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Original Research Article

Non-doctor prescription practices among women in Tamil Nadu: understanding the attitude towards over-the-counter drugs

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ABSTRACT

Background: Even though India has a very high burden of non-doctor prescription practices, there is no regulatory body governing the availability of OTC drugs unlike the Western countries. This study was aimed at evaluating the non-doctor prescription practices and the factors keeping the population away from healthcare facilities.
Methods: This was a community based cross-section study including 234 women aged 18 years and above from urban and rural field practice areas of a teaching hospital in Tamil Nadu. Data was collected using a validated and pilot tested 4-part interview process and analyzed using IBM-SPSS version 21.
Results: Data analysis points towards a 61.11% prevalence of non-doctor prescription practices which showed statistically significant association with all the demographic variables except income. On further inquiry, 29.49% reported having given medications to a child (<15 years) without prescription. The quality of care score was negatively correlated to the non-doctor prescription practices ($r = -0.723$, $p<0.001$).
Conclusions: The findings from this study points towards the need for further research to have a better understanding of the factors which make people choose not to visit a healthcare facility despite having knowledge about the hazards of NDPPs.

Keywords: Health care quality, Over the counter drugs, Self-medication

INTRODUCTION

Taking a look at the people around us with ailments, about half of them either wait for the condition to subside on its own or resort to the practice of home remedies. There is an increasing prevalence of non-doctor prescription practices (NDPP) noted among the Indian population. In this context, there are a few commonly used terms which need to be explored first. Over the counter (OTC) medicines or non-prescription medicines are terms referring to medicines that can be bought without a prescription.[1] Non-doctor prescription, more commonly known as self-medication is practically defined as "the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor".[2] A 'doctor' in this context is defined as "someone who has obtained a bachelor of medicine and bachelor of surgery (MBBS) degree in allopathic medicine".[3]

Globally, a number of countries have separate regulations for medicines identified under the OTC category.[4] In India however, OTC medicines have not been legally defined till date. Instead, the common practice is to sell drugs which do not come under the prescription medicines schedule as OTC medicines.[5] The Central Drug Standards Control Organization (CDSCO) is planning an OTC regulatory framework for OTC drugs in

Indian public healthcare system and to regularize stamping of prescriptions by chemists to prevent reuse.[6] OTC drugs allow an easier and affordable access to healthcare; however, their exploitation and adverse health effects can be reasons for concern.[5]

Understanding the risk fully well an individual makes a decision mediated by their immediate practical environment.[7,8] It is here that the existing health system should intervene. Women of the household act as the first point of contact for healthcare and are at a higher risk of non-doctor prescription practices not only for themselves but also for other members in the household, especially children. Women have always been more exposed to the healthcare system, whether as patients or as attendees to a family member or friend.[9] Understanding their problems and educating them about the potential risks of non-doctor prescription practices will have greater impact on combating the problem.

The primary objective of the study was to estimate the prevalence of NDPP among the study population and to determine the attitude of women towards NDPP. A secondary objective was to determine the relation between quality of care received at healthcare facilities and preference for NDPP.

METHODS

Study design, setting and population

A community based cross-sectional study among women residing in urban and rural field practice areas of a teaching hospital in Tamil Nadu.

Inclusion and exclusion criteria

All women above 18 years residing in the study setting and willing to give consent were included. Those who could not be reached after 3 visits, bedridden patients, women with known psychiatric illnesses and medical professionals were excluded from the study.

Study duration

This study took place for a period of 1 year (December 2018 to December 2019).

Sample size

Sample size was calculated to be 234 considering an expected prevalence of 70% at 6% allowable error and 95% confidence interval.[10] Out of the total sample, 117 each are chosen from urban and rural settlements.

Sampling method

Multistage stratified random sampling was done using random number generation function in SPSS at each stage to identify 234 participants (Figure 1).

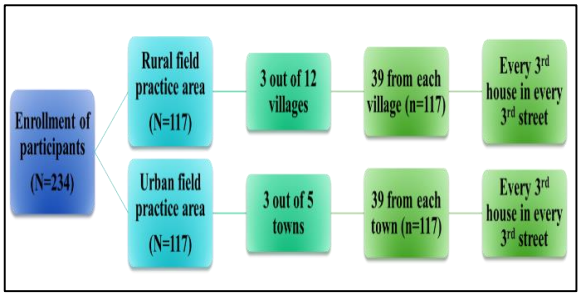

Figure 1: Process for sample selection.

Study tool

Data was collected using a validated and pilot tested 4 part interview process which consisted of socio-demographic details, NDPP, attitude towards NDPP and quality of care scoring.

Statistical analysis

Data entered in Microsoft excel spreadsheet and analyzed using IBM-SPSS version 21. Results expressed as descriptive statistics and required statistical tests (Pearson Chi square, Pearson correlation) are applied. A p value <0.05 was taken to be statistically significant.

Ethical consideration

The purpose of the study was informed in regional language (Tamil) and written informed consent was taken from subjects before administering the questionnaire. No personally identifying data was collected and the confidentiality of collected data was maintained throughout the study.

RESULTS

The prevalence of NDPP is found to be 61.11 % (n=143) among the study population. A statistically significant difference in NDPP is noted between the urban and rural populations (Table 1). Age of the participants, educational status and occupation are found to be significantly associated with NDPP. On further inquiry, 29.49% (n=69) reported having given medicine to a child (<15 years) without prescription.

Information was gathered about the source of drugs and source of information about the drugs used for NDPP (Figure 2) and it was reported that 64% of the participants obtained the drugs from medical stores and for 32% of the population, the source of information were family/friends.

On further inquiry it was also revealed that fever was the most common symptom for which they did NDPP, which correlated with the fact that antipyretics followed by antitussives were the most common drugs used for NDPP (Figure 3).

Table 1: Association of demographic details with non-doctor prescription practices.

Variables		NDPP		P value
		Yes, N (%)	No, N (%)	
Locality	Rural	40 (34.19)	77 (65.81)	<0.001*
	Urban	103 (88.03)	14 (11.97)	
Age (in years)	<30	41 (80.39)	10 (19.61)	0.002*
	30-50	52 (61.18)	33 (38.82)	
	>50	50 (51.02)	48 (48.98)	
Education	Illiterate	10 (47.62)	11 (52.38)	0.040*
	Primary school	33 (61.11)	21 (38.89)	
	High school	66 (56.90)	50 (43.10)	
	Graduate	34 (79.07)	9 (20.93)	
Occupation	Housewife	78 (57.35)	58 (42.65)	0.002*
	Non-professional	47 (58.75)	33 (41.25)	
	Professional	18 (100)	0 (0)	
Per-capita monthly income (INR)	<10,000	75 (62.5)	45 (37.5)	0.309
	10,000-25,000	45 (55.56)	36 (44.44)	
	>25,000	23 (69.70)	10 (30.30)	

Pearson Chi square test was used for testing association between NDPP and demographic indicators.

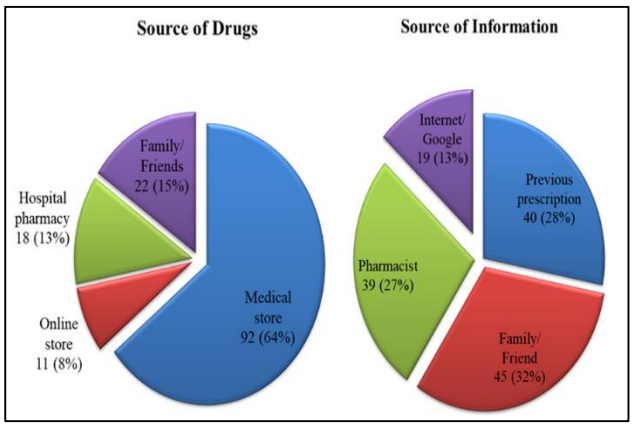

Figure 2: Source of drugs and source of information about drugs used for NDPP (n=143).

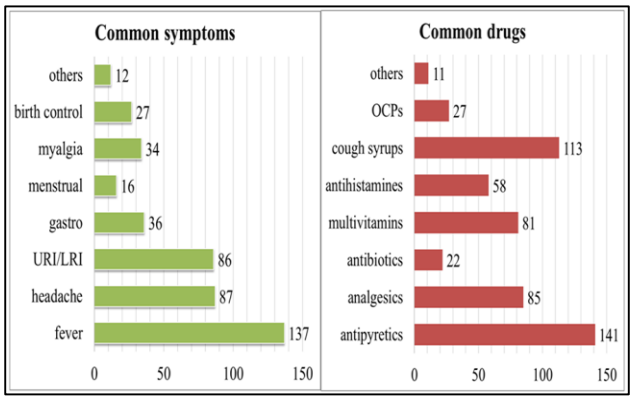

Figure 3: Common symptoms and drugs for NDPP (n=143).

When asked the reason as to why one should not resort to NDPP, 123 (52.56%) participants responded- "lack of knowledge about medicine" while 47 (20.09%) responded- "due to risk of side effects". At the same time, 64 (27.35%) participants responded that it was safe to resort to NDPP as long as it was reusing an old prescription, under the advice of a pharmacist or after a thorough evidence generation from internet.

Practices related to consumption of medications

On enquiry about frequency of reading instructions on medicine; the responses were 78 (33.33%) always, 119 (50.85%) occasionally and 37 (15.81%) never. On enquiry about frequency of checking expiry dates on medicine; the responses were 103 (44.02%) always, 93 (39.74%) occasionally and 38 (16.24%) never. Of the total, only 108 (46.15%) participants reported that they have a dedicated, secure spot for storing medications at home.

When asked about what is to be done if a particular medication changes shape, colour or odour; 58 (24.78%) responded- "immediately discard the drugs", 123 (52.56%) responded- "continue to use till expiry date" and 53 (22.65%) responded- "does not matter".

Relation to quality of health care

Quality of health care received was graded using 10 item questionnaires based on patient satisfaction questionnaire from RAND health care.[11] Maximum possible score was 30 and minimum possible score was 0. Higher the score, better the quality of care. Mean (SD) score of the study population was calculated to be 17.43 (5.73). Good quality (score>20) was reported by 114 (48.72%), average quality (score from 10-20) by 117 (50.0%) and poor quality (score<10) by 3 (1.28%) participants. On Pearson correlation analysis, a strong, statistically significant, negative correlation was obtained between the

quality of care scores and the tendency to resort to NDPP ($r = -0.723$, $p<0.001$). This suggests that, as the quality of care increases, the prevalence of NDPP decreases, making prevalence of NDPP a possible indicator for quality of health care received by the community.

DISCUSSION

Prevalence of non-doctor prescription practices/OTC use is found to be 61% in the present study which is in between the 52% in an Indian survey and the 70% in a study by Shanker P et al.[4,10] This is a very high number considering the possible hazards of NDPP. The fact that 29.49% (n=69) reported having given medicine to a child (<15 years) without prescription, is a clear indication that it's high time countries like India brought out clear regulations for OTC medicines. Important concerns are raised about parental understanding of all medicinal products and misinterpretations regarding adult and paediatric medications, which in turn pose significant hazards to child safety.[12] Lack of proper regulation is now resulting in unchecked use of OTC medicines not only among adults, but also among children.

The main reason for self-medication was reported to be effectiveness of the drug during a previous therapy for similar symptoms, this is similar to the findings of the study by Al-Azzam et al.[4] This correlates with the sources of their information regarding medicines for NDPP which was mostly previous prescriptions or family and friends (>80%). Stamping of prescriptions is often practiced (though not mandatory) to prevent reuse of prescriptions. The challenge in the present era is with the popularization of e-pharmacies, where stamping is not possible and it provides easy and unregulated access for the community to medicines at large.[13] The quality of health care received was reported to be not good by 51.28% of the participants, which is similar to the 47% in a study by Linda et al.[14]

A study by Latunji et al reported that good service delivery as the most important factor affecting health seeking behaviour.[15] On this basis, the present study correlated quality of health care and prevalence of NDPP. It was noted that as the quality of care increases, the prevalence of NDPP decreases; which was a statistically significant, strong negative correlation. This opens up the possibility of developing and monitoring OTC/NDPP as a possible indicator for quality of health care delivery. Further research is needed to better understand the influence of probable confounding factors which influence the prevalence of NDPP.

This study has some limitations. Biases arising due to the study design could not be addressed. Even though the study population had representations from both urban and rural communities, the study was focussed only on women from one single state in southern India, which can affect the generalizability of the findings.

CONCLUSION

In a country like India which still lacks proper regulations for OTC drugs, it's important that we understand the burden of non-doctor prescription practices. The findings from this study points towards the need for further research to have a better understanding of the factors which make people choose not to visit a healthcare facility despite having knowledge about the hazards of NDPPs. This will help us in formulating ways for better dissemination of healthcare services as well as to formulate regulatory laws for OTC medicines. This also calls for setting up a proper feedback system or periodic evaluation for the quality of patient care, which is lacking in healthcare facilities, especially the public sector.

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