

## RESEARCH ARTICLE

### Study of knowledge, attitude, and practice of prescribing generic medicines by interns, residents, and faculty in a tertiary care teaching hospital

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#### ABSTRACT

**Background:** Prescription of generic drugs can reduce costs without reducing quality. Lack of knowledge about the cost-effectiveness of generic medicines among the health-care professionals had led to a low rate of generic medicine prescription. **Aims and Objectives:** The primary objective of this study is to explore knowledge, attitude, and practice (KAP) of generic medicines among the prescribers in a tertiary care teaching hospital of Solapur, India. **Materials and Methods:** This was a cross-sectional, observational, and questionnaire-based study. A 19-item multiple choice questionnaires were distributed to the participants to assess their KAP regarding generic medicine. **Result:** Around 42.86% of the participants knew that generic medicines are bioequivalent to their innovator brand name drugs and can be interchanged with their brand name innovator drugs whenever required. 155 (71.58%) participants stated that they would like to encourage the patient for using generic medicines. **Conclusion:** In our study, we found that the prescribers had a fair knowledge regarding the concept of generic medicines. However, to further increase the rate of generic medicine prescription training programs on generic medicines, continuing medical educations, workshops, etc., should be organized.

**KEY WORDS:** Attitude and Practice; Generic Medicines; Knowledge


#### INTRODUCTION

The cost incurred on medicine is one of the major concerning components of health expenditure. Prescription of generic drugs when clinically appropriate can reduce costs without reducing quality.<sup>[1]</sup> A generic drug product has the same active ingredient, strength, and dosage form, route of administration, quality, performance characteristics, and intended use as the brand-name drug. Furthermore, the cost of a generic drug is about 20–80% lower than the brand-name product. However,

still, various studies have shown a low prescription of generic medicines in India.<sup>[2]</sup> One of the major causes for the low prescription is weak encouragement for their prescription by medical practitioners and lack of knowledge among health-care professions.<sup>[3]</sup> Hence, the primary objective of this study is to explore knowledge, attitude, and practice of generic medicines among interns, residents, and faculty in a tertiary care teaching hospital of Solapur, India.

#### MATERIALS AND METHODS

A cross-sectional, observational, and questionnaire-based study was conducted among the interns, residents, and faculties of Dr. V. M. Government Medical College, Solapur, Maharashtra, from March 1, 2018, to May 31, 2018, after taking permission from the Institutional Ethics Committee those who were willing to participate in the study were included in the study. A 19-item multiple choice

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questionnaires consisting of knowledge (8), attitude (5), and practice (6) are prepared and validated for study. More than one answer was allowed to mark in attitude and practice section. The time provided for solving the questionnaire was 30 min. Any clarification needed in understanding the questionnaire was provided.

### Data Analysis

The data were filled in Microsoft Excel and percentage was calculated.

## RESULTS

A total of 217 prescribers participated in the study which comprised of interns, residents, and the teaching faculty of Dr. V. M. Government Medical College, Solapur.

### Knowledge-Based Questionnaires

Of 217 prescribers, 53.92% of participants knew the difference between generic drugs and the generic name of the drug. About 41.94% had knowledge that generic medicine differs from their innovator brand names only in nature of excipients and around 43.78% of participants rightly knew that the generic medicine and the innovator brand-name drugs look different because of the difference in the coloring and flavoring agents. 62.21% knew that the generic medicine is cheaper in cost and 47.93% knew that the cost difference is because multiple generic drug companies are approved to market a single generic. Only 32.11% of participants knew that Jan Aushadhi Yojana promotes awareness about cost-effective drugs and their prescription. Furthermore, very few participants (37.37%) knew that there are 206 and 4 generic drug stores in Maharashtra and Solapur, respectively [Table 1]. About 54.21% of participants believe that the reasons for lower generic medicine prescriptions are their limited availability, weak encouragement for prescription, and lack of knowledge among the health-care professionals [Figure 1]. Overall, knowledge about generic medicine is 46.18%.

### Attitude-Based Questionnaires

Around 47.89% of participants think that generic medicine is equally effective, safe, and interchangeable with the innovator brand-name drugs. However, 39.63% of participants had opined that the choice of prescription for generic medicine or brand-name innovator drugs should be left to the patients. Many of them (55.80%) also feels that, to increase awareness regarding generic medicine, training program should be organized for the doctors. About 43.78% think that pharmacist should be allowed to substitute the brand-name drugs with generic medicine for the over-the-counter drugs. 56.22% of the participants agreed that generic medicine can be substituted with a brand-name drug and

vice versa [Table 2]. Majority of the participants (57%) think that the way to promote generic medicines is opening of generic drug stores in every hospital, building confidence in patient to use more generics, and teaching the importance of generic medicine prescription in early part of doctors training [Figure 2].

### Practice-Related Questions

About 47.93% of participants agreed that they prescribe generic medicines when the patient is poor [Figure 3]. Around 33.18% agreed that the efficacy and safety profile of the drugs are considered most importantly by them while prescribing the drugs [Figure 4]. Only 45.16% of participants have read an article on comparison of safety and efficacy of generic medicine and brand-name drugs. Furthermore, around 59.91% of the prescribers said that they do not want the pharmacist to change their brand-name drugs with their generic counterparts. 71.43% of participants stated that patient demands do not influence their prescription. 71.89% of participants stated that they are willing to encourage the patient for using generic medicines [Table 3].

**Table 1: Knowledge-based questionnaire and their correct responses**

Questions	Responses (%)
Generic medicine and generic name of a drug are different	53.92
Generic medicine differs from their innovator brand-name drug in nature of excipients	41.94
Generic medicine looks different because the coloring and flavoring agents are different	43.78
Cost of generic medicine is lesser than the innovator brand-name drugs	62.21
Cost of generic medicines is different because multiple generic drug companies are approved to market a single, thus creating competition in the market	47.93
Jan Aushadhi Yojana promotes awareness about cost-effective drugs and their prescription	32.11
There are 206 and 4 generic drug stores in Maharashtra and Solapur, respectively.	37.37

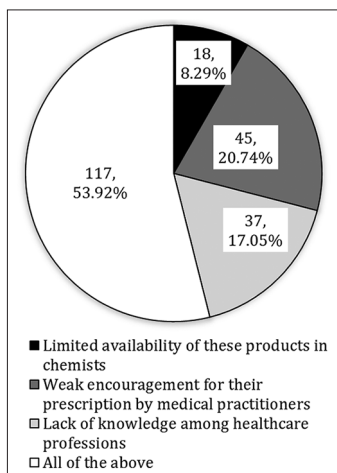
**Table 2: Questions regarding attitude of favorable answers marked**

Questions	Response (%)
There should be a training program to increase the awareness regarding generic medicines among doctors	55.80
The use of generic medicine should be promoted	39.63
Pharmacist should be allowed to substitute the innovator drug with generic version of OTC drugs	43.78
Generic medicine can be switched over to the brand-name drugs and vice versa	56.22

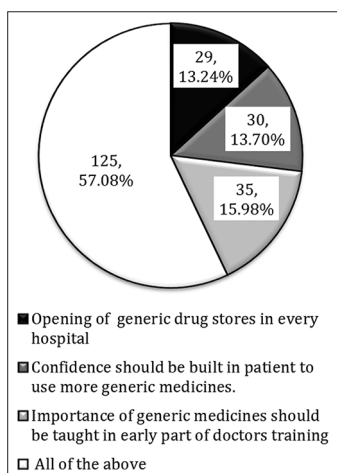
OTC: Over the counter

**Table 3: Responses of participants regarding practice of generic medicine usage**

Questions	Responses (%)
Have read any article on comparison of safety and efficacy of generic medicine versus brand-name medicines?	45.16
Do not want the pharmacists to change their brand-name drugs with their generic versions	59.91
Prescription is not influenced by patient demand	71.43
Willing to encourage patients to use generic medicine	71.89



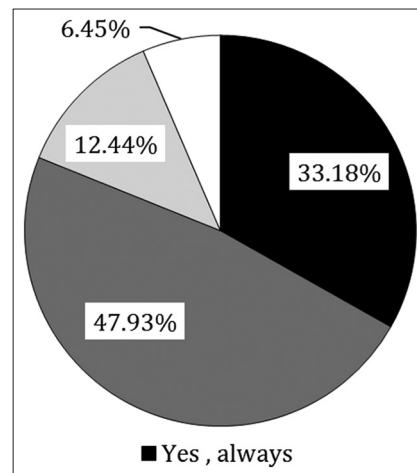
**Figure 1:** Participant’s knowledge regarding less generic medicine prescription



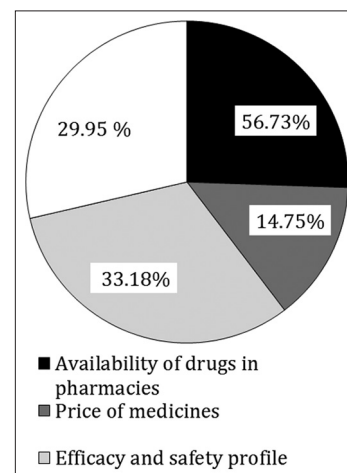
**Figure 2:** Attitude of participants toward the methods to promote generic medicines

**DISCUSSION**

Majority of the participants in our study had good knowledge regarding the concept of generic medicines. The participants knew that even though the generic medicines are safe, efficacious, and cost-effective substitute of brand-name innovator drugs, they are prescribed in lesser quantity. Hence, they believed that the prescription of generic medicines should be promoted by organizing training programs for the



**Figure 3:** Frequency of generic medicine prescription by the participants



**Figure 4:** Factors considered by the participants while prescribing medicines

prescribers, opening of generic drugstores in every hospitals, and building confidence in patient to use more generic drugs. When question regarding practice of generic medicines was asked, it was found that very few number of participants had read any article on comparison of safety and efficacy of generic medicine versus brand-name medicines and majority of our participants prefer prescribing generic versions only when the patient is poor. Hence, in our study, the participants had a good knowledge and positive attitude toward generic medicines, but there are some lacunae in prescribing the generic medicines.

In our study, around 62.21% of the participants knew that the cost of generic medicine is less than the innovator medicine. However, only 33.18% of the participants always prescribe generic medicines. This finding was almost similar to Jyothi *et al.*<sup>[4]</sup> findings were 81.98% knew the price difference, but only 30.63% prescribe generic medicine all the time. In our study, 45.16% had read an article on comparison of safety and efficacy of generic medicine versus brand-name medicines and 32.11% knew that Jan Aushadhi Yojana promotes the use of cost-effective drugs and their prescription. In the study

conducted by Badwik *et al.*<sup>[5]</sup>, only 31.2% had read an article on comparison of safety and efficacy of generic medicine versus brand-name medicines and 17.6% of participants were aware of Jan Aushadhi Yojana. Hence, our participants were more aware regarding the Jan Aushadhi Yojana scheme of the Government of India. The low prescription of generic medicines in our study is because our hospital is a run by the government and the doctors prescribe the drugs provided by the hospital pharmacy which at many times are not generic substitutes. However, in conditions, where the required drugs are not available and the patient has to purchase the drugs by themselves, the prescribers had said that they always consider the generic substitutes for poor patients.

The study has some limitations. We did not compare the three groups, i.e., the interns, faculty, and the residents separately which would have given us a more clear area to focus in future. Furthermore, all the prescribers in the hospital could not be included due to their busy schedule.

## CONCLUSION

Hence, we would like to conclude that in our study we found that the prescribers had a fair knowledge regarding the safety, efficacy, and cost of generic medicines. Our prescribers think that establishment of more generic drug stores in government hospital premises and organizing the training programs for doctors and patients will increase awareness regarding generic medicines prescriptions. Hence, training programs on generic medicines should be organized and more information should be imparted to the prescribers through continuing medical educations, workshops, etc. Moreover, generic medicines

guidelines should be made and disseminated to the physicians so that they feel more assured about its usage, ultimately leading to an increase in prescribing generic medicines.

## REFERENCES

1. Todkar SL, Tiwari SA, Ghongane BB. A Study of knowledge, attitude and practice of generic drugs among general practitioners of pune region. *IOSR J Dent Med Sci* 2017;16:1-9.
2. Bhattacharjee P, Das L, Ghosh R, Das UK, Chakraborty M, Bhattacharjee P, *et al.* Knowledge, attitude and practice of generic medicines among doctors in a tertiary care teaching hospital of Tripura, India. *Int J Basic Clin Pharmacol* 2017;6:1287-92.
3. Gupta SK, Nayak RP, Vidyarthi SK. A study on the knowledge, attitude, and practice of generic medicines among the doctors in a tertiary care teaching hospital in South India. *Natl J Physiol Pharm Pharmacol* 2015;5:39-44.
4. Jyothi R, Shruthi R, Pundarikaksha HP, Anusha SJ. A study of knowledge, attitude and practice on generic drugs among interns and postgraduate at a tertiary care hospital. *Int J Inst Pharm Life Sci* 2015;5:107.
5. Badwaik RT, Chopade SS, Mahajan HM, Honrao R. Prescribers views on generic medicines: A study on knowledge, attitude and practice. *J Cont Med A Dent* 2015;3:27-32.

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