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SELF MEDICATION - A COMPARATIVE STUDY BETWEEN 2nd AND 3rd YEAR MEDICAL STUDENTS

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ABSTRACT

Self-medication provides low cost alternative for expensive medical management but inappropriate use can cause problems. For medical undergraduates such practice has special significance since they have medical knowledge but very superficial. Hence the present study was planned to evaluate the status between 2nd and 3rd MBBS students. They were provided a questionnaire which contained questions related to various aspects of self-medication practice. Large number of students is involved in self-medication. Commonest drug, disease and source of information were Paracetamol, fever and previous prescription. They mentioned quick relief as main advantage and adverse drug reaction as main disadvantage. Self-medication practice is common among the students. They should be educated for proper use of self-medication drugs from the beginning of their curricular activities.

Key Words: *Diseases, Medical Education and Medication*

INTRODUCTION

Self-medication which is defined by WHO as the use of medication by a patient on his own initiative or on the advice of a pharmacist or a lay person instead of consulting a medical practitioner (WHO 2000) is nothing but use of medicines either for diagnosis, prescription or surveillance purpose without consulting doctors (Happy *et al.*, 2011). Such practice is common since years (Phalke *et al.*, 2006). It is common not only in developing countries (Al-Azzam *et al.*, 2007) but also in developed nations (Mitsi *et al.*, 2005) and in India also significant number of people are involved in self-medications (Saradamma *et al.*, 2000). Self-medications provides low cost alternative for expensive medical management. WHO is also promoting use of self-medication since it is useful for effective and quick relief of medical conditions and decreases pressure on health care services, which are insufficient mainly in many regions of developing countries and often too costly in developed countries. But WHO is also giving stress that self medication should always be taught correctly and it must be controlled (WHO, 1998). Because improper use of self-medication can create many problems like wastage of resources, adverse drug reactions, worsening of existing pathology, drug dependence and antimicrobial resistance (Sontakke *et al.*, 2011).

For medical undergraduates such practice has special significance since they have medical knowledge but very superficial in 1st year and somehow better in 2nd year as pharmacology and pathology subjects are part of their teaching. They are relatively well exposed about diseases and drugs from 3rd year onwards (Sontakke *et al.*, 2011). Hence the present study was planned to evaluate the status of self-medication practice among 2nd and 3rd MBBS students of a teaching hospital of south India and to know the impact of medical knowledge on their practice of self-medication.

MATERIALS AND METHODS

It was a cross-sectional study in which study population belonged to second and third MBBS students of Rajiv Gandhi Institute of Medical Sciences (RIMS) Adilabad India. The students who took self-medication during last two month were included. Self-medication was considered when students took the medication either over the counter (OTC) or from any other means without consulting a medical

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practitioner. All the students were explained about the type and purpose of the study and informed that participation is voluntary and their collected information will not be shared and it would be anonymous. Written informed consent was obtained from each volunteer prior to the study. Students were divided into two groups of 2nd and 3rd year. They were given a questionnaire that included both open and close ended questions about self-medication practice. The information sought from the questionnaire was mainly related with type of self-medication, conditions for which drugs were used, why they have not consulted doctors, advantages, disadvantages of self-medication and source of drug information.

RESULTS

A total of 56 students of 2nd year including 23 (41.07%) male and 33 (58.93%) female and 39 of 3rd year students including 16 (41.02%) male and 23 (58.97%) female were involved in self-medication. Use of multiple drugs as self-medication for the management of conditions was common in both the groups but most of the 2nd year students consumed 2 drugs (28.57%) while most of the 3rd year students used only single drug as drug of self-medication (28.20%) table-1.

Table 1: Number of drugs consumed by the students

| No. of Drugs | 2 nd Year | | 3 rd year | |
|--------------|----------------------|-------|----------------------|-------|
| | No. | % | No. | % |
| 1 | 3 | 5.35 | 11 | 28.20 |
| 2 | 16 | 28.57 | 8 | 20.51 |
| 3 | 14 | 25 | 6 | 15.38 |
| 4 | 10 | 17.85 | 6 | 15.38 |
| 5 | 7 | 12.50 | 4 | 10.25 |
| 6 | 6 | 10.71 | 1 | 2.56 |
| 7 | 0 | 0 | 3 | 7.69 |

Both the groups consumed Paracetamol (2nd Year=89.29%, 3rd Year=94.87%), Cetrizine (2nd Year=32.14%, 3rd Year=46.15%) and Diclofenac Sodium (2nd Year=26.79%, 3rd Year=38.46%) most frequently (Table-2).

Table 2: Drugs used for self-medication

| Drug | 2 nd Year | | 3 rd year | |
|----------------------------|----------------------|-------|----------------------|-------|
| | No. | % | No. | % |
| Paracetamol | 50 | 89.29 | 37 | 94.87 |
| Cetrizine | 18 | 32.14 | 18 | 46.15 |
| Diclofenac Sodium | 15 | 26.79 | 15 | 38.46 |
| Paracetamol +Dicylomine | 11 | 19.64 | 6 | 15.38 |
| Ranitidine | 11 | 19.64 | 3 | 7.69 |
| B Complex | 7 | 12.50 | 5 | 12.82 |

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Commonest indication for self-medication was fever in both the groups (2nd Year=83.93%, 3rd Year=87.18%) followed by cold (55.36%) in 2nd year students while bodyaches (46.15%) in 3rd Year students (Table-3).

Table 3: Indications for self-medication

| Condition | 2 nd Year | | 3 rd year | |
|------------------|----------------------|-------|----------------------|-------|
| | No. | % | No. | % |
| Fever | 47 | 83.93 | 34 | 87.18 |
| Cold | 31 | 55.36 | 16 | 41.03 |
| Bodyaches | 19 | 33.93 | 18 | 46.15 |
| Headache | 18 | 32.14 | 12 | 30.77 |
| Diarrhea | 17 | 30.36 | 13 | 33.33 |
| Gastric problems | 16 | 28.57 | 6 | 15.38 |
| Cough | 8 | 14.29 | 3 | 7.69 |

Commonest source of information about drugs for a particular condition was old prescription in both the groups (2nd Year=44.64%, 3rd Year=51.29%) followed by advice by friends in 2nd year students (28.57%) and books in 3rd year students (25.64%) table-4.

Table 4: Source of information

| Information Source | 2 nd Year | | 3 rd year | |
|--------------------|----------------------|-------|----------------------|-------|
| | No. | % | No. | % |
| Old prescription | 25 | 44.64 | 20 | 51.29 |
| Friends | 16 | 28.57 | 4 | 10.26 |
| Books | 11 | 19.64 | 10 | 25.64 |
| Parents | 10 | 17.86 | 5 | 12.82 |
| Television | 3 | 5.36 | 0 | 0 |
| Medical shops | 1 | 1.79 | 0 | 0 |
| Internet | 1 | 1.79 | 0 | 0 |

51.79% of 2nd year students and 38.46% of 3rd group students mentioned quick symptomatic relief as main advantage. 44.64% 2nd year students mentioned adverse drug reactions (ADR) as main disadvantage while the percentage was 33.33% in 3rd year students (Table-5).

Table 5: Advantages and disadvantages of self-medication

| Advantages | 2 nd Year | | 3 rd year | |
|---------------------------|----------------------|-------|----------------------|-------|
| | No. | % | No. | % |
| Quick relief | 29 | 51.79 | 15 | 38.46 |
| Time saving | 14 | 25 | 14 | 35.9 |
| Emergency | 13 | 23.12 | 8 | 20.51 |
| Money Saving | 8 | 14.29 | 12 | 30.77 |
| No need to consult doctor | 5 | 8.93 | 3 | 7.69 |
| Disadvantages | | | | |
| Adverse drug reaction | 25 | 44.64 | 13 | 33.33 |
| Drowsiness | 17 | 30.36 | 0 | 0 |
| Toxicity | 17 | 30.36 | 1 | 2.56 |
| No disadvantage | 12 | 21.43 | 16 | 41.03 |
| Recurrence | 4 | 7.14 | 9 | 23.08 |

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67.86% of 2nd year and 79.49% of 3rd year students read package insert. 87.18% 2nd year and 91.07% 3rd year students follows the instructions written on package insert and label. Use of branded drugs is common in 2nd year group (60.71%) while generic drugs is more common in 3rd year group (51.28%). 71.79%, 57.14% of 2nd and 3rd year students never completed drug course respectively. 64.29% of 2nd year and 56.41% of 3rd year students do not consult the physician after taking self medications.

DISCUSSION

In the present study we found self-medication as common practice in both 2nd and 3rd year medical students of the institute and it is more popular among 2nd year students in comparison to their 3rd year counterparts. Moreover, self-medication practice is found to be more in females of both the groups. In the study of (El Ezz *et al.*, 2011) female preponderance was also observed in self-medication practice. Previous studies indicate that self-medication practice is not only common in medical students but also in other categories of students as well as in general population (Sontakke *et al.*, 2011). Sharma *et al.*, (2005) in general population of Jammu region found 70% self-medication practice while it was found to be common upto 87% in UP region of India (Verma *et al.*, 2010) and (Grace *et al.*, 1995) even observed self-medication practice as common as upto 94% in University students of Hong Kong. In West Bengal, (Bannerjee *et al.*, 2012) observed self-medication practice common in medical students. Sontakke *et al.*, (2011) in Nagpur region of Maharashtra observed self-medication much more (74.71% to 77.98%) common in comparison to our findings and specifically more in 1st year students (77.98%) in comparison to 2nd year students. But Olayemi *et al.*, (2010) in Zaria found it more common in senior medical students (73.3%) than junior students (52.6%).

Above studies by various authors indicates different pattern of self-medication practice among various categories. Moreover, it should be more common in senior students as observed by (Olayemi *et al.*, 2010) since these students have better orientation of diseases and their management but our findings are conflicting. It might be because of 2nd year students although have better knowledge regarding drugs and diseases than general population and 1st year students but 3rd year students are more closer to patients and treating doctors since their curriculum is such that they have to spent more time in clinics, wards and operation theatre in comparison to didactic lectures. So due to easy accessibility with doctors, 3rd year students are taking advice for their illness and hence self-medication practice is less common in them.

Our results indicate use of multiple drugs for the management of conditions in both the groups and even 10% to 12 % student used upto 5 different drugs. In last 2 months most of the 2nd year students consumed 2 drugs and one drug by the 3rd year students. Shankar *et al.*, (2002) in Nepal found use of an average of 1.13 drugs per person per six months in general population. It shows study population is not much different from general population of another region as far as this criterion of self-medication practice is concerned. But use of different kinds of drug indicates their better knowledge.

Most of understudy medical students consumed drugs as self-medication for the management of fever, common cold and bodyaches. The most frequently used drugs were antipyretic, antihistamines and analgesics in both the group of students. Shankar *et al.*, (2002) in Nepal and (Abay *et al.*, 2010) in Ethiopia and (Sourav Ghosh *et al.*, 2010) in Western Uttar Pradesh and (Zafar *et al.*, 2008) in Pakistan also found most common use of analgesic/antipyretics and antihistamines drugs as self-medication drugs and use of these drugs specifically for the management fever, pain and common cold. Use of analgesic/antipyretic and antihistamines as self-medication drugs for related common conditions like pain, fever and cold is a good sign for this underdeveloped region as it decreases pressure on existing health care facilities. Moreover, these drugs are available over the counter (OTC) thus has easy accessibility for them. Another important thing which we observed is lack of use of antimicrobial agents as self-medication drugs. As they are medicos and in 2nd year they learn pharmacology where they know the problems with the use of indiscriminate/ irrational antimicrobials hence for this probable reason they are avoiding antimicrobials. Such practice decreases the problem of antimicrobial resistance.

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Commonest source of information about self-medication in both the groups was old prescription. Use of old prescription as source by almost 50% students in both groups is not a good sign as they are avoiding physician and that prescription may not be suitable for present condition as treating doctor have better understanding about diseases, drugs and even about the circumstances in which drugs should be prescribed. Moreover, students are not confident to take medication without looking the old prescription indicating their insufficient knowledge about drugs and diseases. But the positive thing is they are using old prescription and not preferring TV, internet and not seeking advice from medical shops. Probably they have less knowledge but aware about problems with advertisements and exaggerated or false information on internet, although TV sets are available in their hostels and free unlimited access to internet is also available. Another thing is that 2nd year students relied more on their advice of friends followed by books and parents while 3rd year students preferred medical books. Sontakke *et al.*, (2011) also observed use of books more common in senior medical students. It might be because in 2nd MBBS they have pharmacology subject which deals with details of drug so they are getting information from books. In 3rd year they are exposed to details about disease and their management so they are preferring books more in comparison to their junior counterparts.

Both the groups of students reported almost same types of advantages of self-medication like quick relief, time saving, emergency medication and money saving. It indicates their fair knowledge regarding advantages of self-medication since self-medication is a cost effective and suitable alternative for the management of minor and well known diseases (WHO, 1998). Sontakke *et al.*, (2011) in Nagpur region of India and (Gupta *et al.*, 2011) in Punjab and (Olayemi *et al.*, 2010) in Zaria and (Henry *et al.*, 2006) also found similar answers from respondent of self-medication. Majority of short lasting and common symptoms can be treated with self-medication. It decreases the pressure on already overburdened healthcare system of the region. But initial management should always follow expert opinion if there is no expected relief since these students are not fully qualified and not experts.

Most of the students reported adverse drug reaction as main disadvantage but substantial number (41.03%) of 3rd year students also reported that they don't feel any disadvantage of self-medication. Sontakke *et al.*, (2011) and (Olayemi *et al.*, 2010) and (Henry *et al.*, 2006) also found adverse drug reaction as main disadvantage. Expression of more concern about adverse drug reaction by 2nd MBBS student indicates their pharmacology knowledge as they are in touch with pharmacology subject in this academic year. As far as 3rd year students are concerned, they have fair knowledge not only about drugs but also diseases and their management. Probably it might be the reason why many of them indicated no disadvantage of self-medication.

Reading package insert and label and following the instruction is found to be common in both groups. But many of them never complete the drug course and do not consult doctors, specifically 2nd year students. As they are medicos, they read the instruction since they can understand the terminologies and can follow the instruction. But not completing the drug course is a major problem it can worsen the condition and recurrence can occur. There is a need to create awareness about this aspect in the students.

Branded drugs are more common in 2nd year group while generic drugs in 3rd year students. It is expected that 3rd year students uses generic drugs. But more popularity of branded drugs among 2nd year students indicates influence of source of drug information as they take advice comparatively more from parents and friends. Moreover, although in pharmacology they are taught to use generic drugs but influence of teaching is less. There should be more stress on teaching of generic prescription. Syed *et al.*, (2008) also suggested that more use of generic drugs should be taught earlier in the curriculum.

Conclusion

Large number of medical students is practicing self-medication. They are using analgesic, antipyretic and antihistamines to get relief from common conditions like fever and pain. Most of the students have better understanding about self-medication although junior students need more training and education. Students should be educated for proper use of self-medication drugs from the beginning of their curricular activities.

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