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Original Article

ATTITUDE TOWARDS GENERIC FORMULATIONS USAGE: NARROWING THE GAP BETWEEN PHARMACIST AND PHYSICIANS

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ABSTRACT

Objective: The thought of providing the best quality of medicines at cheaper costs made the governments to think of generic drug substitutions in order to minimize the economic burden. This study was designed to investigate the attitude of physicians and pharmacists towards generic medicines and thus to reduce the gap between them.

Methods: This is a simple, prospective, cross-sectional, comparative study conducted for a period of 3 mo. 100 Subjects (50 pharmacists and 50 physicians) were included in this study. Subjects who ever graduated with the pharmacy degree and working as pharmacists, as well as clinical practitioners, were included in this study. Data collected using a validated questionnaire.

Results: 60% of physicians and 80% of pharmacists were confident enough in dispensing generic products. 56% of physicians agree that pharmacists play a vital role in providing assistance on the use of generic medicines. 70% of physicians and 90% of pharmacists agreed that the generic medicines are of less expensive.

Conclusion: Our Study concludes that pharmacist's shows a higher positive response towards the usage of generic products than physicians. Generic drugs typically cost 30% to 60% less than their brand products. In addition, patients taking generic drugs seem to be more willing to continue therapy.

Keywords: Generic drug, Brand drug, Pharmacist, Physician

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INTRODUCTION

The high cost of medicines in India has made the treatment of many diseases unaffordable to the poor and even has become a strain on the budgets of middle-class citizens. For the patients' health importance, best quality of medicines should be provided, and this has become a major economic challenge especially in the developing countries [1]. The thought of providing the best quality of medicines at cheaper costs made the governments to think of generic drug substitutions in order to minimize the economic burden [2]. A generic drug is referred as 'a pharmaceutical product that can be indistinguishable with the innovator product in terms of composition, quality, safety, and efficacy and also therapeutically equivalent to the original drug product [3]. Generic drugs are less expensive comparable, hence rescue costs on medicines [4]. This lesser cost are the reason for that innovator product cannot be protected by patents for longer periods, and after the expiry of these patents, the generic drug manufacturers can formulate the product by ignoring the steps such as drug discovery, preclinical and clinical trials for which lots of money should be afforded [5]. Generic products are usually 20-80% cheaper than branded drugs [6]. Some doctors are reported to receive substantial incentives from pharmaceutical companies to prescribe the branded products. When the prescriptions are for expensive branded generics, or for the even more expensive brands, then patients suffer greater financial exploitation [7]. This 'symbiotic' relationship between the pharmacist and medical professionals has greater implications for the developing countries such as India, with high private participation in the healthcare sector, low public health expenditure by government combined with rampant unethical practices of pharma companies and doctors resulting in huge out of pocket expenditure [8]. The issues considered in this section are real problems, and one way of addressing them would be to move prescriptions from expensive brands to low-cost generic [7]. Generic drugs can be considered replaceable without any concerns about safety and efficacy, as they are therapeutically equivalent to their original drug counterparts. Hence, generic drug usage is an important strategy to reduce pharmaceutical expenditures of public [9]. Lower cost is the major factor leading all the health care professionals towards generic medicine utilization. The role of the pharmacist in generic medication selection is versatile [10]. Pharmacist role includes the selection of generic substitute that is bioequivalent to the innovator product, educating both patients and health care professionals about their quality as well as safety and also promoting the compliance with therapy among patients [11]. Many factors such as lack of knowledge and insufficient awareness regarding efficacies and safeties among practitioners and pharmacists may influence selecting, prescribing and dispensing of generic medicines [12]. Moreover, misinformation and liaison of health care providers with the pharmaceutical companies may lead to the highest pharmaceutical expenditures for the patients [13]. Recently, many studies were conducted to create awareness and to provide knowledge on the benefits of generic medicine use. Most of the health care providers are also reinforcing the generic medicine utilization. Hence, this study was designed to investigate the attitude of physicians and pharmacists towards generic medicines and thus to reduce the gap between them.

MATERIALS AND METHODS

Study design and data collection

This is a simple, prospective, cross-sectional, comparative study conducted for a period of 3 mo (December 2017-January 2018). The Institutional Ethics Committee of RVS Institute of Medical Sciences approved this study (Approval No: IEC/RVSIMS/2017/09). 100 Subjects (50 pharmacists and 50 physicians) were included in this study. Subjects who ever graduated with the pharmacy degree and working as a community, hospital or clinical pharmacist, as well as clinical practitioners, were included in this study. Data's were collected using a validated self-administered questionnaire consisted of structured and open questions which were developed referring to previous literature. The validated questionnaire was issued to the subjects and sufficient

time was given to them to answer the questionnaire. Verbal consent was obtained from each subject during data collection. The confidentiality of the data obtained was assured, and the personal details of the subject were omitted from the questionnaire.

Statistical analysis

The collected data were entered in Microsoft Excel 2010 and analyzed using Graph Pad Prism 7.0 software. Student t-test was used to determine the presence or absence of statistically significant difference in the attitudes of the study population. Data were analyzed using descriptive statistics for the tables of frequency, and its associate percentage was calculated. Chi-square test was used wherever necessary. Wherever computed, a P value of less than 0.05 was considered significant; since the confidence interval was maintained at 95%.

RESULTS

A total of 100 subjects were enrolled and randomized equally into two groups (50 each). The baseline data distribution of the subjects included in the study is shown in fig. 1, 2 and 3. Gender wise distribution is shown in fig. 1, and the difference is estimated by using the chi-square test. Department wise data distribution among physicians and pharmacists are shown in fig. 2 and 3.

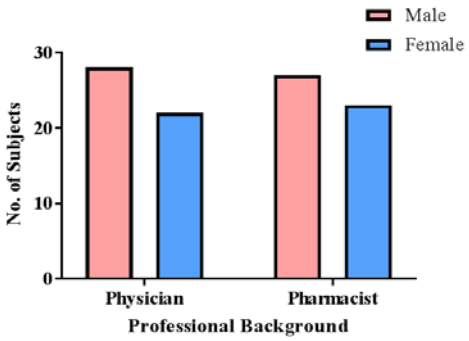

Fig. 1: Gender wise distribution among professionals, P value, was found to be 0.8407 which describes the statistically significant difference is not seen in the gender among two groups of professionals

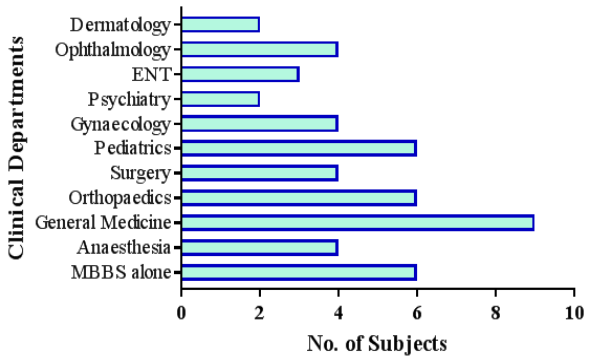

Fig. 2: Physician's department wise distribution

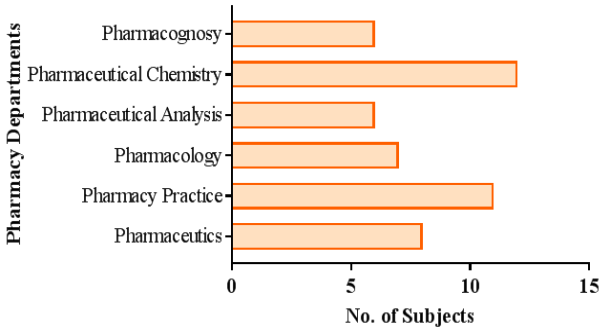

Fig. 3: Pharmacist's department wise distribution

Evaluation of a questionnaire

The response to the questionnaire was categorized into three: agree, neutral and disagree. A statistically significant difference in the response rate was found between the professionals. A positive response was seen more in pharmacists group whereas negative response was seen more in physicians group. The response rate obtained by each question and P value is shown in table 1.

Table 1: Evaluation of attitude of professionals towards generic products usage

Questions	Agree N (%)		Neutral N (%)		Disagree N (%)	
	Physician	Pharmacist	Physician	Pharmacist	Physician	Pharmacist
Q1	28(56)	40(80)	9(18)	4(8)	13(26)	6(12)
Q2	24(48)	38(76)	16(32)	7(14)	10(20)	5(10)
Q3	30(60)	30(60)	10(20)	8(16)	10(20)	12(24)
Q4	28(56)	32(64)	12(24)	9(18)	10(20)	9(18)
Q5	35(70)	45(90)	7(14)	3(6)	8(16)	2(4)
Q6	30(60)	40(80)	9(18)	6(12)	11(22)	4(8)
Q7	27(54)	46(92)	13(26)	1(2)	10(20)	3(6)
Q8	28(56)	40(80)	12(24)	4(8)	10(20)	6(12)
Q9	26(52)	22(44)	13(26)	17(34)	11(22)	11(22)
Q10	25(50)	32(64)	7(14)	10(20)	18(36)	8(16)
Q11	23(46)	37(74)	15(30)	7(14)	12(24)	6(12)
P Value	0.0013*		0.0161*		0.0016*	

Questionnaire

Q1-All generic products of a particular medicine that are rated as generic equivalents are therapeutically equivalent to their brand products.

Q2-All generic products of a particular medicine are bioequivalent to their brand products.

Q3-Generic medicines have good quality and efficacy as brand products.

Q4-Generic medicines produce lesser side-effects than brand products.

Q5-Generic medicines are less expensive than brand products. Brand products are required to meet higher safety standards than generic medicines.

Q6-Confident enough in dispensing generic drugs rather than brand products.

Q7-It is easier to recall a medicine's therapeutic class using generic names rather than brand products.

Q8-I believe that pharmacists are one of the most important health care professionals to give advice on generic medicines.

Q9-Generic products will not differ from FDA standards.

Q10-All brand products can be substituted by generic products.

Q11-Pharmaceutical companies are benefitted more by manufacturing brand products than generic products.

DISCUSSION

Generic medicines are copies of brand medicines in terms of dosage, side effects, safety, risks, route of administration, strength as well as efficacy. Generic drug differs from the brand medicine only in non-essential characteristics such as color, taste, and packaging [14]. Generic medicines serve as the cost-effective treatment. The low cost of generic medicines is due to the reason that they will be manufactured only after the expiry of the patent of brand medicine. Although generic drugs may not differ from branded medicines, brand medicines are of high cost comparatively [15]. Among the subjects participated in the present study, the majority of them are male in both the groups which is shown in fig. 1. In this study, 56% of the physicians and 80% of the pharmacists have agreed that generic medicine can be therapeutically equivalent to a brand medicine. Thus the pharmacists believe more in generic medicines compared to physicians, and it complies with the results of Josef Maly *et al.* study [16]. In terms of bioequivalence, 76% of pharmacists have agreed that the generic medicines are bioequivalent to brand medicines whereas only 48% physicians agreed and these results comply with the study results of Abadi *et al.* study [17]. In addition, 32% of the physicians have shown a neutral response to the above statement which is due to lack of awareness about generic medicines to the physicians. 60% of both pharmacists and physicians believe that the generics are equivalent to the brand in terms of quality and efficacy which complies with the study report conducted by shadhi S *et al.* [18]. In the present study, 56% of physicians and 64% of pharmacists agreed that the generics produce lesser side effects compared to brand medicines whereas 24% and 18% of physicians and pharmacists were shown neutral response as well as 20% and 18% of physicians and pharmacists disagreed which is similar to the result of Catic *et al.* study [19]. 70% of physicians and 90% of pharmacists agreed that the generic medicines are of less expensive whereas 14% and 16% of physicians were neutral and disagreed. Higher positive response rate was found in pharmacist, which complies with Hassali *et al.* study result since pharmacists are well aware of generic medicines than physicians [20]. 60% of physicians and 80% of pharmacists were confident enough in dispensing generic products. Only 12% of pharmacists were neutral, and 8% are not confident. Majority of the pharmacists (about 92%) have agreed that it is easier to memorize the drug with its generic name whereas only 54% of physicians have agreed on which is same as stated by Paveliu *et al.* study result [21]. 56% of physicians agree that pharmacists play a vital role in providing assistance on the use of generic medicines but 24% of them were neutral, and 20% of them disagreed, but a study conducted by Akhtar *et al.* stated that pharmacists were competent and knowledgeable enough in guiding the use of generic medicines [22]. 52% and 44% of physicians and pharmacists believe that generic medicines differ from FDA standards in case of identity, strength, quality, and purity of drug products. Majority of the physicians (50%) and pharmacists (64%) agreed that generic drugs serve as a substitute for brand drugs and it complies with the results of O'Leary *et al.* [23]. Most of the pharmacists (74%) and few physicians (46%) support that pharmaceutical companies are benefitted more by manufacturing brand products.

CONCLUSION

Our Study concludes that pharmacist's shows a higher positive response towards the usage of generic products than physicians. The limitation of the study is a smaller sample size. Generic drugs typically cost 30% to 60% less than their brand products. In addition, patients taking generic drugs seem to be more willing to continue therapy than those taking brand-name medications since the cost of generic products is less and also produce lesser side effects. Therefore, awareness of generic medicine usage should be generated among physicians as well as other health care professionals to make the medicine more affordable to people on low income.

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AUTHORS CONTRIBUTIONS

Dhivya. k, Deekshitha. P, Lavanya. D designed to study and questionnaire; Pravallika. S, Kesini. M, Lavanya. D collected data; Dhivya. K, Deekshitha. P, Pravallika. S drafted the manuscript; Article was revised critically for important intellectual content by Dhivya. K; All authors read the final version of the manuscript.

CONFLICT OF INTERESTS

The authors do not have any conflict of interest.

REFERENCES

1. Philip Mathew. Generic drugs: review and experiences from South India. J Family Med Prim Care 2015;4:319-23.
2. Das M, Choudhury S, Maity S. Generic versus branded medicines: an observational study among patients with chronic diseases attending a public hospital outpatient department. J Nat Sci Biol Med 2017;8:26-31.
3. Hassali MA, Shafie AA, Jamshed S, Ibrahim MI, Awaisu A. Consumers' views on generic medicines: a review of the literature. Int J Pharm Pract 2009;17:79-88.
4. Amitav C, Chris J. The influence of generic advertising on brand preferences. J Consumer Res 2004;30:487–502.
5. Tsiantou V, Zavras D, Kousoulakou H, Geitona M, Kyriopoulos J. Generic medicines: greek physicians' perceptions and prescribing practices. J Clin Pharm Ther 2009;34:547-54.
6. Singal GL, Nanda A, Kotwani A. A comparative evaluation of price and quality of some branded versus branded-generic medicines of the same manufacturer in India. Indian J Pharmacol 2011;43:131-6.
7. Andrade C, Rao TSS. Prescription writing: generic or brand? Indian J Psychiatry 2017;59:133-7.
8. Mohamed AH, Asrul AS, Chee PC, Fahad S, Muhammad A, Chua G, *et al.* Community pharmacist's perceptions towards the quality of locally manufactured generic medicines: a descriptive study from Malaysia. J Appl Pharm Sci 2012;2:56-60.
9. Mikyung R, Juyoung K. Perception and attitude of Korean physicians towards generic drugs. BMC Health Serv Res 2017;17:610.
10. Mott DA, Cline RR. Exploring generic drug use behavior: the role of prescribers and pharmacists in the opportunity for generic drug use and generic substitution. Med Care 2002;40:662-74.
11. Kirking DM, Ascione FJ. Perspectives on generic pharmaceuticals: some conclusions. J Am Pharm Assoc 2001;41:826-8.
12. Auta A, Bala ET, Shalkur D. Generic medicine substitution: a cross-sectional survey of the perception of pharmacists in North-Central, Nigeria. Med Princ Pract 2013;23:53-8.
13. Gellad ZF, Lyles KW. Direct-to-consumer advertising of pharmaceuticals. Am J Med 2007;120:475-80.
14. Suzanne SD, Colum PD. What do people really think of generic medicines? A systematic review and critical appraisal of literature on stakeholder perceptions of generic drugs. BMC Med 2015;13:173.
15. Dunne S, Shannon B, Dunne C, Cullen W. A review of the differences and similarities between generic drugs and their originator counterparts, including economic benefits associated with usage of generic medicines, using Ireland as a case study. BMC Pharmacol Toxicol 2013;14:1.
16. Josef M, Martin D, Ales K, Jiri V. Analysis of pharmacists opinions, attitudes, and experiences with generic drugs and generic substitution in the Czech republic. Acta Pol Pharm Drug Res 2013;70:923-31.
17. Hayelom G, Abadi K, Gebremedhin G. Assessment of knowledge, attitude and practice of pharmacists and physicians toward generic medicine use in private clinics and dispensary of mekelle city, northern Ethiopia. Eur J Pharm Med Res 2016;3:114-21.
18. Shadi S, Clara AS, Stewart J, Joanne C, Nour E. Perceptions and behaviors of patients and pharmacists towards generic drug substitution in Lebanon. Int J Clin Pharm 2017.
19. Catic T, Avdagic L, Martinovic I. Knowledge and attitudes of physicians and pharmacists towards the use of generic medicines in Bosnia and Herzegovina. Med Glas (Zenica) 2017;14:25-32.

20. Hassali MA, Shafi AA, Ahmed A, Mohamed I, Chong CP. Physicians' views on generic medicines: a narrative review. J Generic Med 2010;7:30–9.
21. Paveliu MS, Bengea S, Paveliu FS. Generic substitution issues: brand-generic substitution, generic-generic substitution, and generic substitution of narrow therapeutic index (nti)/critical dose drugs. Maedica 2011;6:52-8.
22. Akhtar T, Maqsood M, Bashir MA, Gul UH, Rashid A. To study and compare the perception of health care professionals regarding the role of the pharmacist in the health care system in Pakistan. Multidisciplinary J Education Social Technol Sci 2017;4:1-25.
23. O'Leary A, Usher C, Lynch M. Generic medicines and generic substitution: contrasting perspectives of stakeholders in Ireland. BMC Res Notes 2015;8:790.