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Original Article

Pharmacology Section

Knowledge, Attitude and Practice of Over the Counter Drugs among Dispensers Working in the Retail Pharmacies of a South Indian City-A Cross-sectional Questionnaire Based Study

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ABSTRACT

Introduction: Over The Counter (OTC) drugs are drugs which can be sold in the pharmacy without the prescription of registered medical practitioners. Drug dispensers have an important role in modifying patients' behaviors and curbing the misuse of OTC.

Aim: To assess the Knowledge, Attitude and Practice (KAP) of OTC drugs among dispensers working in the retail pharmacies.

Materials and Methods: A cross-sectional questionnaire based study was conducted to assess the KAP of OTC drugs among dispensers working in the retail pharmacies. Questionnaire was distributed to 62 pharmacies situated in Puducherry, India. All the data were analysed by using Microsoft excel sheet and applying descriptive statistics.

Results: A total of 80.64% participants responded to the questionnaire. About 34% participants were pharmacy degree holder; whereas, 66% were non pharmacy degree holder. The mean score of dispensers with pharmacy and without pharmacy degree for knowledge (5.121±0.17, 4.09±0.17) attitude (4.59±0.12, 3.05±0.25) and practice (4.71±0.19, 3.27±0.24) respectively.

Conclusion: Drug dispensers have a great role in promoting the proper use of OTC drugs but they lack the adequate knowledge about various aspects of it, so they should be properly trained and regularly updated for that.

Keywords: Non prescription drugs, Perception, Pharmacist

INTRODUCTION

Providing holistic healthcare equitably to every person is a daunting task. Various government and non government healthcare agencies are working in tandem to make this possible. They are taking multiple steps to achieve that coveted goal. In accordance to that, over the period large number of drugs have been deregulated and made available as OTC drugs [1]. There are currently more than 3,00,000 different OTC drugs available only in US [2]. OTC drugs or non prescription drugs are group of medicines which can be obtained without the prescription of registered medical practitioners, and regulated by Food and Drug Administration (FDA) through OTC drug monograph [3].

To a large extent, deregulation of drugs has promoted the culture of self-medication. It is evident from various studies that self-medication practice is high with OTC drugs [1,4] World Health Organization (WHO) has defined self-medication as the selection and use of medicines by individuals to treat self-recognised illnesses or symptoms [5]. Studies done across the world have revealed that, there is an upsurge in trend of self-medication and its horizon is ever expanding [1]. Self-medication is like a proverbial double edged sword, in one hand it empower the patients by providing them easy access to medication, cutting the medical expenditure by reducing cumbersome hospital visits; but in other hand sometime it inflicts harm to patients by delaying the diagnosis and causing different adverse effect [6,7]. There are always real chances of misuse and over use of OTC drugs because people tend to think that use of it is not problematic and takes it for granted [8-10].

Pharmacists and drug dispensers are the final link between medication and patients. Sometime public finds pharmacist as an easily accessible and acceptable source of advice and suggestion. So, pharmacists could play an important role in modifying the behaviour of patients as far as self-medication is concern. They can also provide appropriate, understandable and relevant information to patient about their medications and about various nuggets of OTC [11,12]. International pharmaceutical federation has drafted good pharmacy practice guideline, which was recognised and published by WHO [13]. Indian pharmaceutical association has also formulated good pharmacy guideline which stress upon the various roles and responsibilities of pharmacist and one among them is that they should be competent enough to advise patients to select and use OTC drugs appropriately [14].

Considering the importance of judicious use of OTC drugs and role of drug dispensers in fostering that practice among patients, we carried out this study to assess KAPs of OTC drugs among dispensers working in retail pharmacies.

MATERIALS AND METHODS

This study was a cross sectional questionnaire based study carried out in the retail pharmacies of Puducherry city between June 2015 to December 2015. A total of 62 dispensers working in different pharmacies and willing to participate in the study voluntarily and gave written informed consent for the same were included in the study. This study was commenced after getting approval from research and Institutional Ethics Committee.

The instrument for study was a structured questionnaire designed by group of experts from Department of Pharmacology following similar kind of previous studies [15-17]. It was pre tested in a small number of participants and modified questionnaire were administered to participants. The internal consistency of the questionnaire was measured by Cronbach α which was found to be 0.78.

Questionnaire consisted of two parts. First part had questions pertaining to sociodemographic details of dispensers and second part had 19 questions (8, 5, and 6 in number for the assessment of KAP about OTC respectively.

The questionnaires were handed over to the participants after explaining the purpose of the study. Any doubt regarding questionnaires was clarified by investigators. Approximately 25 minutes time was given for filling the questionnaire. It was made clear to them that at no point of the study their identity will be revealed and it is not necessary to write their name. A score of 1 was allocated for each correct answer or positive response and score 0 was allocated for wrong, or negative response. Only completely filled questionnaire were selected for final data analysis.

STATISTICAL ANALYSIS

The data was categorised, coded and entered into a Microsoft excel sheet and analysed by using student's t-test.

RESULTS

Out of 62 questionnaires distributed, only 50 returned as completely filled, so response rate of our study was 80.64%. The mean age of participants in our study was found to be 38.86±10.38 years. It was observed that a large majority of the participants 43 (86%) were male whereas only 7 (14%) were female. Among all participants only 17 (34%) were having a qualified pharmacy degree (D. Pharm, B. Pharm or M. Pharm); whereas, majority of them, 33 (66%) were non-pharmacy degree holders. As far as their work experience is concerned, 13 (26%) participants had five or less than five years of experience, others 37 (74%) were having more than five years of experience. The [Table/Fig-1] summarises the demographic details of participants. Responses pertaining to knowledge by the participants are depicted in [Table/Fig-2].

Mean knowledge score for pharmacy and non-pharmacy group was 5.12±0.17 and 4.09±0.17 respectively. There was a statistically significant difference in the knowledge score between two groups.

Variables	Number (%)
Gender	
Male	43 (86%)
Female	7 (14%)
Educational qualification	
Pharmacy degree	17 (34%)
Non pharmacy degree	33 (66%)
Years of experience	
<5 years	13 (26%)
>5 years	37 (74%)
Mean age (year)	38.86±10.38

[Table/Fig-1]: Demographic profile of participants.

Sl. No.	Questions	Correct response (%)
1	In medical parlance acronym OTC stands for over the counter (T/F)	42
2.	OTC drugs can be given only with prescription of a registered medical practitioner (T/F)	86
3	Prescription only drugs can be given only with prescription of a registered medical practitioner (T/F)	82
4	There is no legal recognition of OTC in India (T/F)	58
5	Schedule H deals with drugs, which can be sold without prescription (T/F)	4
6	Patient can buy morphine OTC (T/F)	88
7	Paracetamol toxicity can cause liver damage (T/F)	4
8	Aspirin is useful in gastritis (T/F)	88

[Table/Fig-2]: Response to knowledge based questions (n=50).
p-value ≤0.05 is considered statistically significant.

Mean score for attitude was 4.59±0.12 and 3.05±0.25 for pharmacy and non pharmacy group respectively. The difference between two groups was statistically significant. Responses of participants regarding questions related to attitude are depicted in [Table/Fig-3].

[Table/Fig-4] depicts in detail about the response of participants regarding questions related to practice. Pharmacy and non pharmacy groups scored 4.71±0.19 and 3.27±0.24 respectively. The difference between two groups was statistically significant [Table/Fig-5].

Sl. No	Questions	Correct Response (%)
9	Do you think antibioticsshould be available as OTC? (Y/N)	58
10	Do you think OTC drugs encourage self medication among patients? (Y/N)	10
11	Should there be an age restriction for obtaining OTC? (Y/N)	82
12	Do you think it is necessary to periodically updateinformation regarding OTC?	74
13	Are you concerned about the misuse of OTC? (Y/N)	86

[Table/Fig-3]: Response to attitude based questions (n=50).

Sl. No	Questions	Correct Response (%)
14	Do you ask for prescription before dispensing drugs? (Y/N)	80
15	Do you update your knowledge regarding OTC? (Y/N)	18
16	Do you advice patients to consult a doctor when they come to you with any ailments rather than giving them medicine yourself? (Y/N)	36
17	Do you give an alternative brand when prescribed brand is not available with you without consulting prescribed physician? (Y/N)	48
18	Have you ever sold any injection or IV fluids without prescription? (Y/N)	26
19	Do you counsel the patients/costumers if you suspect misuse/abuse of OTC? (Y/N)	78

[Table/Fig-4]: Response to practice based questions (n=50).

Score (Mean±SEM)	Pharmacy group (n=17)	Non pharmacy group (n=33)	p-value
Knowledge (Maximum score=8)	5.12±0.17*	4.09±0.17*	0.0004
Attitude (Maximum score=5)	4.59±0.12*	3.05±0.25*	0.0003
Practice (Maximum score=6)	4.71±0.19*	3.27±0.24*	0.0003

[Table/Fig-5]: Comparison of mean score between two groups.
p-value ≤0.05 is considered statistically significant
*Difference in mean score of two groups is statistically significant

DISCUSSION

Developing countries including India is beset with problems in healthcare delivery system. Lack of adequate doctors has been a major hindrance in providing quality healthcare to all people [18]. Most of the people still depend on the pharmacists or other allied health workers for their primary healthcare need. Pharmacists working in community pharmacy have always played an important role in healthcare system [19,20].

A recent study done in a district of a South Indian state revealed that the proportion of the respondents who had practiced self-medication with OTC drugs is very high. The prevalence of self-medication with OTC drugs was found to be 72.87% and is nearly same in both rural and urban population [21]. Although, OTC drugs empower the patients, its use may lead to mind boggling harms to the consumers. Their improper use and inability to follow the necessary precautions due to lack of knowledge of their side effects and interactions could lead to serious complications, especially in children and elderly. Hence, the public must be educated on the

type of illnesses that are to be self-diagnosed and medicated and about the pitfalls and hazards of OTC.

Pharmacists and drug dispensers are the final link between medication and patients. Public also finds pharmacists as an easily accessible and acceptable source of advice and suggestion. Hence, the pharmacists could play a vital role in modifying the behavior of patients as far as self-medication is concerned. They can also provide suitable, clear and relevant information to the patient about their medications and about various nuggets of OTC drug use. All these are clearly laid down in good pharmacy guideline. There are few studies done to delve into the perception of dispensers/ pharmacists working in community pharmacies about OTC drugs [22-25]. Hence, we planned to assess the KAP of OTC drugs among dispensers working in the retail pharmacies. As far as assessment of KAP of OTC drugs among dispensers is concern, it was found that majority of participant knew the correct meaning of OTC drugs (86%) and prescription drugs (82%). Large numbers of participants in our study (86%) were concerned about the misuse of OTC. Some other studies under taken among pharmacist have also made similar observations [22,26]. This misuse of OTC is more prevalent these days among the youth because of the advancement in technology. Most of them have access to internet and they are able to get drug information over internet and their unrestricted supplies in the pharmacies are intensifying this practice [27].

In this study, it was found out that, only 4% respondents were aware that schedule H drugs can only be sold with a valid prescription from a registered medical practitioner but in a study done in Bengaluru, 50% participants had correct knowledge regarding schedule H [23].

In this study, 48% of our participants said that, they changed the brand without consulting prescribed physician, when prescribed brand is not available with them. Almost similar observation was made in a study done by Hanumantharayappa NB, Siddaiah SN [21]. There are prescribed guidelines available regarding principle of generic substitution, because some time it could cause to enormous damage to patient's safety, but due to lack of strict enforcement, it is not followed stringently [28,29].

In our study, large number of participants (74%) felt the need to periodically update the knowledge about OTC drugs but very few (17%) are doing that. So, there should be some programme to be conducted by health sector of individual states, to increase their awareness about OTC drugs.

In this study, it was also observed that majority of drug dispensers (80%) asked for prescription before dispensing drugs, it is contrary to some other studies done in India and outside, where dispensing without prescription was quite high [28,30]. It was reported in this study that, 78% of participants counselled the patients or their attendants regarding the adverse effects of misuse or over use of OTC drugs, if they suspected so. It is in accordance with the guideline of Good Pharmacy Practice (GPP) [14]. In study done by Ravichandran A and Basavareddy A, it was found out that approximately 52% pharmacist counselled the patients before dispensing the drug where as in another study voluntary counselling by pharmacists was not that encouraging [24,25].

Our study also revealed a very glaring fact, many people not having a valid pharmacy degree (66%) are working in retail pharmacies and there was a significant difference in the KAP among two groups in respect to OTC drug. Policy makers should consider these issues and take necessary action to avoid such things and pave way for creating a better awareness among the public and drug dispensers regarding OTC.

OTC drug abuse is a recognised problem internationally but still it is understood incompletely. Hence, furthermore research is needed to quantify the scale of abuse and hazards associated with it. We must start acting as, it is high time to formulate strategies and interventions to overcome the OTC drugs misuse like; limiting the supplies, raising public and professional awareness about OTC misuse using existing services and Internet support groups and to implement few intervention strategies (like policy making) and regulating the same.

CONCLUSION

This study showed that many dispensers were not aware about OTC drugs. They were also not aware in which schedule OTC drugs has been included. There was less enthusiasm to periodically update OTC drugs. So, there should be an awareness programme to update their knowledge regarding various aspects of OTC as well as drug schedules. There should also be a strict guideline and its enforcement regarding mandatory educational qualification of drug dispensers.

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