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Awareness, Attitude and Usage of Generic Medicines among Prescribers and Patients in a Tertiary Care Teaching Hospital; A Cross-Sectional Study

Kranti Tekulapally[1]*, G.V. Koteswara Rao[2], V. Prasanna[3]

[1]Professor, Department of Pharmacology, RVM Institute of Medical Sciences, Siddipet (Dt), Telangana, India
[2]2nd year Post Graduate, Department of Pharmacology, RVM Institute of Medical Sciences, Siddipet (Dt), Telangana, India
[3]Professor and Head, Department of Pharmacology, RVM Institute of Medical Sciences, Siddipet (Dt), Telangana, India

***Address for Correspondence:** Dr. Kranti Tekulapally, Plot No 23, Royal Gardens, Jai Jawahar Nagar, Yapral, Secunderabad-500087, India
E-mail: dr.t.kranti@gmail.com

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ABSTRACT

Background: Drugs available under non-proprietary names are called Generic Medicines. Generic Medicines were introduced in India to make quality medicines available for everyone at affordable costs. The present study was initiated to assess and compare the awareness, attitude, and usage of generic medicines among prescribers and patients.

Methods: A cross-sectional study was conducted among prescribers and patients attending a tertiary care teaching hospital in August 2023. Written informed consent was taken from all the participants. Data was collected using hard copies of the prevalidated questionnaire (Cronbach's alpha=0.78), which consisted of 35 questions and was analysed using EPI info version 7.0. Data comparison was done using the Chi-square test, and a $p<0.05$ was considered statistically significant.

Results: There were 78 participants, 39 of whom were physicians, and 39 patients completed the study. There was a statistically significant difference in the awareness among the physicians and the patients for five of the seven questions assessing awareness and eight of the 19 questions assessing the attitude towards generic medicines, the quantity of generic medicine usage, and the preference for changing the prescribed brand-name medicine to generic medicine.

Conclusion: The awareness and attitude towards the use of generic medicine are high among physicians, but their usage pattern is comparatively lower than that of patients. This indicates the need to introduce promotional events to boost the trust of the prescribers towards generic medicines usage that may increase his prescribing pattern. There is also a need to raise public awareness and attitude towards generic drugs through educational intervention programs.

Key-words: Brand drugs, Branded generics, Generic Drugs, Non-proprietary Drugs, Non-patent drugs, Unbranded generics

INTRODUCTION

A drug has three names–a chemical name, a non-proprietary name, and a proprietary/ brand name (name given by the manufacturer). Drugs that are marketed under a non-proprietary name, i.e., the name accepted by a competent scientific body, Generic Medicines.

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Generic Medicines are much cheaper than their branded counterparts, partly because there are no costs involved in research and development, manufacturing, advertising, and marketing. [1]

A generic drug may be unbranded (authorised) or branded generics. Unbranded generics are identical to brand-named innovator drugs in terms of active and inactive ingredients and are marketed as generic versions without the brand's label on them. In contrast, branded generics are not under patent, contain different active ingredients and are sold with a brand name instead of a chemical name. These branded generics may be less costly than the branded patent version but are more expensive than the bulk-manufactured generic version of the drugs. Still, it might be challenging to get

that specific brand of the drugs of the drug since many pharmacies don't stock all branded generics. [2] There is also less regulatory control over the prices of these branded generic drugs. [3]

To make available quality medicines, consumables, and surgical items at affordable prices for all and to reduce the overall out-of-pocket expenditure of consumers/patients, the Government of India launched a program called Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) in 2008 [4]. Under this scheme, dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendra's (PMBJK) were opened nationwide to provide generic medicines to the masses. By the end of December 2021, 8640 Janaushadhi Kendra were functioning. PMBJP's product basket comprised 1451 drugs, 240 surgical equipment, and 72 ayurvedic products [5]. PMBJP also aims to popularize generic medicines among the masses and dispel the notion that low-priced generic medicines are of inferior quality or less effective. To achieve this objective, PMBJP has been spreading awareness about the scheme through various types of advertisements with Print Media, Radio, TV, & Cinema Advertisements and Outdoor publicity like Hoardings, Bus Queue Shelter branding, Bus branding, and auto wrapping. In addition, the public is being educated about using Janaushadhi generic medicines through social media platforms like Facebook, Twitter, Instagram, YouTube, etc. The use of generic medicines has led to savings of Rs 3,800 crores for the citizens of India during 2021-22. [6]

A study done in a multispecialty hospital in Gujarat reported that its physicians believed that the generic drugs were of poorer quality [7], while another study done in Jammu and Kashmir noted that the majority of their physicians felt that generic medicines were effective.[8] Previous studies have analysed the prescribing practices of physicians, but limited studies are reporting the prescribing physician's pattern of use, awareness, and attitude towards generic medicines, which will influence his drug prescribing behaviour. Most of the previous studies also did not assess patients' awareness and attitudes towards using generic medicines.

The present study was therefore initiated to answer the following questions:

a. What is the awareness and attitude of prescribers towards Generic Medicines?
b. What is the pattern of use of generic medicines among the prescribers?
c. Are the awareness, attitude, and pattern of use of generic medicines among the prescribers and patients comparable?
d. What is the use pattern of branded vs unbranded generics in the study population?
e. Has the PMBJP program successfully spread awareness about generic medicines among prescribers and patients?

MATERIALS AND METHODS

The study was conducted in a tertiary care hospital in Telangana state in August 2023

Inclusion criteria

- All the patients above 18 years of age attending the outpatient units of the hospital.
- All the medical health care professionals involved in clinical practice-postgraduate students, senior residents, assistant professors, associate professors, and professors.

Exclusion criteria

- Patients who came for emergency care
- Patients and practitioners who are unwilling to participate

Methodology- A cross-sectional study was conducted in Telangana state's tertiary care teaching hospital in August 2023 among prescribers and patients attending the hospital. Sample size calculation was done, and the minimum required sample size for the present study was 35 in each group. The study procedure was explained to all the eligible participants, and written informed consent was obtained. Hard copies of the study questionnaire prepared exclusively for the study were administered to the study participants. The study questionnaire contained a total of 35 questions: 5 questions for obtaining demographic data, seven questions assessing their awareness, 19 questions to evaluate their attitude towards generic medicines, and four questions to determine their usage pattern. The study questionnaire was validated before the initiation of the study using an expert review and a field evaluation of potential respondents.

Statistical Analysis- Data from completed questionnaires was entered into Excel sheets and analysed using Jamovi software version 2.3.28. Data was expressed in percentages. Comparison between the two groups was done using the Chi-square test, and a $p<0.05$ was considered statistically significant.

Ethics Approval- Before the study was initiated, Permission from the Institutional Ethics Committee of RVM Institute of Medical Sciences and Research Centre was obtained.

RESULTS

Data from 78 participants-39 prescribers and 39 patients who completed the entire study questionnaire were analyzed. Table 1 presents the demographic details of the study participants.

Table 1: Demographic Data of study participants

Demographic character		Groups	
		Prescribers n (%)	**Patients n (%)**
Age	18-30	17 (43.6)	9(23.1)
	30-40	12 (30.8)	5(12.8)
	40-50	3 (7.7)	11(28.2)
	50-60	2 (5.1)	9(23.1)
	60-70	5(12.8)	5(12.8)
Sex	Male	11(28.2)	31(79.5)
	Female	28(71.8)	8(20.5)
Educational qualification	PG & above	39(100.0)	13 (33.3)
	UG	0(0.0)	9(23.1)
	Inter/ diploma	0 (0.0)	4(10.3)
	10^{th} Class	0(0.0)	6(15.4)
	Primary school	0(0.0)	6(15.4)
	Illiterate	0(0.0)	1(2.6)
Profession	Skilled	39 (100.0)	21(53.8)
	Semi-skilled	0(0.0)	17(43.6)
	Student	0(0.0)	1(2.6)
Family income per month	<Rs. 25000/-	3(7.7)	25(64.1)
	Rs.25000- 50000	4(10.3)	12(30.8)
	50000- 100000	9(23.1)	2(5.1)
	> 100000	23(59.0)	0(0.0)

Most prescribing physicians (76.9%) were pursuing postgraduation. Tables 2, 3, and 4 present the awareness, attitude, and usage of generic medicines among prescribers and patients.

Table 2: Awareness of generic medicines among the study participants (*p<0.05)

Question	Response	Prescribers N (%)	Patients N (%)	p-value
Have you ever heard of Generic medicines	Yes	39 (100)	14 (35.9)	0.000*
	No	0 (0)	25 (64.1)	
A generic drug can be produced freely, once the branded product patent protection period has expired, and must be similar to the branded drug in order to obtain the same therapeutic effect. Is this information correct?	Yes	22 (56.4)	10 (25.6)	0.009
	No	6 (15.4)	5 12.8)	
	Don't Know	11 (28.2)	24 (61.5)	
Is it true that the NMC's Code of Conduct for doctors' mandates that every physician should prescribe drugs with generic names	Yes	32 (82.1)	9 (23.1)	0.000*
	No	0 (0)	6 (15.4)	
	Don't Know	7 (17.9)	24 (61.5)	
Indian regulatory authorities have guidelines to ensure the quality of generic medicines	Yes	29 (74.4)	16 (41)	0.012*
	No	2 (5.1)	4 (10.3)	
	Don't Know	8 (20.5)	19 (48.7)	
From where can you buy Generic Medicines	Jan Aushadi Kendra	12 (30.8)	9 (23.1)	0.035*
	All Medical Shops/Pharmacies	9 (23.1)	20 (51.3)	
	Both	18 (46.2)	9 (23.1)	
	None	0 (0.0)	1 (2.6)	
How do you get information regarding generic medicines?	Jan Aushadi Kendra	14 (35.9)	5 (12.8)	0.000*
	Other Medical Stores	2 (5.1)	17 (43.6)	
	News Papers/ Articles	7 (17.9)	9 (23.1)	
	Friends/ Family Members	15 (38.5)	8 (20.5)	
	Other Professionals/ Doctors/Pharmacists	1 (2.6)	0 (0.0)	
Is it true that the generic medicines can have a brand name?	Yes	15 (38.5)	6 (15.4)	0.007
	No	15 (38.5)	11 (28.2)	
	Don't Know	9 (23.1)	22 (56.4)	

Table 3: Attitude towards Generic Medicines

Question	Response	Agree n (%)	Neutral n(%)	Disagree n(%)	p-value
I know what generic medications are	Prescribers	32(82.1)	6(15.4)	1(2.6)	0.000*
	Patients	7(17.9)	18(46.2)	14(35.9)	
I know the difference between generics and brand-name medications	Prescribers	28(71.8)	7(17.9)	4(10.3)	0.000*
	Patients	9(23.1)	14(35.9	16(41.0)	
A brand name and a generic medication contain the same active substance	Prescribers	27(69.2)	7(17.9)	5(12.8)	0.000*
	Patients	11(28.2)	10(25.6)	18(46.2)	
The potency of generic and brand name medications is the same	Prescribers	19(48.7)	9(23.1)	11(28.2)	0.195
	Patients	12(30.8)	9(23.1)	18(46.2)	
The safety of generic and brand name medications is the same	Prescribers	18(46.2)	11(28.2)	10(25.6)	0.326
	Patients	12(30.8)	12(30.8)	15(38.5)	
The production standards of generic and brand name medications are the same	Prescribers	13(33.3)	11(28.2)	15(38.5)	0.771
	Patients	15(38.5)	12(30.8)	12(30.8)	
The price of generic medications is considerably lower than brand name medications	Prescribers	37(94.9)	2(5.1)	0(0.0)	0.000*
	Patients	21(53.8)	8(20.5)	10(25.6)	
Pharmacists can also do substitution of brand-name with generic medicines	Prescribers	13(33.3)	15(38.5)	11(28.2)	0.454
	Patients	12(30.8)	11(28.2)	16(41)	
Substitution of brand-name with generic medicines should only be done by doctors	Prescribers	20(51.3)	14(35.9)	5(12.8)	0.033*
	Patients	13(33.3)	11(28.2)	15(38.5)	
I believe that the use of generic medicines will reduce any relationships between doctors and pharmaceutical companies against the rules	Prescribers	8(20.5)	19(48.7)	12(30.8)	0.116
	Patients	15(38.5)	11(28.2)	13(33.3)	
I believe that the use of generic medicines will reduce the total cost of therapy	Prescribers	34(87.2)	3(7.7)	2(5.1)	0.003*
	Patients	21(53.8)	5(12.8)	13(33.3)	
I would trust more a brand name than a generic medicine	Prescribers	18(46.2)	10(25.6)	11(28.2)	0.25
	Patients	13(33.3)	8(20.5)	18(46.2)	
I would trust more a doctor who would prescribe me a brand-name rather than a generic medicine	Prescribers	13(33.3)	10(25.6)	16(41.0)	0.96
	Patients	12(30.8)	10(25.6)	17(43.6)	
I am skeptical about generic medicines because of their lower price	Prescribers	9(23.1)	13(33.3)	17(43.6)	0.22
	Patients	16(41.0)	11(28.2)	12(30.8)	

I believe that generics were invented and promoted in order to resolve the financial crisis of the country at the expense of citizens	Prescribers	15(38.5)	8(20.5)	16(41.0)	0.04*
	Patients	22(56.4)	11(28.2)	6(15.4)	
Generic medicines have more undesirable effects (side-effects) than brand name medicines	Prescribers	4(10.3)	12(30.8)	23(59.0)	0.12
	Patients	7(17.9)	18(46.2)	14(35.9)	
The regulatory authorities will detect possible irregularities in the production of generic medicines	Prescribers	18(46.2)	18(46.2)	3(7.7)	0.004*
	Patients	17(43.6)	8(20.5)	14(35.9)	
The regulatory authorities will detect in time and retract batches of generic medicines with reduced potency and/or safety	Prescribers	16(41)	14(35.9)	9(23.1)	0.45
	Patients	20(51.3)	9(23.1)	10(25.6)	
I would be worried if my medication was changed from brand-name to generic	Prescribers	12(30.8)	9(23.1)	18(46.2)	0.26
	Patients	19(48.7)	7(17.9)	13(33.3)	

Table 4: Usage Pattern of Generic Medicines

Questions		**Groups**		**p-value**
		Prescribers N(%)	**Patients N (%)**	
1. Do you take medications for continuous use?	Yes	7 (17.94)	16 (41.02)	0.012*
	No	32 (82.05)	23 (58.97)	
a) Is this medicine generic?	Yes	4 (57.14)	12 (75)	0.015*
	No	3 (42.85)	4 (25)	
2. Are you taking any medication at the moment?	Yes	4 (10.25)	6 (15.39)	0.262
	No	35 (89.74)	33 (84.61)	
a) Is this medicine generic?	Yes	-	5 (83.33)	0.032*
	No	3 (75)	1 (16.66)	
	Don't Know	1 (25)	-	
3. What is the quantity of medications that you purchase each month?	0	19 (48.7)	8 (20.5)	0.015*
	1 - 2	16 (41.0)	25 (64.1)	
	3 - 4	2 (5.1)	6 (15.4)	
	>= 5	2 (5.1)	0 (0.0)	
4. Do you often ask for change of branded drugs to generic drugs?	Yes	3 (7.7)	3 (7.7)	0.008
	No	28 (71.8)	15 (38.5)	
	Never	8 (20.5)	21 (53.8)	

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DISCUSSION

The study results show that all the prescribers (100%) heard of Generic Medicines, while only 36% of the patients heard about generic medicines. Only 56% of the prescribers and 27% of patients correctly identified the definition of generic medicines. Most (82% of prescribers and 23% of patients) knew they must prescribe generic medicines according to NMC's Code of Conduct [9].

The NMC's Registered Medical Practitioner Regulations, 2023, state that prescribers should avoid prescribing branded generics. This necessitates educational interventional programs on branded generics. Only 38% of prescribers and 15% of patients knew that generic medicines can have brand names [10]. There are statistically significant differences in the awareness of Generic medicines among prescribers and patients. This can be attributed to the educational background of the prescribers. Poor awareness among patients indicates that PMBJP must be strengthened with more extensive, innovative strategies to reach the public and popularise generic medicines.

95% of prescribers and 53.8% of patients agreed that the price of generic medicines is low, but 23% of prescribers and 41% of patients are skeptical about them because of their low price. 87% and 54% of them respectively agreed that using generic medicines would reduce the overall cost of therapy. 46% of prescribers and 33% of patients would trust branded medicines more than generic ones, and 31% of prescribers and 33% of patients would worry if their medication changed from branded too generic. 51% of prescribers and 33% of patients agreed that the substitution of brand-name with generic medicines should be done by only doctors and not by pharmacists (28% of prescribers and 41% of patients). Total 46% of prescribers and 44% of patients believed that the regulatory authorities would identify irregularities in the production of generic medicines. Statistically significant differences are found in some questions assessing prescribers' and patients' attitudes towards generic medicines. These differences can be attributed to differences in the study population's age group, educational background, professional status, disease status, and even monthly income.

18% of prescribers use drugs continuously for chronic diseases, while 10% are currently using them for acute diseases. Of these, 57% and 75% committed them to being generic drugs, respectively. 72% of prescribers do not ask for a change of branded patent drugs to generic drugs. Most prescribers do not purchase medicines regularly (49%), while the majority (64.1%) of patients purchase 1-2 drugs monthly.

In contrast, 41% of the patients use drugs continuously for chronic diseases, while 15% are using them currently for acute diseases, of which 75% committed them to be generic drugs. These differences in the usage patterns of generic medicines among prescribers and patients are statistically significant.

Previously, studies have assessed the knowledge of physicians who prescribe generic medicines. Zaver et al. reported that among 242 resident doctors, 71% were aware of the term's generic medicines, branded generics, and branded drugs.[11] Another study done among 73 doctors in a hospital reported that a good percentage of doctors knew generic medicines (45% to 90%) and had a good attitude about the efficacy, safety, and quality of generic medicines. [12] Singhal et al reported that among 163 interns, 61% knew the meaning of generic medicines and 93% of them had knowledge of regulation. [13] Similar to the results of the present study, another study done among 156 prescribers of a tertiary care teaching hospital reported that 87% of them agreed that generic drugs would reduce the overall costs of health care and 78% of them knew that they must prescribe generic medicines [14]

Very few studies assess the awareness, attitudes, and usage of generic medicines among patients, consumers, or the general population. Similar to the results of the current study, one such community-based study carried out among 1151 adults in the field practice area of a tertiary care teaching hospital reported their knowledge to be poor (57%), but they had favourable attitudes (55%).[15] Another study done among 643 patients attending an institute of national importance reported low awareness, with only 23% of them hearing of generic medicines. [16]. Charan *et al.* assessed the knowledge about generic medicines among 345 patients and reported that only 33.6% had heard of them.[17]

This study is limited by its being carried out at a single site and on a limited population. More extensive studies on a larger population are needed to generalise the findings [18].

CONCLUSIONS

In conclusion, physicians' awareness and attitude towards the use of generic medicine are high, but their usage pattern is comparatively lower than that of patients. Promotional events emphasising the quality assurance measures placed in the sale and production of generic medicines may boost the confidence among physicians to use and, in turn, prescribe generic medicines. The increased usage pattern of generic medicines among patients may be attributed to various reasons like availability and affordability.

Through educational intervention programs, public awareness and attitude toward generic drugs, the availability of branded generic medicines, and the advantages of using them need to be raised.

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CONTRIBUTION OF AUTHORS

Research concept- Dr. Kranti Tekulapally

Research design- Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna

Supervision- Dr. Kranti Tekulapally, Dr. V. Prasanna

Materials- Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna

Data collection- Dr. G.V. Koteswara Rao

Data analysis and Interpretation- Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna **Literature search-** Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna

Writing article- Dr. Kranti Tekulapally

Critical review- Dr. G.V. Koteswara Rao, Dr. V. Prasanna

Article editing- Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna

Final approval- Dr. Kranti Tekulapally, Dr. G.V. Koteswara Rao, Dr. V. Prasanna

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