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A Study on the Evaluation and Impact of Self Medication Practice Among the Pharmacy Students

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ABSTRACT

Aim: To evaluate the impact of self medication practice among the pharmacy students of in this study.
Materials and Methods: This was a prospective study conducted among the pharmacy students by using the questionnaire which was circulated by means of Google forms to various pharmacy colleges located in Andhra Pradesh, India. Students from the pharmacy colleges with both the genders of all age groups were included and students other than pharmacy stream were excluded from the study.
Results: In this study, a total of 473 pharmacy students were involved in order to evaluate the impact of self-medication practice among them. Most of the study participants used self-medication for headache (52%) followed by fever (38.3%) and cough (25.6%). Majority of the study participants used the drug paracetamol (78%) followed by cetirizine (38.9%) and multivitamins (25.8%) as self-medication. In this study, almost half of the study participants (48.4%) have searched the internet for selecting the drug for self-medication as most of the study participants were from urban areas. Most of the study participants always used to check the prescribing the information before self-medicating themselves (75.1%).
Conclusion: Searching the treatment strategies for specific medical conditions over the internet was becoming a common phenomenon in the present generation. Responsible utilization of the self medication definitely results in positive outcomes. Hence, students should have the awareness in the aspects of rational drug usage while practicing the self medication.

Introduction

Drugs are mainly intended to cure the disease but they often result in adverse effects also which might be sometimes serious than the actual disease itself. Usage of the drugs may result in drug toxicity without proper medical consultation [1]. When a person takes a medication without seeking the medical advice, it is considered as self medication. Self medication must be restricted to over the counter drugs. But sometimes it may be also involved with the usage of prescription drugs and this kind of practice may be sometimes associated with drug interactions, antibiotic resistance and drug abuse [2-4].

The prevalence of self medication among the developing countries was 92% as it is the first option in treating the illness [5-8]. According to the recent studies, high cost of medical consultation, unavailability of the clinicians, lack of time and previous experience in the management of the disease were the major reasons of practicing the self medication [9-11]. Among the university students, self medication has been frequently reported. Various studies reported that students' knowledge in the aspect of the usage of drugs may influence the self medication pattern among them [12-14]. Pharmacy students may differ from the general population because they are exposed to knowledge about diseases and drugs. Hence, we made an attempt to evaluate the impact of self medication practice among the pharmacy students in this study.

Materials and Methods

This was a prospective study conducted among the pharmacy students by using the questionnaire which was circulated by means of Google forms to various pharmacy colleges located in Andhra Pradesh, India. Students from the pharmacy colleges with both the genders of all age groups were included and students other than pharmacy stream were excluded from the study. A sample of 473 pharmacy students was participated in this study by filling the questionnaire. A link was generated for the questionnaire which was prepared in the format of

Google forms and this link was circulated among the social media groups in order to get the responses from the study participants. Responses from all the study participants were analyzed and the proper interpretation of the study was done.

Results

A total of 473 pharmacy students were participated in the study among them 190 (40.2%) were males and 283 (59.8%) were females (Figure 1). The minimum age and the maximum age of the study participants were observed to be 18 years and 24 years respectively and the mean age was observed to be 21.6 (±1.69) years.

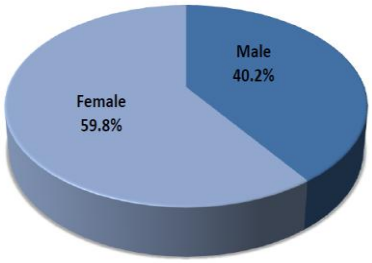

Figure 1: Gender wise categorization of the study participants

About 17 (3.6) study participants were of 18 years age, 38 (8%) study participants were of 19 years age, 68 (14.4%) study participants were of 20 years age, 95 (20.1%) study participants were of 21 years age, 88 (18.6%) study participants were of 22 years age, 82 (17.3%) study participants were of 23 years age and 85 (18%) study participants were of 24 years age (Figure 2). Among the 473 study participants, 242 (51.2%) were from urban areas and 231 (48.8%) were from rural areas.

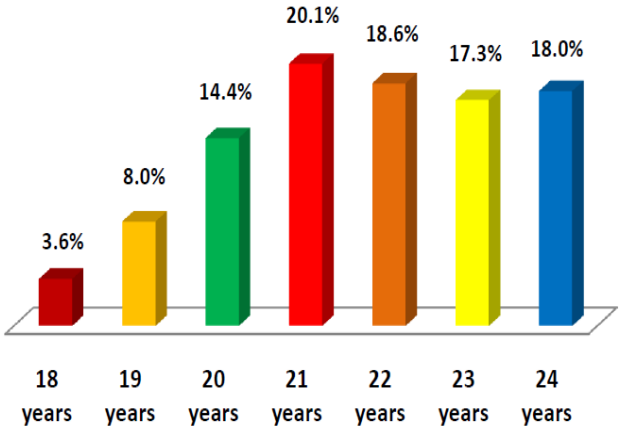

Figure 2: Age wise categorization of the study participants

Among the 473 study participants, 32 (6.8%) were studying Diploma in Pharmacy, 25 (5.3%) were studying B.Pharm I year/Pharm.D I year, 71 (15%) were studying B.Pharm II year/Pharm.D II year, 60 (12.7%) were studying B.Pharm III year/Pharm.D III year, 128 (27.1%) were studying B.Pharm IV year/Pharm.D IV year, 87 (18.3%) were studying M.Pharm I year/Pharm.D V year and 70 (14.8%) were studying M.Pharm II year/Pharm.D VI year (Figure 3). About 281 (59.4%) students preferred the Allopathy, 80 (16.9%) students preferred the Homeopathy, 85 (18%) students preferred the Ayurveda and 195 (41.2%) students preferred the home remedies. Some of the participants in this study preferred the multiple options while preferring the system of medicine.

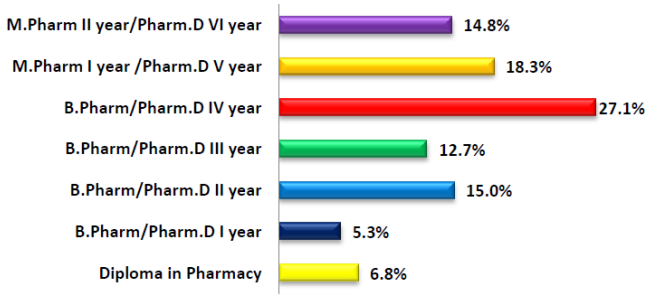

Figure 3: Course wise categorization of the study participants

Table 1 represents the Self-medication used for the medical conditions by the study participants. About 246 (52%) study participants used self-medication for headache, 58 (12.3%) study participants used self-medication for dandruff, 32 (6.8%) study participants used self-medication for migraine, 103 (21.8%) study participants used self-medication for running nose, 23 (4.8%) study participants used self-medication for ear pain, 29 (6.1%) study participants used self-medication for dental pain, 121 (25.6%) study participants used self-medication for cough, 37 (7.8%) study participants used self-medication for hair fall, 16 (3.4%) study participants used self-medication for eye infection, 70 (14.8%) study participants used self-medication for acidity, 54 (11.4%) study participants used self-medication for vomiting, 28 (5.9%) study participants used self-medication for constipation, 35 (7.4%) study participants used self-medication for diarrhoea, 181 (38.3%) study participants used self-medication for fever, 111 (23.5%) study participants used self-medication for body pains, 26 (5.5%) study participants used self-medication for skin problem/allergy/rash, 16 (3.4%) study participants used self-medication for pain in joints, 28 (5.9%) study

participants used self-medication for wounds/cuts and 37 (7.8%) study participants used self-medication for menstrual problems.

Table 1: Self medication used for the medical conditions by the study participants

Condition	Frequency (%)
Headache	246 (52)
Dandruff	58 (12.3)
Migraine	32 (6.8)
Running Nose	103 (21.8)
EarPain	23 (4.8)
Dental Pain	29 (6.1)
Cough	121 (25.6)
Hairfall	37 (7.8)
Eye Infection	16 (3.4)
Acidity	70 (14.8)
Vomiting	54 (11.4)
Constipation	28 (5.9)
Diarrhea	35 (7.4)
Fever	181 (38.3)
BodyPains	111 (23.5)
Skin Problem/Allergy/Rash	26 (5.5)
Pain in Joints	16 (3.4)
Wounds/Cuts	28 (5.9)
Menstrual Problems	37 (7.8)

Table 2 represents the list of self-medication drugs used by the study participants. About 369 (78%) study participants used the drug Paracetamol, 183 (38.9%) study participants used the drug Cetrizine/Diphenhydramine/Fexofenadine, 42 (8.9%) study participants used the drug Mefenamic Acid, 37 (7.8%) study participants used the drug Loperamide, 59 (12.5%) study participants used the drug Amoxicillin/Ampicillin/Penicillin, 29 (6.1%) study participants used the drug Albendazole, 32 (6.8%) study participants used the drug Montelukast, 31 (6.6%) study participants used the drug Domperidone, 14 (3%) study participants used the drug Prednisolone, 93 (19.7%) study participants used the drug Pantoprazole/Ranitidine/Omeprazole, 96 (20.3%) study participants used the drug Aceclofenac/Diclofenac/Ibuprofen, 122 (25.8%) study participants used the Multivitamins, 57 (12.1%) study participants used the drug Antacids, 83 (17.5%) study participants used the drug Anti-Tussives, 57 (12.1%) study participants used the drug Aspirin and 16 (3.4%) study participants used the drug Hydroxychloroquine.

Table 2: List of self medication drugs used by the study participants

Name of the Drug	Frequency (%)
Paracetamol	369 (78)
Cetrizine/Diphenhydramine/Fexofenadine	183 (38.9)
Mefenamic Acid	42 (8.9)
Loperamide	37 (7.8)
Amoxicillin/Ampicillin/Penicillin	59 (12.5)
Albendazole	29 (6.1)
Montelukast	32 (6.8)
Domperidone	31 (6.6)
Prednisolone	14 (3)
Pantoprazole/Ranitidine/Omeprazole	93 (19.7)
Aceclofenac/Diclofenac/Ibuprofen	96 (20.3)
Multivitamins	122 (25.8)
Antacids	57 (12.1)
Anti-Tussives	83 (17.5)
Aspirin	57 (12.1)
Hydroxychloroquine	16 (3.4)

Table 3 represents the reasons for self-medication by the study participants. About 58 (12.8%) study participants preferred the self-medication as the clinic was away from their home, 41 (8.7%) study participants preferred the self-medication due to high consultation fees of the doctor, 50 (10.6%) study participants preferred the self-medication for saving the time, 112 (23.7%) study participants preferred the self-medication because of having previous experience of treating the same ailment, 93 (19.7%) study participants preferred the self-medication as the medication was readily available, 64 (13.5%) study participants preferred the self-medication as an advice from their family members/friends, 68 (14.4%) study participants preferred the self-medication based on the advice of the pharmacist, 32 (6.8%) study participants preferred the self-medication as the medical condition required rapid care, 161 (34%) study participants preferred the self-medication as they considered their medical condition as a minor illness and 74 (15.6%) study participants preferred the self-medication due to other reasons.

Table 3: Reasons for Self Medication by the study participants

Reason	Frequency (%)
Doctor/Clinic away from Home	58 (12.8)
High Fees of Doctor	41 (8.7)
Time Saving	50 (10.6)
Having Previous Experience of treating the same ailment	112 (23.7)
Self Medication is readily Available	93 (19.7)
Advice of Family Members/friends	64 (13.5)
Advice of the Pharmacist	68 (14.4)
Problem required Rapid care	32 (6.8)
For Minor Illness	161 (34)
Others	74 (15.6)

About 55 (11.6%) study participants preferred the price of the drug, 194 (41%) study participants preferred the pharmaceutical company/brand name of the drug and 317 (67%) study participants preferred the experience in the past for selecting the drug for self-medication. Majority of the study participants preferred more than two options while selecting the drug for self-medication (Figure 4).

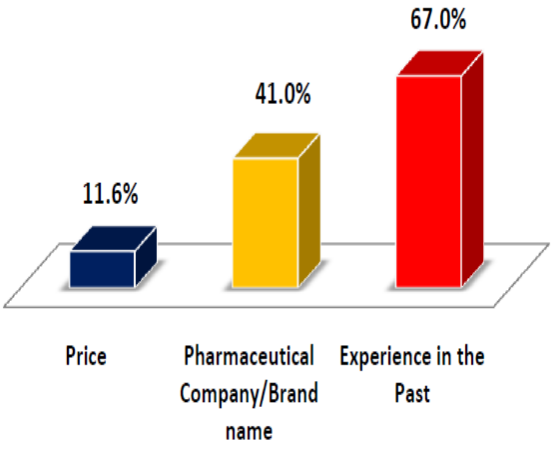

Figure 4: Options while selecting the drug for self medication by the study participants

Figure 5 represents the source of drugs for self-medication by the study participants. About 406 (85.8%) study participants preferred to buy the self-medication from pharmacy shop directly, 39 (8.2%) study participants preferred to purchase the drugs from online shopping, 70 (14.8%) study participants preferred to get the self-medication from the primary health care centre and 57 (12.1%) study participants preferred to get the self-medication from their friends or family.

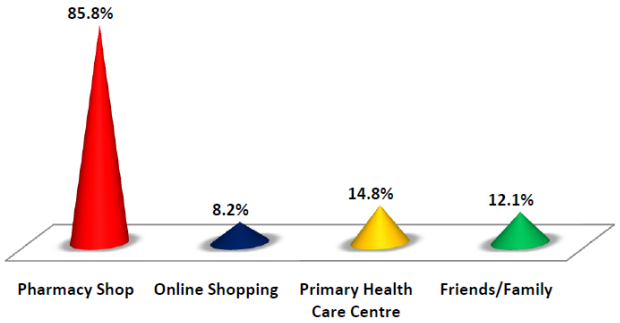

Figure 5: Source of purchasing the drugs for self medication by the study participants

Table 4 represents the perspective of the study participants based on the cessation of drugs in self-medication. About 25 (5.3%) study participants stops the medication after few days regardless the outcome of the medical condition, 266 (56.2%) study participants stops the medication after the symptoms got disappeared or condition was resolved, 42 (8.9%) study participants stops the medication after the medication's refill got over and 140 (29.6%) study participants stops the medication after the complete course of the drug.

Table 4: Perspective of the study participants based on the cessation of drugs in self medication

Cessation perspective	Frequency (%)
After few days regardless the Outcome	25 (5.3)
After the symptoms got disappeared/Condition Resolved	266 (56.2)
After the medication's Refill got Over	42 (8.9)
After the complete course of the drug	140 (29.6)
Total	473 (100)

Table 5 represents the personal experience of the study participants in the aspect of Self-medication. In this study, about 327 (69.1%) study participants had taken any self medication in the last 3 months, 229 (48.4%) study participants used a medicine after a personal search over the internet or any social media ads, 96 (20.3%) study participants had experienced the adverse effects with self medication, 40 (8.5%) study participants had taken any self-medication for the chronic diseases, 256 (54.1%) study participants had suggested or advised anyone of their friends or family members to take a particular medicine without any proper consultation with the health care provide and about 268 (56.7%) study participants preferred self-medication despite being aware of the rational drug use concept.

Table 5: Personal experience of the study participants in the aspect of Self-medication

S.No	Question	Yes (%)	No (%)
1	Have you taken any Self Medication in the Last 3 months of time?	327 (69.1)	146 (30.9)
2	Have you ever used a medicine after a personal search over the Internet or any Social Media Ads for you or any of your friends and family?	229 (48.4)	244 (51.6)
3	Have you ever experienced any Adverse effects with Self Medication?	96 (20.3)	377 (79.7)
4	Are you taking any Self-Medication for any Chronic Diseases? (Chronic Disease in this study is defined as Disease lasting 3 months or longer)	40 (8.5)	433 (91.5)
5	Have you ever Suggested or advised anyone of your Friends or Family members to take a particular medicine without any Proper Consultation with the Health Care Provider	256 (54.1)	217 (45.9)
6	Are you using Self-Medication despite being Aware of the Rational Drug use concept?	268 (56.7)	205 (43.3)

Table 6 represents the perception towards the use of self medication among the study participants. Among the 473 study participants, 355 (75.1%) study participants always checked the prescribing information before self-medicating, 99 (20.9%) study participants sometimes checked the prescribing information before self-medicating whereas the remaining 19 (4%) study participants never checked the prescribing information before self-medicating. Among the 473 study participants, 42 (8.9%) study participants always changed the dosage of the drugs during the course of self-medication, 190 (40.2%) study participants sometimes changed the dosage of the drugs during the course of self-medication whereas the remaining 241 (50.9%) study participants never changed the dosage of the drugs during the course of self-medication.

Among the 473 study participants, 41 (8.7%) study participants always changed the medicine with different drug of the same use, 263 (55.6%) study participants sometimes changed the medicine with different drug of the same use whereas the remaining 169 (35.7%) study participants never changed the medicine with different drug of the same use.

Among the 473 study participants, 397 (83.9%) study participants always used to check the expiry date of the medication before the purchase, 47 (9.9%) study participants sometimes checks the expiry date of the medication before the purchase whereas the remaining 29 (6.2%) study participants never used to check the expiry date of the medication before the purchase.

Among the 473 study participants, 173 (36.6%) study participants always felt confident enough to diagnose the problem with which they are suffering from, 253 (53.5%) study participants sometimes felt confident enough to diagnose the problem with which they are suffering from whereas the remaining 47 (9.9%) felt confident enough to diagnose the problem with which they are suffering from.

Among the 473 study participants, 151 (31.9%) study participants always used to felt confident enough to treat themselves with the self-medication, 280 (59.2%) study participants sometimes used to feel confident enough to treat themselves with the self-medication, whereas the remaining 42 (8.9%) study participants never used to feel confident enough to treat themselves with the self-medication.

Table 6: Perception towards the use of self medication among the study participants

S.No	Question	Always (%)	Sometimes (%)	Never(%)
1	Do you check the prescribing information before self-medicating?	355 (75.1)	99 (20.9)	19 (4)
2	Did you ever change the Dosage of the drugs during the Course of Self-Medication	42 (8.9)	190 (40.2)	241 (50.9)
3	When you are using the Self-Medication, have you ever changed the medicine with different drug of the same use?	41 (8.7)	263 (55.6)	169 (35.7)
4	Do you check the Expiry Date of the Medication before you purchase them	397 (83.9)	47 (9.9)	29 (6.2)
5	As a Student, do you feel that you are confident enough to diagnose the problem you are suffering with	173 (36.6)	253 (53.5)	47 (9.9)
6	As a Student, do you feel confident enough to treat yourselves with the Self-Medication and get cured?	151 (31.9)	280 (59.2)	42 (8.9)

Discussion

In this study, a total of 473 pharmacy students were involved in order to evaluate the impact of self-medication practice among them. Majority of the study participants were found to be females (59.8%) when compared to males (40.2%). Most of the study participants were from the urban areas (51.2%).

In our study most of the study participants used self-medication for headache (52%) followed by fever (38.3%) and cough (25.6%). This result was almost similar to the studies done by Md. Omar Reza Seam et al., [15] Niranjan Bhattarai et al., [16] Pahuja Ritu et al., [17] and S.M. Abay et al [18].

Majority of the study participants used the drug paracetamol (78%) followed by cetirizine (38.9%) and multivitamins (25.8%) as self-medication. This result was almost similar to the study done by Gikku Mariyam Varghese et al., [19] Pahuja Ritu et al., [17] and S.M. Abay et al [18].

The main reason for the self-medication in our study was observed to be having a previous experience of treating the same ailment by the study participants while selecting the drug for self-medication. Most of the study participants preferred their experience in the past (67%) followed by preferring pharmaceutical company or brand name of the drug during the selection of the drug for the self-medication. The main source of the drugs for the self-medication was purchasing of the drugs form the pharmacy shop (85.8%) by the study participants. This result was almost similar to the study done by Suleiman Ibrahim Sharif et al [20].

Very few study participants preferred the purchase of the drugs from the online shopping (8.2%). In this study, perspective of the study participants in case of the cessation of the drugs in self-medication was observed to be cessation of the drugs after the symptoms got disappeared and or improved from the medical condition (56.2%). Very few study participants stopped their self-medication regardless of the outcome of the diseases condition (5.3%).

In this study, almost half of the study participants (48.4%) have searched the internet for selecting the drug for self-medication as most of the study participants were from urban areas. Most of the study participants didn't experienced any kind of adverse effects with self-medication (79.7%) as the study participants mainly preferred the self-medication for treating the minor ailments such as headache, fever and cough etc.

More than half of the study participants (54.1%) have suggested their friends or the family members to take a particular medicine as the study participants were from the pharmacy background.

In this study, most of the study participants always used to check the prescribing the information before self-medicating themselves (75.1%). Majority of the study participants (50.9%) never changed the dosage of the drugs during the course of self-medication.

More than half of the study participants (55.6%) sometimes had changed the medicine with a different drug of the same use. Majority of study participants (83.9%) always used to check the expiry date of the medication before the purchase. Most of the study participants (53.5%) sometimes were confident enough to diagnose the medical condition with which they are suffering from. More than half of the study participants (59.2%) were sometimes confident enough to treat themselves with the self-medication.

Conclusion

In our study, most of the study participants used the self-medication for treating the minor ailments like headache, fever, cold. Paracetamol & cetrizine were the most commonly preferred drugs for the self-medication. The main reason for self-medication in our study was observed to be having the previous experience of treating the same aliment by the study participants.

Most of the study participants have stopped the drugs used for self-medication only after getting cured from the medical condition. Searching the treatment strategies for specific medical conditions over the internet was becoming a common phenomenon in the present generation. Responsible utilization of the self medication definitely results in positive outcomes. Hence, students should have the awareness in the aspects of rational drug usage while practicing the self medication.

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