

## Assessment of Self-Medication Practice Among 4th Yr MBBS Students in NMC, Multan-Pakistan

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### ABSTRACT

**BACKGROUND:** Self-medication is the use of drug without advice, prescription or supervision of a physician to treat self-diagnosed symptoms. It is a very common health issue practiced worldwide. Inappropriate practicing of self-medication results in adverse health effects like resistance to antibiotics, drug dependence, and prolonged use of some drugs. **OBJECTIVES:** The objective of this study is to investigate the pattern of self-medication practices, the common type illnesses for which self-medication has been used by 4<sup>th</sup> year MBBS students and to identify frequently used drugs, determinants of self-medication, drug information sources, side effects encountered and educational status of parents of students adopting self-medication. **METHODS:** This is an observational study that has been conducted on 4<sup>th</sup> year MBBS students with the help of a cross-sectional questionnaire (mentioning different groups of drugs) among a sample of 220 students. Duration of the study was two weeks i.e. from 15<sup>th</sup> March, 2015 to 28<sup>th</sup> March, 2015. Data was analyzed by SPSS V 14 and the results are expressed in counts and percentage. **RESULTS:** Out of 220 students, 44% (96±2) practiced self-medication during last 1 year. The most common symptom being self-medicated is headache (50%) followed by fever (32%) and common cold (11%). 77% of participants' self-medicate due to convenience and easy approach. 51% of participants' self-medicating use their pharmacology knowledge as source of drug information. 30% of students change doses of drugs prescribed by doctor. 3% among those self-medicating students develop adverse drug effects during last 1 yr. Among 96±2 students, 60% (n=58) live in hostels away from parents and 41% students had educational status of parents up to matriculation and 27% have illiterate parents and female to male ratio is 3:2. **CONCLUSION:** Self-medication is an emerging health issue worldwide even among medical students. There is a dire need to take steps by health authorities regarding pros and cons of self-medication. There is a need of community awareness regarding this issue.

**Keywords:** Self-medication, medical students, analgesics, pharmacology knowledge.

### 1. INTRODUCTION

Self-medication is the use of drugs without the advice, prescription or the supervision of a physician to treat self-diagnosed diseases and recurrent symptoms [1]. Self-medication is practiced throughout the world. It is more common in developing countries as compared to developed countries due to differences in cultural and socioeconomic factors, easy availability of commonly used drugs and differences among health care systems. Self-medication has tendency to do good as well as harm to the person depending upon the knowledge of disease and drug being used. In a developing country like Pakistan where resources are limited and weakened health care infrastructure, self-medication is commonly practiced.[2]

It is good that a person himself is being aware of his minor health issues and treats himself accordingly leading to a positive health effect. According to WHO responsible self-medication can help prevent and treat diseases that do not require medical consultation and provides a cheaper alternative for treating common illnesses.[3] This is only possible if it is practiced properly according to the medical knowledge. In this way it is both time and money saving and sometimes provide immediate relief to acute illness which otherwise become life threatening illnesses.[4] On the other hand, self-medication is an emerging health issue because the misuse of Antibiotics is leading to the emergence of drug resistant microbes.[5] Inappropriate use of NSAIDS is a major cause of gastric ulcers. Some commonly encountered problems with self-medication are:

- Masked diagnosis.

- Inappropriate dosage of drug taken in.
- Under/prolonged usage of drug.
- Emergence of antimicrobial resistant.
- Drug dependency.
- Side effects of drugs.
- Drug interactions.

The present study has been undertaken to see the prevalence, causes and the drugs most commonly used for self-medication among fourth year MBBS students of Nishtar Medical College, Multan after studying Pharmacology and implementing it in daily life routine.

### **1.1. Objectives of study**

- To assess the self-medication practice among Fourth year MBBS students.
- To evaluate the prevalence of self-medication among the student study population.
- To analyze the common illnesses for which self-medication has been practiced.
- To identify frequently used drugs in self-medicating students and side effects encountered.
- To determine the impact of Pharmacology on the use of self-prescribed drugs.
- To formulate suggestions and recommendations.
- To plan ways to reduce the malpractice of self-medication.
- To educate and bring awareness regarding the harms of self-medication.

## **2. RESEARCH METHODOLOGY**

### **2.1 Study Design:**

Observational and Cross sectional study.

### **2.2. Study Population:**

Fourth year MBBS students.

### **2.3 Study Area:**

Nishtar Medical College, Multan.

### **2.4. Study Duration:**

Study was completed in two weeks i.e. 15<sup>th</sup> March 2015 to 28<sup>th</sup> March 2015.

### **2.5 Study Technique:**

Non-Probability convenient sampling technique.

### **2.6. Sample Size:**

220 students.

### **2.7 Inclusion Criteria:**

Fourth year MBBS students.

### **2.8. Data Collection Procedure:**

The data was collected through a questionnaire distributed among the students of 4<sup>th</sup> year MBBS which consisted of formatted questions to assess the knowledge, attitude and practice of students about self-medication.

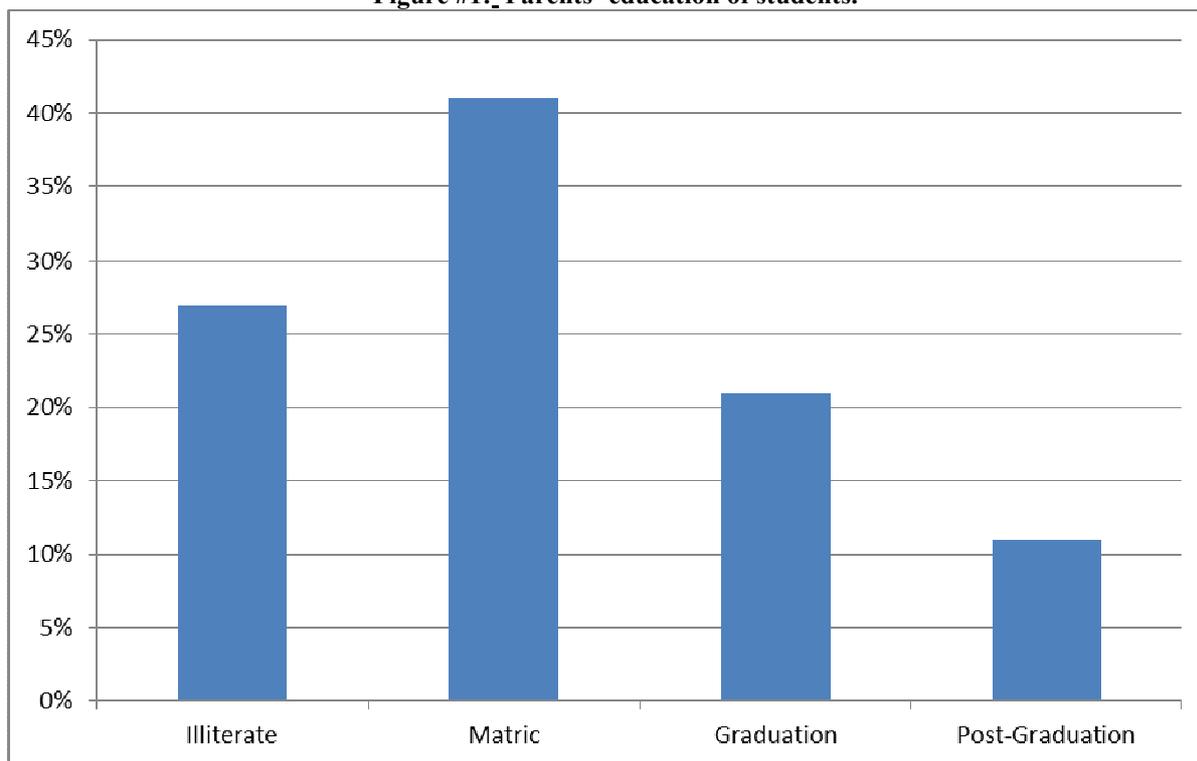
### **2.9 Analytical techniques**

The data was entered and analyzed in a computer program SPSS V 16.0 and reports were generated accordingly.

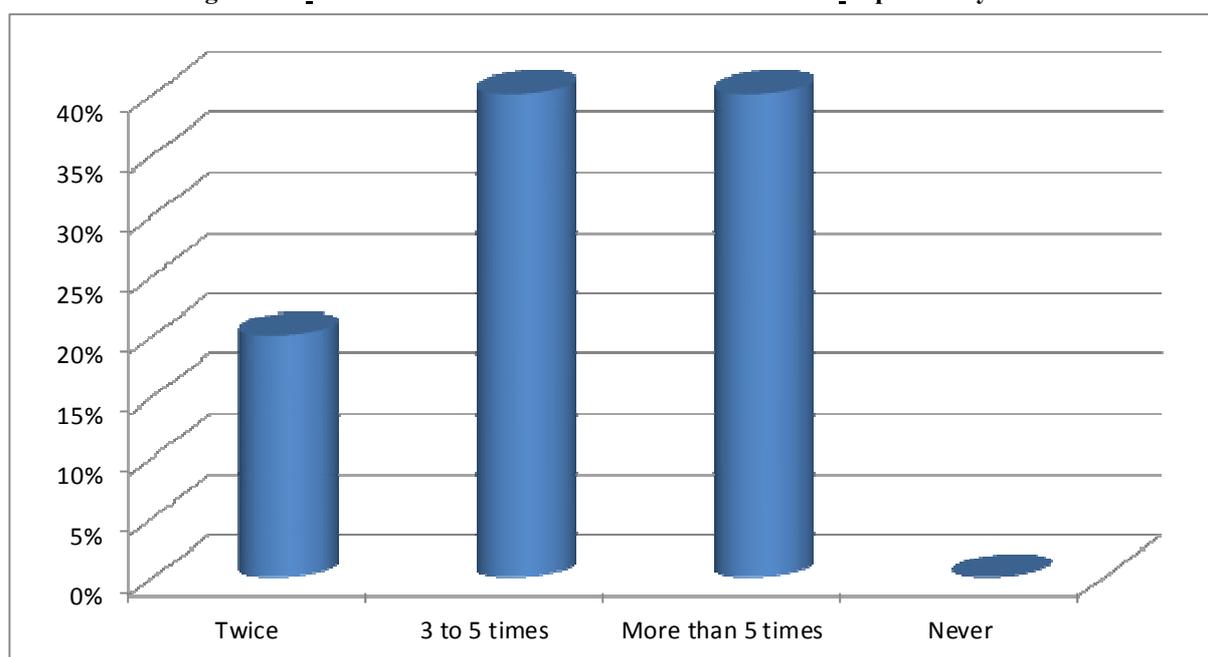
## **3. RESULTS AND DISCUSSION**

The total study sample is based on 220 students with an average age of 22±1 years. The male to female ratio in sample is 2:3. Around 44% (n=96±2) of students in study group preferred self-medication as mode of treatment in case of illness. Among them, 60% (n=58) live in hostels and 40% (n=38) live with their family. As shown in graph below, educational status of parents of students is 41% for matriculation and those with illiterate parents is 27%.

**Figure #1: Parents' education of students.**



**Figure # 2: Number of times students have self-medicated in past one year.**



The data in Figure 1 and 2 shows that among 220 students,  $96 \pm 2$  (44%) students adopted self-medication. Among those 44%, 20% ( $n=20$ ) do self-medication twice during last 1 yr and 40% ( $n=38 \pm 1$ ) had self-medicated 3 to 5 times and other 40% ( $n=38 \pm 1$ ) more than 5 times.

Figure # 3: Different diseases which are commonly self-medicated by students.

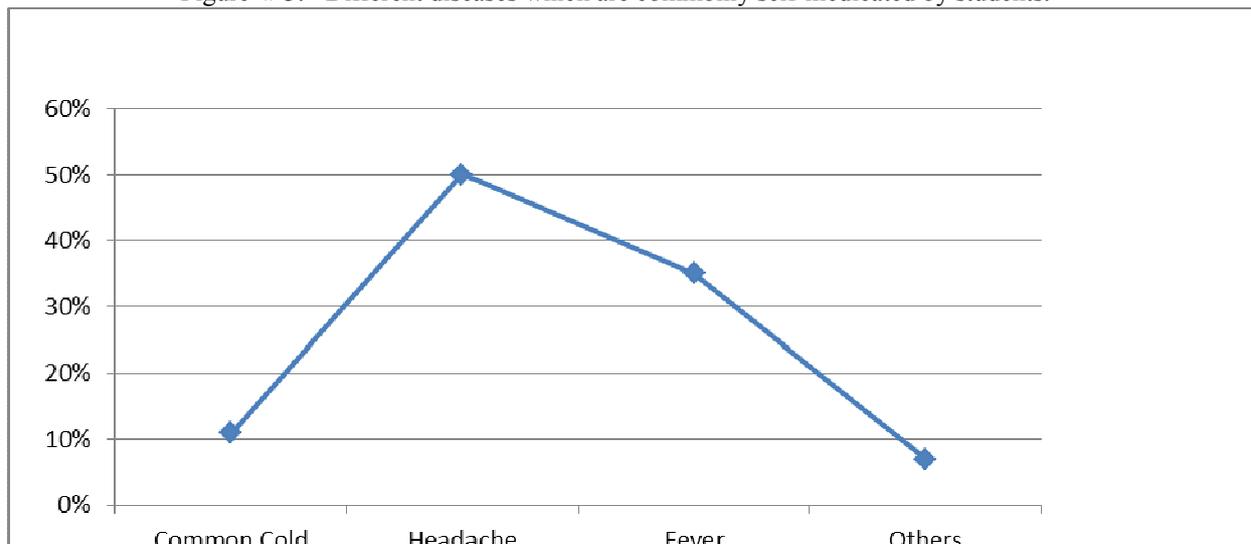


Figure 3 shows the most common complaint self-treated by students is Headache(50%) followed by Fever(35%) and Common Cold(7%).

Figure #4: Graph demonstrating the commonly practiced drugs and percentage of their usage in selfmedication.

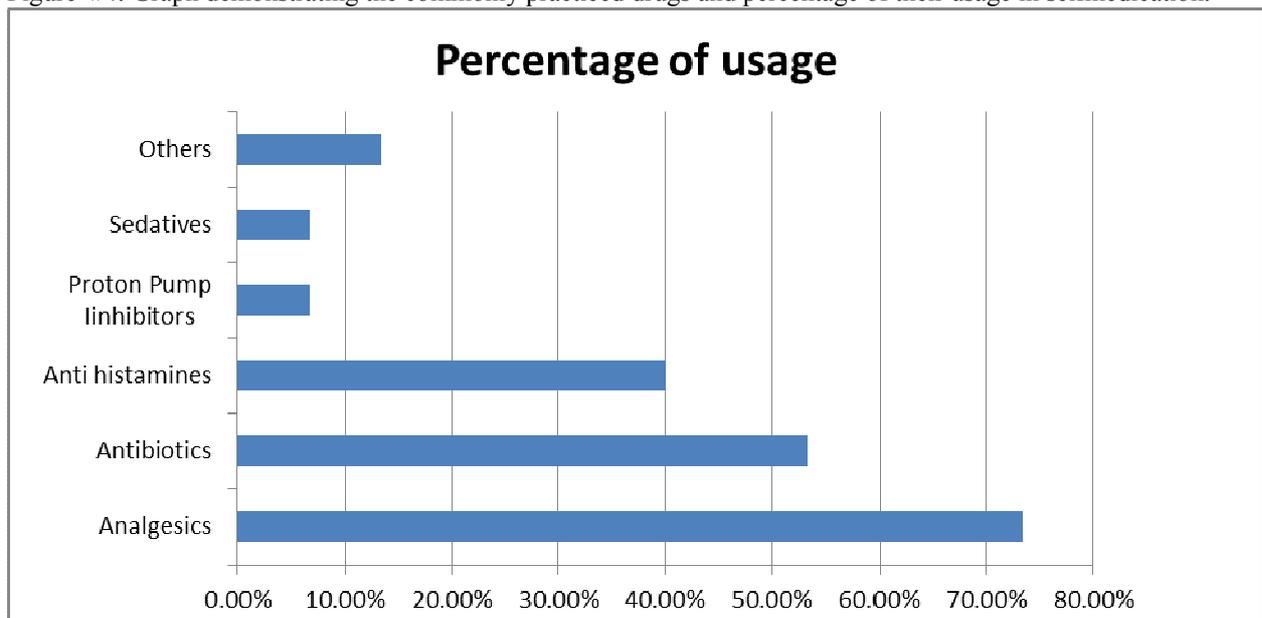


Figure 4 shows that Analgesics (73.33%) are the most commonly used drugs among students of fourth year MBBS who self medicate followed by Antibiotics 53.33% and Anti histamines 40%.

**Figure #5: Common reasons for self medication:**

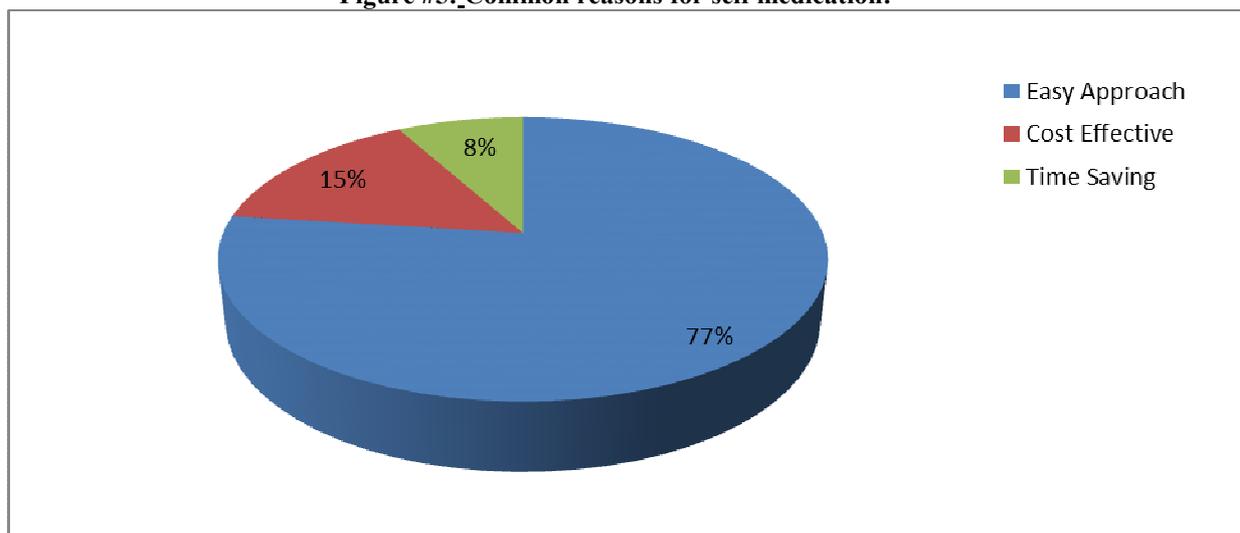


Figure 5 shows that a major portion of students experience self medication because it is convenient and easily approachable over the counter drugs(77%).

**Figure # 6: Source of drug information being self medicated.**

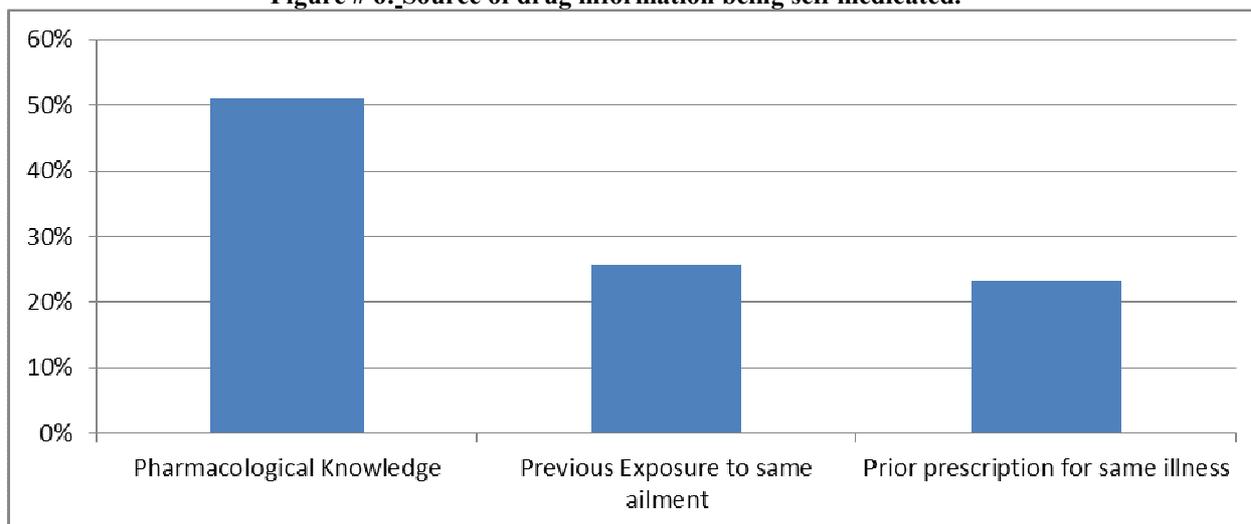


Figure 6 shows that 51% students have Pharmacological knowledge of drug being used. 25.7% have had previous exposure to same ailment. And 23.3% use prior prescription information for the same illness/ symptom. It has been observed that even after consulting a doctor for treatment of disease, 30% among them change the doses of prescribed drugs all by themselves. Though a significant number of students adopted self-medication but most of them (97%) have never experienced any side effects of this practice during last 1 year. Majority of students are willing to continue it in future.

#### 4. FINDINGS

Several studies have been made to understand the behavior of common people who self-medicate. But few researches are conducted to understand the attitude of medical students regarding this issue. The study conducted in Nishtar Medical College among 220 students of 4<sup>th</sup> year MBBS concluded that prevalence of self-medication in last one year is 44%(96±2) with majority of participants having an average age of 22±1 yrs. Among those 96±2 students, 40% (38±1) used self-medication 3 to 5 times and 40% (38±1) used it more than 5 times in previous 1 yr. Previous researches in developing countries show prevalence of self-medication i-e 55% in Egypt, 80.9% in Malaysia, 55.3 in Pakistan and 92% in India.[6-9] Gender plays a significant role in self-medication practice with Female to male ratio of 3:2. Similar results are found in previous researches.[9-11] In present research, headache (50%) is the most common symptom being self-medicated followed by fever (32%) and common cold (11%). Previous results among pharmacists in Kuwait also shows headache as the common

cause.[12] However previous researches in Ethiopia and India supported fever as the commonest symptom for self-medication.[11, 13] Similarly common cold is found to be main symptom self-treated in past studies.[14] The drugs most commonly used are Analgesics and Antibiotics making 73.33% and 53.33% of their significant use. Other drugs of use include Antihistamines, PPI, Sedatives, Cough Suppressants, etc. Similar results of highest analgesics self-medication is found in previous data from Egypt and Iran.[6, 15] Similarly researches in West Bengal and India show antibiotics as commonly self-medicated drugs. [14, 16]

Like in previous researches, 77% of students in our study group self-medicate due to convenience and easy approach.[9, 16] Present study shows 51% of students self-medicate because of their enough knowledge about pharmacology as researched in past study.[17] Contrarily past researches in Pakistan and Malaysia supported previous exposure to same illness as a main source of information and old prescription is also found as main source in some past studies. [7, 8, 11, 14] Although medical students can easily consult with a fellow physician, but due to their busy lifestyle and complex set of reasons, which also include ego issues and self-confidence, they sometimes do hesitate in seeking medical help from professional colleagues. Among them majority of students also suggest medications to their family and friends and are willing to continue self-medication practice in future. In our study group, educational status of parents in majority of cases is either matriculate (41%) or illiterate (27%). Similarly, Self-medication was observed among those with parents having low educational status in previous research done in Serbia.[17] Research done in Spain shows that it is common among those living alone.[18] Similarly, our study also shows that this practice of self-medication is common among hostilities' (60%). In present study, 70% of participants don't change doses themselves but the rest 30% are those who change doses themselves, which can't be ignored. This percent is more in Egypt with 60% changing doses themselves.[6] They have no proper information regarding the dosage of drugs being used and majority keep on using the drug until the symptom subsides. This malpractice can raise suspicion of Drug resistant microbes as students don't complete the course of Antibiotics as researched previously.[19] But luckily our study shows only 3 % of participants develop any kind of adverse effects during the past 1 year but we can't say this practice is free of harms as majority of students in our study group are aware of its side effects. This is considered safe only if it is practiced in a proper way. This however applies with the condition that safe dosage of drug should be consumed and those drugs with heavy side effects are not to be prescribed to be used without the consultation of a physician [20,21].

The study findings are based on a single university, so these observations cannot be generalized per se but play an important role in further multi-centric studies carried out at large scale among medical students of different years and in different medical colleges. In Pakistan economic problems are a hurdle and poor health policies adding a cherry on the top of cake. Hence socio-economic factors and its influence on practice of self-medication need to be explored in further studies. And a policy should be made not to give high risked drugs to people without proper prescription of a physician.

## 5. CONCLUSION

Prevalence of self-medication practice among 4<sup>th</sup> year MBBS students in NMC, Multan during last 1 year is 44% with majority of students using their pharmacology knowledge as source of drug information. Analgesics are the most commonly practiced drugs. In our study, self-medication is linked commonly to female gender, among those living in hostels and those with low educational status of parents.

Self-medication is an important issue among medical students. There is a dire need to make policies by health professionals and drug authorities about pros and cons of self-medication and about dispensing of drugs by pharmaceuticals respectively. And drugs with potential of higher adverse effects should not be used without the consultation of Doctor.

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