

Knowledge, Attitude and Practice of II MBBS Students towards E-Pharmacy

Dr. Mrinalini. A¹, Dr. Vasundara Devi B², Dr. Ashalatha M³

¹3rd Year Post graduate, Department of Pharmacology, S V Medical College, Tirupati, Andhra Pradesh, India

²Professor and Head of the Department, Department of Pharmacology, S V Medical College, Tirupati, Andhra Pradesh, India

³Associate Professor, Department of Pharmacology, S V Medical College, Tirupati, Andhra Pradesh, India

Abstract: *E-Pharmacy is a pharmacy that sells medicines on the internet and delivers them to customers. Owing to its benefits there are certain risk factors in purchase of online medications. The main aim of this study is to assess knowledge, attitude and practice (KAP) of II MBBS students towards E-Pharmacy. A KAP questionnaire was prepared and sent to all students through Google forms. The questionnaire was divided into 4 sections including demographic data, knowledge, attitude and practice domains. A total of 240 responses were collected, out of which 196 (81.6%) participants were aware of online pharmacy. The awareness was more in female and that too in urban population. Despite being aware of online pharmacy, majority of them prefer offline pharmacy due to lack of trustworthy/ fear of fake websites. The utmost reason for buying online medicine was deficiency of availability of medicines in market and differences in the prices. Therefore, the future of online pharmacy can be improved by setting guidelines, awareness and knowledge among the users.*

Keywords: E-Pharmacy, knowledge, attitude, practice

1. Introduction

E-Pharmacy is an online pharmacy that sells medicines on the internet and delivers them to the customers. It makes the process convenient for consumers and has resulted in rising demand for the model across the world. In addition, increasing utilization of e-prescriptions in the hospitals has also led to the growth of E-Pharmacy [1].

It was first initiated in United States in 1999, which includes the selling of both non prescription and prescription only medicines. However, the official approval for online drug transaction services was started On December 2005, after China's Food and Drug Administration issued the provisional rules of the internet for examination [2].

The benefit of using online pharmacy is that its time & money consuming, more convenient for some patients and old age people who cannot leave their home, 24/7 accessibility, increased choice as wider variety of medicines available and delivery of medicines at desired pace at desired time is possible.

Although purchasing from E-Pharmacies have many advantages, data from World Health Organization (WHO) have marked a question upon its safety. The seriousness of this problem increased when WHO estimated that about 50% medications marketed online are from counterfeited websites [3]. Online pharmacies without any regulations sell counterfeit drugs, thereby posing a great threat to health of consumers [4].

This study aims to evaluate the knowledge, attitude and practices of II MBBS medical undergraduate students towards E-pharmacy. KAP studies are the most frequent tool used in health seeking behavior research where it represents a precise population evidence on what is known, believed and done in relation to a particular topic.

2. Materials and Methods

a) Study Design

This was a questionnaire based study carried out in Department of Pharmacology, S. V. Medical College, Tirupathi, Andhra Pradesh. A KAP questionnaire measures the awareness towards purchase of medicines. It was divided into four sections: demographic information, knowledge of E-Pharmacy, their attitude and practices towards purchase of medicines from E-Pharmacy.

b) Data Collection

The questionnaire was distributed among all II MBBS undergraduate students of S. V. Medical College, Tirupathi. Google forms was used to manage the survey questionnaire as it was user friendly. The participants were requested to answer in multiple-choice formats.

c) Statistical Analysis

Data were analyzed and entered in Microsoft Excel 2019 version manually. Qualitative variables were expressed in percentages.

3. Results

Table 1: Demographic data

Parameters	Outcomes n=196, (%)
GENDER:	
Male	95 (48.2%)
Female	101 (51.8%)
AREA:	
Urban	137 (69.9%)
Rural	59 (30.1%)

Baseline Characteristics of the participants:

A total of 240 medical 2nd year undergraduate students were approached in the survey. 196 students out of 240 were

aware of online Pharmacy. Data regarding online pharmacy were collected from these 196 students.

The awareness regarding online availability of medicines is comparable across both genders (male: 48.2% and Female: 51.8%). Awareness was more in urban (n=137, 69.9%) as compared to rural (n=59, 30.1%) [table1]

Although a total of 196 students were aware about online pharmacy, majority of them preferred to purchase medicines offline (n=148, 75.51%).

Knowledge, attitude and practice domains:

Knowledge domain:

Among the participants who were aware about the online purchase of medicines, only 47.44% (n=93) were aware about the trustworthy for purchasing medicines online. 32.14% (n=63) of participants knew about the availability of pharmacist for responding to queries on online pharmacies. Majority of participants 61.2% (n=120) responded to naming the different sites being used by them for making online purchase. [Table 2].

Table 2: Knowledge Domain Questions:

Knowledge Domain Questions:	Outcomes (N=196)
1) Do you know about trustworthy websites of online pharmacy?	
Yes	47.44% (n=93)
No	52.55% (n=103)
2) Do you require prescription for online purchase of medicines?	
Yes, required for all products	57.14% (n=112)
Yes, required for some restricted access products only	25% (n=49)
Do not require prescription	10.71% (n=21)
Do not know	7.14% (n=14)
3) Is there pharmacist available for answering the Questions on online pharmacy?	
Yes	32.14% (n=63)
No	67.85% (n=133)
4) Can you mention some of the websites from which you are ordering medicines online?	
Netmeds	46 (23.46%)
PharmEasy	93 (47.44%)
Practo	16 (8.16%)
MedPlus Mart	11 (5.16%)
Not answered	30 (15.30%)

Attitude domain

Despite being aware regarding the online availability of medicines, majority of participants 75.51% (n=148) prefer offline for purchasing medicines because of lack of trustworthy websites/fear of fake websites by the users. The major threats perceived by them include poor quality of

medicines and lack of trustworthy websites (47.44%, n=93).. The most common cited reasons for purchase of online medications were non availability of medicines in market, difference in price and 24hr availability among others. [Table 3].

Table 3: Attitude based questions

Attitude based domain questions	Outcomes (n=196)
1) Which pharmacy do you prefer for routine Non emergency day-to-day medicines to buy?	
Online	24.48% (n=48)
Offline	75.51% (n=148)
2) What are the perceived threats?	
Possibility of poor quality of medicines	37.87% (n=75)
Lack of trustworthy websites/ fear of fake website	47.44% (n=93)
Do not know	14.28% (n=28)
3) How was your last experience of online pharmacy?	
Good	73.8% (n=62/84)
4) How was your last experience of offline pharmacy?	
Good	88.26% (n=173/196)
5) What do you think is the future of online pharmacy?	
Good	76.53% (n=150)
Doubtful	14.79% (n=29)
Do not know	8.67% (n=17)
6) What is the reason of buying medicine online?	
Drug is unavailable in market	53.06% (n=104)
Due to difference in price	7.65% (n=15)

More convenient	21.42% (n=42)
Available 24x7 (medicines always available in stock)	17.85% (n=35)
7) What is the reason for not buying medicines online?	
No idea about quality of medicines	60.2% (n=118)
Supplier without license	11.2% (n=22)
Medicine available in market	14.28% (n=28)
Bad services	9.18% (n=18)
No reason	5.10% (n=10)
8) Advantage of offline buying of medicines?	
Can buy anytime when required	57.14% (n=112)
Can return immediately if needed	16.32% (n=32)
Can ask pharmacist regarding medicines	6.12% (n=12)
Accessible even for illiterates	10.7% (n=21)
Can buy as per requirements	9.70% (n=19)

Practice domain:

26.53% (n=52) of the users have been purchasing medicines about 6-12 months as compared to 16.32% (n=32) who were buying for more than 1 year. Only 42.85% (n=84) were purchasing online medicines whereas the rest 57.14% (n=112) despite being aware of online pharmacy did not purchase medicines online. As far as preference regarding category of drugs for purchasing online is concerned, 47.61% (n=40) of users were willing to purchase prescription drugs followed by cosmetics 35.71% (n=30) and remaining 16.67% (n=14) were willing to purchase non prescription drugs. Among the respondents, 63.77% (n=125) preferred both branded and generic drugs while purchasing online as compared to 20.40% (n=40) who preferred branded drugs and 15.81% (n=31) who preferred generic drugs. [Table 4].

Table 4: Practice based domain questions

Practice based questions	Outcomes (n=84)
1) For how long have you been purchased online medicines?	
6-12 months	26.53% (n=52)
>1 year	16.32% (n=32)
2) What category of drugs you are willing to purchase online?	
Non prescription medicine	16.67% (n=14)
Prescription drugs	47.61% (n=40)
Cosmetics	35.71% (n=30)
3) Do you consult your doctor before purchasing drugs online?	
Yes	66.7% (n=56)
No	33.4% (n=28)
4) what type of drugs you prefer to purchase online?	N=196
Branded	20.40% (n=40)
Generic	15.81% (n=31)
Both branded and generic	63.77% (n=125)

4. Discussion

This study represents one of the few attempts in the literature to determine the current situation of acquiring medicines online and its safety. The survey was conducted among II MBBS undergraduate students, where we evaluated the knowledge, awareness and practice domains towards E-Pharmacy.

It was observed that more than half of the participants were aware of the online purchase of medicines. Despite being

aware of the online pharmacy, majority preferred offline purchase of medications, due to various reasons.

In this study most of the participants belong to urban area (69.9%). People's attitude towards online pharmacies for purchasing of medicines and health products is very important to maintain the medication supply chain and for the protection of consumers from illegitimate websites. Even in this study, only 47.44% (n=93) know about trustworthy websites of online pharmacy.

It was observed that some of participants were able to mention the websites from which they were ordering medicines like Netmeds, PharmEasy, Practo and Medplus Mart.

Limitation of the study

The study was confined to only II MBBS students and sample size is small, thus more deep investigation is required for applying to general population.

5. Conclusion

In this study, 196 participants were aware of E-pharmacy, but only 84 of them actually purchased the medicines online. While majority of the participants perceive the future of online pharmacy to be good (76.53%) compared to 14.79% responded doubtful and the remaining 8.67% did not respond.

Financial Support and Sponsorship

Nil

Conflicts of Interest

There are no conflicts of interest.

References:

- [1] Pappas N. Marketing strategies, perceived risks, and consumer trust in online buying behaviour. J Retail Consum Serv 2016; 2.
- [2] Moshrefjavadi MH, Rezaie Dolatabadi H, Nourbakhsh M, Poursaedi A, Asadollahi A. An analysis of factors affecting on behavior of consumers. Int J Mark Stud 2012; 4: 81-98.
- [3] Growing threat from counterfeit medicines. Bull World Health Organ 2010; 88: 247-8.

- [4] Alfahad NF, Albelali MT, Khurshid FM, Al-Arifi MN, Al-Dhawali AA, Alsultan MS. Perception and knowledge to online p services among consumers in Riyadh, Saudi Arabia: A pilot survey. *Lat Am J Pharm* 2015; 34: 1113-8.