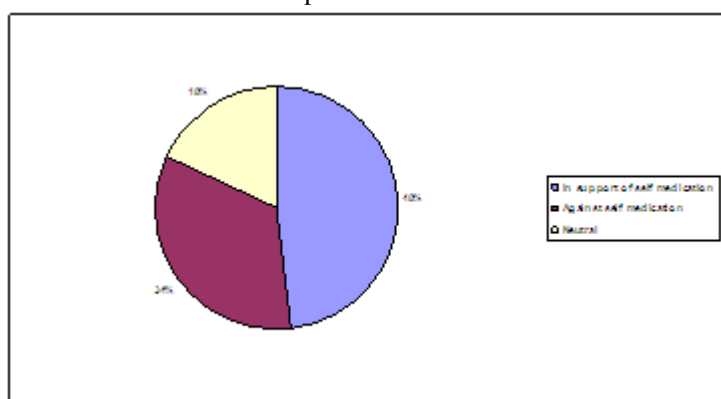

Figure 14: Side effects of Self Medication

38% of the candidates completed the course of medication, 45% of the candidates had strict adherence to physicians' prescription.

48% of the candidates supported the practice of self medication, 34% of the candidates were against the practice of self medication and 18% were neutral in their opinion.

Figure 15: Attitude Towards Self Medication

IV. Discussion

On one hand self-medication gives more freedom to patients in taking care of minor ailments. Self-medication makes the individual more health conscious, reduces the treatment burden on health care facilities and curtails the cost and time of gaining access to treatment. On the other hand, self medication increases risks such as excessive use of medication, extended duration of consumption, incorrect diagnosis, drug interaction and polypharmacy.

Self medication refers to using drugs that have not been prescribed recommended or controlled by a licensed health care specialist. Unlike rest of the population, medical students not only use non-prescription drugs but also prescription drugs, as self medication products, without supervision.

Most common reported symptoms in the six month period prior to the study are diarrhea, cough and common cold, fever and chills followed by bodyaches and headache. Of the candidates reported, that they obtained drugs from a pharmacy or drug shop.

Prior experience and non seriousness of illness were the two major reasons of self medication in this study. The low severity of symptoms of illness is frequently reported in literature and different surveys. What makes this study different is that the majority of candidates who practiced self medication reported that they practiced self medication because of their prior experience. The major information source for most of those who practiced self medication was from physicians prescription provided during their prior illness.

Drugs most commonly used by self-medication were analgesics and antipyretics as observed in most other studies. Paracetamol (20% among total drug intake) and antibiotics (18.8% among total drug intake) were the most commonly used class of drugs. "Prescription – only drugs" such as antibiotics, antiprotozoal, antianxiety drugs were involved in self medication practice. Drugs such as nimesulide (15% of NSAID's users) which is banned by the Central drugs standard control organization of India were also used. Among the antibiotics the most commonly used is ciprofloxacin (86% of the antibiotic usage) in this study in contrast to other studies where penicillin group is the common choice of antibiotics, (Awad and Etayeb, 2007b, Razetel., 2005). Nausea and vomiting, rashes/ allergic reactions, sedation are the most common side effects encountered due to the self medication practice.

Major problems related to self medication is increased resistance of pathogens, Antibiotic resistance, wastage of resources, entails serious health hazards such as adverse drug reactions and prolonged suffering. Anti microbial drugs are called "miracle drugs" that are the leading weapon in the treatment of infectious diseases. Indiscriminate use of antibiotics will result in uncontrolled rise in resistant pathogens that threatens lives and wastes limited healthcare resources, increases suffering (morbidity) and disability. Medical knowledge and

access to prescription of medication increases the potential of self medication is indicated. The students should not self administer without the knowledge of side effects and interactions of the drugs.

Among the total respondents, 48% agreed on self medication practice and 34% disagreed on the practice.

V. Conclusion:

This study has shown that self medication is common among medical undergraduates in Visakhapatnam. There is a need for review of educational programmes especially the teaching of clinical pharmacology to include modules on self-medication and rational use of medicines. The need for legal regulations regarding the sale of "prescription only drugs" even to the medical faculty. Most importantly, there is a need for robust public enlightenment campaign to educate the populace of the disadvantages and possible complications of self-medication.

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