Exploring Knowledge and Perceptions of Generic Medicines Among Drug Retailers and Community Pharmacists

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Basak and Sathyanarayana: Knowledge and Perceptions of Generic Medicines

The study was carried out to evaluate community pharmacists' and drug retailers' knowledge and perceptions about generic medicines. A cross-sectional descriptive study, with a questionnaire, was conducted to survey community pharmacists and drug retailers working in 39 randomly selected private pharmacies from two towns of Tamil Nadu, India. Among 66 respondents (pharmacists and drug retailers), 39 (59.1%) were drug retailers; 52 (78.8%) were self-employed; majority in the age group 31-40 (31.8%); and mostly males (83.3%). Overall, 21 respondents (31.8%) did not know what generic medicines were. About 30% of the respondents thought that generic medicines are of inferior quality compared to branded medicines. Only 63.6% of the surveyed pharmacists and drug retailers agreed that generic medicines can be considered therapeutically equivalent with the branded ones. A higher level of education had a direct relationship having correct knowledge of generic medicines ($P<0.01$). The majority of the respondents (80%) did not support generic substitution, even in case of prescribed medicines are not available. Many community pharmacists and drug retailers have misconceptions regarding generic medicines. Lack of knowledge may negatively affect the community pharmacists' support towards generic medicines in India. This issue should be addressed by academicians and other relevant bodies.

Key words: Community pharmacists, drug retailers, generic medicines, perceptions

Medicines play a pivotal role in the process of human development as their rational utilization can decrease morbidity and mortality as well as improve quality of life[1]. The most crucial element which restricts access to medicines is medicine pricing[2]. Most countries are facing escalating health care expenditures. Escalating costs and affordability of medicines for both governments and patients has become a global challenge. In an era of rapidly rising health care costs, generic medicines provide a less expensive alternative to branded medicines. The issue of access and affordability is thus addressed by using generic medicines that contribute to substantial savings in medicines expenditure[3]. Consequently, a generic substitution policy that aims to promote the use of cheaper generic medicines has been implemented in many of the world's developed[4-7] and developing countries[8-10]. In addition to reducing the overall health care expenditure, use of generic medicines can reduce patients' out-of-pocket costs and has been shown to improve adherence[11]. In India, like developing countries, private community pharmacies are the main source of medicines[12-15], and dispensing is mainly undertaken by pharmacists and drug retailers or sellers[16,17]. The issue of access and affordability of medicines is addressed by using generic medicines as a cost containment strategy globally. In an attempt to struggle with the escalating medicine cost in India, generic substitution could be a solution to the population living below poverty level. Drug retailers include individuals who are only associated with private pharmacies, but do not have formal training in dispensing medicines and may not have even passed secondary school. Drug retailers are consulted for health advice on illnesses of all kinds, and medicines as remedies are dispensed. Consequently, both the pharmacists and the drug retailers as the medicines dispensers will have a definite role in improving the quality use of generic medicines.

Therefore, drug retailers' and community pharmacists' knowledge towards generic medicine

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dispensing and substitution may help identify potential determinants to greater generic medicine use. An evaluation of the pharmacists' and drug retailers' views of generic medicines is vital to understand the issues surrounding generic medicines. Therefore, the aims of this study were to explore the knowledge, perception, and attitude of community pharmacists and drug retailers towards generic medicines in India.

The research design was cross-sectional and descriptive. The sample for this study included 39 randomly selected private community pharmacies in Cuddalore and Villupuram towns of Tamilnadu State during October, 2009 over a period of 15 days, with an average of 30 minutes spent at each pharmacy. Both quantitative and qualitative approaches were used. The study participants were pharmacists and drug retailers working in the pharmacies. The study team, comprising of three previously trained final year B. Pharm. students of the Department of Pharmacy, Annamalai University, contacted the pharmacist and/or one most experienced drug retailer with a standardized questionnaire and interviewed them directly.

A structured interview guide was used as the study tool using a questionnaire. Because of the unfamiliarity with some of the terms used, the study team translated the same in local language (Tamil) to the respondents. The questionnaire was designed specifically for this study after reviewing the literature in the area and consulting with assistance from the faculty members and other experts. The questionnaire was evaluated for its face and content validity by three experts and five practicing pharmacists and was suitably modified after pilot study with three pharmacists and three drug retailers working in the pharmacies. Only validity of construct was conducted. The final questionnaire contained 12 questions, including both selection from multiple choices and affirmative or negative answers. The pharmacist in charge of the pharmacy was informed that their response would help in evaluating theirs' perception in generic medicines. The name of the pharmacy or pharmacist was not insisted for on the questionnaire to ensure anonymity of the respondents. The questionnaire consisted of two sections. The first section of the questionnaire was on respondents' demographic and practice characteristics. The second section included five questions that have affirmative or negative answers exploring respondents' knowledge on generic medicines. The second section further included six questions exploring views on generic medicines, including efficacy, safety, quality, and the bioequivalence status of the generic products. Finally, a question was set to evaluate the respondents' professional judgment about the dispensing of generic medicines *vis-à-vis* brand name medicines. In this paper, the term 'generic medicine' is used to include medicine that is bioequivalent to a brand name (innovator) medicine and contains the same strength in same type of dosage form after patent expiration. Descriptive statistics were generated for each question in the study. Results of the study were analyzed using Microsoft Excel 2005 spreadsheet. Comparison of the mean scores obtained by the respondents was used to evaluate statistical significance using paired 't' test. A significance level of 0.05 or less was used.

Overall, 66 respondents were surveyed in 39 pharmacies with one drug retailer per pharmacy and one pharmacist from 27 pharmacies. A pharmacist was not present in 12 pharmacies during the study visits. The respondents' characteristics are described in Table 1. The respondents were

TABLE 1: DEMOGRAPHICS AND PRACTICES CHARACTERISTICS OF RESPONDENTS

Characteristics	Number
Gender	
Male	55 (83.3)
Female	11 (16.7)
Age (years)	
30 or less	16 (24.2)
31-40	21 (31.8)
41-50	18 (27.3)
51 and above	11 (16.7)
Educational level	
Secondary school	16 (24.2)
D.Pharm	25 (37.9)
B.Pharm	03 (04.6)
Other degrees	22 (33.3)
Position	
Pharmacist	26 (39.4)
Drug retailers	40 (60.6)
Employment position	
Owner	14 (21.2)
Employee	52 (78.8)
Pharmacy location	
Urban	38 (57.6)
Rural	28 (42.4)

n=66, D.Pharm=Diploma in Pharmacy, B.Pharm=Bachelor of Pharmacy. Values in parenthesis are the percentage values.

mostly male (83.3%) and aged between 31 and 40 years (31.8%). Education-wise, 25 (37.9%) of the total respondents were diploma holders, 22 (33.3%) of them were other degree holders, and only 3 (4.6%) were B. Pharm. degree holders. Most of the respondents (78.8%) worked as employee in pharmacies, and majority of pharmacies (57.6%) were in urban area.

Forty five respondents (68.2%) said they knew what generic and branded medicines were (Table 2). This shows that more than 30.0% of the respondents are not familiar with generic medicines. There was significant association between this question and respondents' qualification ($P<0.05$). From the 55 respondents who said they were familiar with the term 'generic medicine', 27 (49.1%) respondents learned generic medicine from mass media, 18 (32.7%) respondents from physicians, and 10 (18.2%) from reading materials (news papers/ magazine/pharmacy news weeks).

When asked if they know that generic medicines can be marketed under different brand names, 43 respondents (65.1%) answered affirmative (Table 2). When verifying for association between this question and demographic variables, there was significant association between respondents' position (either pharmacist or drug retailers) and educational level ($P<0.05$). Further, when asked how they compare between generic medicines and branded ones in relation to quality, 10 respondents (15.2%) stated that the quality of generic medicines is higher than the branded counterparts, 36 (54.5%) agreed that the quality of both is equal, while 20 (30.3%) stated that the quality of generic medicines is lower the branded medicines. When testing for association between these questions and respondents' demographics, education level was found to have a statistically significant relationship ($P<0.05$).

In relation to effectiveness, 12 (18.2%) respondents stated that generic medicines may produce more therapeutic effect, 42 (63.6%) respondents agreed generic medicines will result in same effectiveness, and 12 (18.2%) felt that generics have lower therapeutic effect. In term of side effects, 8 (12.1%) respondents felt that generic medicines may cause more side effects, 43 (65.2%) respondents said generic medicines will result in the same side effects like branded ones, and 15 (22.7%) felt that generic medicines will result fewer side effects. When testing for association between this question and respondents' demographics, we found a statistically significant relationship between it and education level group ($P<0.05$). The majority of the respondents (68.2%) answered correctly that generic medicines cost less than branded counterparts. Most respondents (60%) knew correctly that generic medicine is bioequivalent to a branded medicine and contains the same strength in same type of dosage form after patent expiry (fig. 1). Twenty six respondents (40%), however, were not known about the correct nature of generic medicines.

The results obtained for this study are interesting and provide an insight into community pharmacists' and drug retailers' perceptions of their knowledge on generic medicines. There are number of trends which are evident, some of which are interesting, while others are rather routine in Indian context.

TABLE 2: PHARMACISTS OR DRUG RETAILERS' BEHAVIOUR TOWARDS GENERIC MEDICINES

Parameter	Yes	
	Pharmacists	Drug retailers
Do you know that some medicines are 'Branded' and others are 'Generic'? (Average yes 68.2%, *n*=66)	21/27 (77.8)	24/39 (61.5)
Do you know that generic medicines can be marketed under different names? (Average yes 65.1%, *n*=66)	23/27 (85.2)	20/39 (51.3)
Do you substitute a brand medicine with a generic medicine when prescribed medicine is not available? (Average yes 20.0%, *n*=65)	09/27 (33.3)	04/38 (10.5)
Do you suggest generic medicines to symptoms of minor ailments? (Average yes 32.3%, *n*=65)	12/27 (44.4)	09/38 (23.7)

Data are given as number/total number (percentage). Average indicates both pharmacists and drug retailers together. Total number of some behaviors does not add up to 66 due to missing information

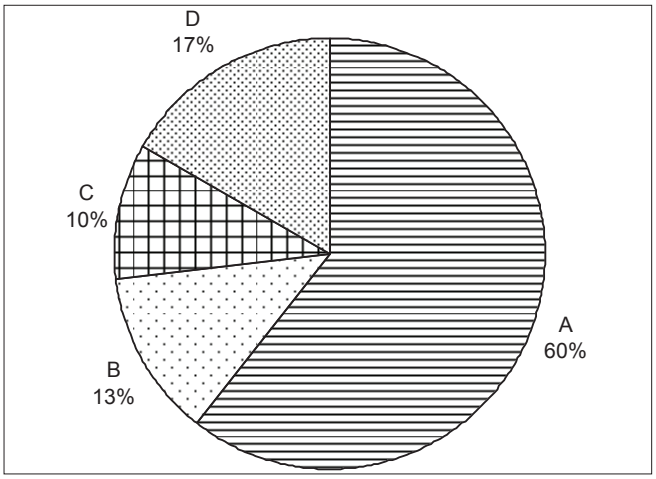

Fig. 1: Opinion regarding generic medicines.
A-Medicine that is bioequivalent to a branded one and contains the same strength in same dosage, B-medicine manufactured and marketed by innovator companies, C-patent protected medicine marketed by innovator companies, D-chemical copy of a branded medicine whose patent right is expired

In general, a high proportion of the community pharmacists and drug retailers did not know what generic medicines were, and their implications towards medicine access to Indian people. It appears that respondents (both pharmacist and drug retailer) were not fully convinced that generic medicines are equivalent to branded ones and were still somewhat distant from the philosophy of generic medicines as cheaper alternatives of innovator products, which may be used to reduce health care cost. A further concern was the practice of many drug retailers that substitution of cheaper generic medicines was of little interest.

Negative perceptions of generic medicines among drug retailers could be due to lack of knowledge about generic medicines and their attitude of dispensing branded medicine that met the largest profit or incentive payments. National information campaigns about generic medicines have been undertaken in several countries to support the use of generics. Community pharmacists are considered to be major contributor in improving public health by giving extensive advice on medicine use to ensure safe and affordable drug therapy[18]. In this study, both community pharmacists and drug retailers showed very low understanding of generic medicines, and thereby patients are denied of the benefits of cost-effective appropriate treatment. This implies that due to lack of awareness among pharmacists and drug retailers on generic medicines, patients are unable to access affordable medicines. The fact emerges that there is a need for drug retailer education on generic medicine supported by adequate support facilities for appropriate, affordable, safe, and effective use of generic medicines.

The study has some limitations. It was performed in selected towns of two districts, and results cannot be generalized to the whole of Tamil Nadu state. Further, a small sample size of respondents was used in order to elicit their responses towards issues pertaining to generic medicines. Besides that, the use of nonprobability sampling technique may cause some response bias to occur among respondents. Unfortunately, a response rate was not calculated when the study was conducted.

Limitations in knowledge and perceptions about generic medicines have been demonstrated among drug retailers and community pharmacists. Our study showed that many community pharmacists and drug retailers have misconceptions regarding generic medicines. Their improved knowledge and perceptions about generic medicines are important in enabling them to choose the right generic medicine at the right price so that the risk of noncompliance due to expensive branded medicine can be avoided. A significant proportion of drug retailers expressed negative perceptions about generic medications, representing a potential barrier to generic medicine use. These problems need to be addressed by educators and relevant agencies in developing policies promoting the use of generic medicines.

ACKNOWLEDGEMENTS

The authors wish to thank all the community pharmacists and drug retailers who voluntarily participated in the study. The authors would like to acknowledge the assistance of final year Bachelor of Pharmacy students of Annamalai University, N Venkata Deepak, P Anandaraj, and C Vamsireddy, for their assistance in data collection. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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Accepted 18 November 2012
Revised 11 November 2012
Received 14 January 2012
Indian J. Pharm. Sci., 2012, 74 (6): 571-575