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Self medication pattern and awareness about antibiotic resistance in urban area of Pune

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Introduction: self medication is defined as the consumption of medicinal products with the purpose of treating diseases or symptoms, or even promoting health, without the prescription provided by medical professional. Inappropriate self medication results in irrational use of drugs, wastage of resources, increase resistance of pathogens and health hazards and if action is not taken the danger of drug interaction and drug resistance will increase. **Methods and Material:** This is a cross – sectional study done at outpatient department of urban health training centre. Total 126 adults were interviewed with the help of predesigned Semistructred questionnaire in local language. **Statistical analysis used:** Data was filled in Excel sheet and proportions were calculated. **Results:** 51 (40.47%) participants admitted that they were storing some medicine at home. 67(53.17%) participants answered that they are purchasing the medicines without consulting a doctor. 23(18.25%) out of 126 were knowing antibiotics and very few I .e only 5 (3.96%) were aware of the antibiotic resistance. **Conclusions:** Though the self medication among adults in urban area is high (53.17%) awareness about antibiotic resistance is very low (3.96%).

Keywords: Self Medication, Awareness, Antibiotic Resistance

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Introduction

Self medication is defined as the consumption of medicinal products with the purpose of treating diseases or symptoms, or even promoting health, without the prescription provided by medical professional [1].

Number of reasons could be there for the rise of self medication, one of the being the increase in chronic diseases as their incidence has risen from 30% - 80 % in last forty years. Other reasons which are responsible for self medication in developing countries are emerge of self care, feeling of sympathy towards family members in sickness, lack of health services, poverty, 'ignorance misbelieves, extensive advertisement, and open markets [2].

Inappropriate self medication results in irrational use of drugs, wastage of resources, increase resistance of pathogens and health hazards like prolonged suffering and if action is not taken the danger of danger of drug interaction and drug resistance will increase [3].

WHO defines Antimicrobial resistance (AMR) is resistance of a microorganism to an antimicrobial medicine to which it was previously sensitive. Resistant organisms (they include bacteria, viruses and some parasites) are able to withstand attack by antimicrobial medicines, such as antibiotics, antiviral, and antimalarials, so that standard treatments become ineffective and infections persist and may spread to others. AMR is a consequence of the use, particularly the misuse, of antimicrobial medicines and develops when a microorganism mutates or acquires a resistance gene, about 440 000 new cases of multidrug-resistant tuberculosis (MDR-TB) emerge annually, causing at least 150 000 deaths. Extensively drug-resistant tuberculosis (XDR-TB) has been reported in 64 countries, Resistance to earlier generation antimalarials medicines such as chloroquine and sulfadoxine-pyrimethamine is widespread in most malaria-endemic countries. A high percentage of hospital-acquired infections are caused by highly resistant bacteria such as methicillin-resistant /Staphylococcus Aureus/ (MRSA). *Inappropriate and irrational use of antimicrobial medicines provides favorable conditions for resistant microorganisms to emerge, spread and persist in VIEW OF THIS WHO declared theme of World heath day 2011 as "Act today against microbial resistance." [4].

Till date only few studies are conducted in India to measure the prevalence of self medication, A community based study conducted by Jyoti Kaushal in northern India showed the prevalence of self medication is about 73% and only 49% were aware about the side effects of drugs if taken without prescription [5]. So this study was planned to assess the pattern of self medication and awareness about drug resistance. Subjects and Methods: This is a cross sectional study done at urban health and training centre of tertiary care hospital, Pune. This urban health centre caters about 40000 populations mostly from slums.

Methods and Material

This is a cross sectional study done at urban health and training centre of tertiary care hospital, Pune. This urban health centre caters about 40000 populations mostly from slums.

Study population: Adults visiting outpatient department of urban health and training centre

Study period: Feb 2012 – June 2012.

Sample size: Total 126 patients above 18 yrs of age were interviewed after obtaining an informed consent for participation in the study.

Study tool: A Predesigned Semistructred questionnaire translated in local language was first tested by doing pilot study on 10 patients and then modified accordingly was used to interview the participants. Performa included questions regarding storing of medicine at home, name of the medicine known to them, purchase of medicine without prescription, stopping medicine in between and knowledge about antibiotic resistance.

Definition of awareness: the participants are said as aware of antibiotics resistance if they had said its meaning along with at least one reason causing it.

Data analysis: Data was filled in excel sheet and analysis was done by using primer of statistics software. Percentages and chi square test was applied to show the correlation, p=0.05 is the

Results

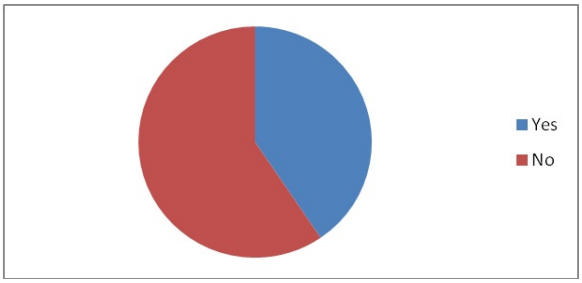
Of the total 126 participants 68(53.96%) were male and 58(46.03%) were females. Most of the participants were graduate and above 35%, secondary education 26.98%, followed by higher secondary and primary school education.

Table-1: Educational status of the participants.

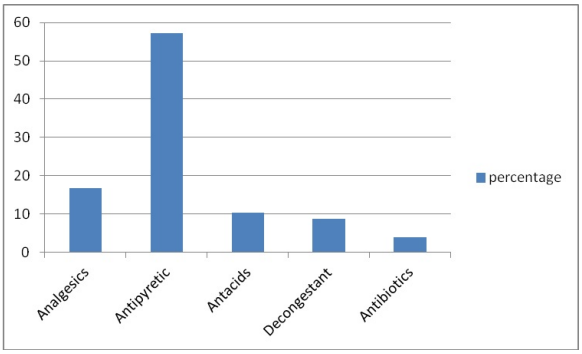
Educational status	NO. (%)
Primary	19(15.7%)
Secondary	34(26.98%)
HSC	21(16.66%)
Graduate	15(11.90%)
Postgraduate	12(9.5%)
Professional	18(14.28%)
Total	126(100%)

Graph 2 shows 51(40.47%) participants admitted that they were storing some medicine at home which can be used whenever needed.

Graph 2: Distribution of the participants whether storing medicine at home or not



Graph 3: Type of Medicines known to participant.



When asked about the medicines known to all of them them out of 126 maximum 72 participants answered antipyretics, followed by 21 analgesics,13 antacids,11 decongestant and only 5 answered antibiotics even if they are not having the particular medicine at home which can be purchased as per need.

Table 2: No of participants purchasing medicines without consulting doctor

Purchasing medicine	No.(%)
Without consulting doctor	67(53.17)
Consulting doctor	59(46.83)
Total	126(100)

Total 53.17% participants answered that they are purchasing the medicines without consulting a doctor as they know about the trade name of the medicine

Table 3: Decision of time and dose of the medicine purchased without prescription by participants.

Decision about the dose and time of medicine	No. (%)
Take Chemist's advice	34(50.74)
Self decided	24(35.82)
Refer to old prescription Total	09(13.43) 67(100)

Table 3. shows that 34(50.74%) participants decide about the time and dose of the medicines purchased without prescription as per chemist advice, followed by self decision by 24 (35.82%) participants and refer to old prescription as 9(13%).

Out of the total 126, 54 (42.85%) participants admitted that they are taking the medicines still symptoms relieved but not completing the course of medicines prescribed to them . when asked about the effects of stopping the medicine in between most of the participants answered reoccurrence of the disease 22(40.76%), followed by fall sick again, increase in symptoms, incomplete recovery and only 2(3.7%) out of 54 uttered antibiotic resistance.

Table 4: What will happen if you stop medicine in between?

Responses	No (%)
Reoccurrence of the disease/fall sick again	22(40.76)
Increase in symptoms	04(7.40)
Incomplete recovery	02(3.70)
Side effects /complication can occur	03(5.55)
Disease will not cure	05(9.25)
Drug resistance	02(3.70)
Nothing	02(3.70)
Don't know	14(25.92)
Total	54(100)

Overall 23(18.25%) out of 126 were knowing antibiotics and very few i.e. only 5 (3.96%) were aware of the antibiotic resistance.

Discussion

Total 126 participants were interviewed participants 68 (53.96%) were male and 58(46.03%) were females, most of the participants were graduate and above (35%), secondary education (26.98%). This study shows that (40.47%) participants were storing some medicine at home. Most of them know antipyretics and analgesics followed by antacids.

(53.17%) participants answered that they are purchasing the medicines without consulting a doctor this may be mostly antipyretics and analgesics because very few in this study know antibiotics, this finding of the study is much less than the study conducted in the rural Maharashtra by VD Phalke et al while findings are comparable with the study done by Pankaj jain et al in Haryana (50.74%) and Sandip Jogdand et al [2,4,5].

50%of those purchasing medicine without prescription decide about the time and dose of the medicines as per chemist advice, followed by self decision by 24 (35.82%), this is because while purchasing medicine without prescription they are asking about the dose and directions for use if not answered then deciding on their own again this is a serious issue because they may not be taking full dose of the medicine, this finding is also similar to the results of study done by V.B phalke and durgawale where they reported 30% of participants purchasing medicine from chemist shop [2].

Most commonly used drug were antipyretics (57.14%), followed by Analgesics and Antacids16%,10% respectively and these findings are similar to the study done in imphal by kunal chakraborty and ananya chakraborty where most commonly used medications were analgesics and antipyretics (46.34%), cough syrups (19.22%), antibiotics (16.77%) and others (17.67%) [6].

In this study total 126, 54(42.85%) participants admitted that they are not completing the course of medicines prescribed to them this is again the important finding that they are not sticking to the schedule of the medicine and can cause harm to the patient as well as lead to drug resistance.

Of the total 54 stopping the medicine in between most of the participants said reoccurrence of the disease 22(40.76%), followed by fall sick again, increase in symptoms, incomplete recovery and only 2(3.7%) out of 54 uttered antibiotic resistance most of the participants were not aware of the consequences these findings are comparable with the study of Phalke et al and Jogdand et al [2,4].

This study shows Overall 23(18.25%) out of 126 were knowing about antibiotics and very few i.e only 5 (3.96%) were aware of the antibiotic resistance this may be because of low level of literacy among the participants.

Conclusions and Recommendations

This study concludes that 40.47% of the participants storing medicine at home, 53% were purchasing the medicine over the counter and very few 3% were aware of antibiotic resistance. So this study recommends that selling the medicine specially Antibiotics over the counter should be strictly banned as the study shown the high percentage of purchasing medicine without prescription and not completing the course of medicine. Secondly compulsory labeling the prescription as supplied by chemist will definitely reduce the reuse of same prescription. Lastly this study recommends the increasing awareness about the drug resistance by giving information while prescribing antibiotics by doctor.

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