

## KNOWLEDGE, ATTITUDE, AND PRACTICE OF GENERIC DRUGS AMONG DOCTORS IN A TERTIARY CARE HOSPITAL

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### ABSTRACT

**Objectives:** Generic medicines constitute an important aspect of affordable health care. "JAN AUSHADHI" campaign was started by the Government of India in 2008 to support generic prescriptions. Recently, medical council of India had requested all clinicians for generic prescriptions. With this background, this study was undertaken to evaluate the knowledge, attitude, and practice of generic medicines among doctors.

**Methods:** It was a cross-sectional, prospective, questionnaire-based study. After obtaining institute permission, validated questionnaires were distributed to different clinical departments at Vydehi Institute of Medical Sciences and Research Centre, Bengaluru. With gentle reminders in between, filled forms were collected after 7 days.

**Results:** Mean age of the participants was 29.05±17.81 years. Out of 250 questionnaires distributed, 156 were returned back without responding. The response rate was 62.4%. Out of 156, 35 (22.43%) were intern medical officers, 89 (57.05%) were post-graduates, and 32 (20.51%) were faculty members. Regarding knowledge, the mean score was 6.24±0.17. 52 (33.33%) participants had good knowledge, 73 (46.79%) had average knowledge, and 31 (19.87%) had poor knowledge about generic medicines. Generics were prescribed by 90 (57.69%) participants. Most of the clinicians (66.02%) felt that prescribing in generics is not a burden on them provided government ensured the quality control of drugs. 121 (77.56%) stated that the socioeconomic status of the patient is an important factor while prescribing generics. 136 (87.17%) felt that generics bring down the treatment costs.

**Conclusion:** This study shows that participants were well aware about generic drugs. As opined by the clinicians, a national level online reference must be made available.

**Keywords:** Generic medicines, Knowledge, attitude and practice, Generic drugs.

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### INTRODUCTION

A generic drug is a medication which is similar to marketed brand name drug in dosage form, safety, strength, route of administration, quality, performance characteristics, and intended use. It is defined by the World Health Organization (WHO) as "a pharmaceutical product, usually intended to be interchangeable with an innovator product that is manufactured without a license from the innovator company and marketed after the expiry date of the patent or other exclusive rights" [1]. Generic medicines are marketed after expiry of patent over a brand of a particular company [2]. Since efficacy and safety of these medicines are already established, no further research or trial is required. It thus saves time and avoids additional expenditures that arise because of conception of idea, and thereby taking it through the preclinical studies and clinical trials [3]. Generics are, therefore, expected to provide quality care at an affordable cost [4]. This is very useful today as increasing health-care costs worldwide has a greater impact on health-care systems. The WHO reports that nearly 80% of total health-care expenses are shared by out-of-pocket payments [5]. Therefore, reduction of this expenditure to minimum possible levels without affecting the quality of health care would be beneficial [6].

Generic medicines constitute an important aspect of affordable health care. "JAN AUSHADHI" campaign was started by Government of India in 2008 to support generic prescriptions to reduce the health-care expenditure, particularly in developing countries [7]. In India, generic medicines are approved under the guidelines of the Central Drug Standard Control Organization, which requires submission of information regarding administrative and prescribing information, product quality, nonclinical, as well as clinical study reports. In the past, generic drugs had been denounced by prescribers for being below standard mainly due to poor adherence to good manufacturing practice guidelines [8].

Many doctors may not be familiar with the rigorous regulations imposed by the regulatory body for proving bioequivalence before a generic medicine is granted approval [9]. Therefore, understanding doctor's perceptions and an understanding about generic medicines may help in recognizing possible barriers to greater generic medicine usage [10,11]. Hence, the present study aimed to evaluate knowledge, attitude, and practice (KAP) of resident doctors in a tertiary care teaching hospital regarding generic medicines to identify factors that hinder or encourage the prescription of generic medicine.

### METHODS

This was a cross-sectional, prospective questionnaire-based cross-sectional study. It was carried out at Vydehi Institute of Medical Sciences and Research Centre, a tertiary care teaching hospital located in Bengaluru. The aim was to assess the KAP of generic medicines among prescribers working in this hospital. It was conducted over a period of 3 months. It included clinicians from various clinical departments. After obtaining permission from the head of the Institution, validated KAP questionnaire was distributed. It contained total of 28 questions, 10 questions pertaining to knowledge of generic medicines, 10 questions eliciting participants' attitude toward generic medicines, and 8 questions related to practice of generic. With gentle reminders in between, filled forms were collected after 7 days. All data were analyzed using Microsoft Excel.

### RESULTS

#### Demography

##### Age and sex

In this study, the mean age of the participants was 29.05±17.81 years. Out of the participants, 91 (58%) were males and 65 (42%) were females [12].

### Professional qualification

Out of total participants, 89 (57.1%) of them were postgraduates, 35 (22.44%) were intern medical officers, and 32 (20.51%) were faculty members. The results are shown in Fig. 1.

### Evaluation of knowledge

Regarding knowledge, the mean score was  $6.24 \pm 0.17$ . 52 (33.33%) of the participants were found to have good knowledge (scores 8-10), 73 (46.79%) had average knowledge, and 31 (19.87%) with scores 0-4 had poor knowledge, respectively.

### Evaluation of attitude

53 (34%) participants felt that mandatory generic drug prescriptions are a burden on practitioners. 72 (46%) participants opined that mandatory generic prescriptions will not work in a country like India. 137 (88%) suggested that government must ensure the quality of generic drugs. When asked about education on generics, 140 (90%) mentioned that health-care providers and pharmacies must be educated about generic drugs. Regarding the importance of generic prescription, 129 (83%) participants felt that generics must be taught in early part of medical training. Majority of the 62 (40%) participants disagreed upon the fact that switching to generics may change the outcome of therapy. Majority of the 132 (85%) participants suggested that a national level online reference should be made available for generic drugs. The results are shown in Fig. 2.

### Evaluation of practice

Out of 156 participants, 90 (58%) were found to prescribe generic drugs. 42 (27%) prescribe generic drugs from local manufacturers. 115 (74%) discuss with patients before prescribing generic drugs. 122 (78%) consider socioeconomic status of patients for prescribing generic drugs. 88 (56%) did not write initial of brand below prescription. 95 (61%) allow patients to substitute generic for a brand or brand for generic drugs. 53 (34%) did not feel that personal experience with medicines will affect prescription of generic drugs. The results are shown in Fig. 3.

## DISCUSSION

A total of 156 participants were included in the study. Mean age was  $29.05 \pm 17.81$  years. 78% were aware that the composition of generic drugs is similar to brand drugs. Only 33% were aware that generic drugs are marketed after expiry of patent period of brand drugs. 87% agreed that generic drugs reduce the overall cost of health care. 78% were aware that the Government of India has made it mandatory for the use of generic drugs. 60% knew that generic drugs were available in pharmacies. In the study done by Badwaik *et al.*, 92.5% doctors had knowledge that composition, dose, and indications of generic medicines were the same as the branded counterparts. 95% of the participants believed that generic medicines reduced the overall health-care expenditure. In this study, 89% felt that health-care providers and pharmacies must be educated about generic drugs. 88% felt that government must ensure quality control of generic drugs. 16% opined that incentives must be paid to doctors for prescribing generic drugs. In the study done by Badwaik *et al.*, 90.4% were of the opinion that training programs should be conducted to increase the awareness regarding the use of generic drugs [13]. 97.5% of the doctors agreed that the importance of generics should be taught in early part of internship. 92.5% of the participants were of the view that quality testing of generic medicines should be made more vigorous [14]. In the study done by Guptha *et al.*, 89% agreed that there should be training program to increase the awareness regarding generic drugs among doctors and patients [15].

In this study, 58% of participants prescribed generic drugs. 77% of them prescribed based on socioeconomic status of patient. In the study done by Zaverbhai *et al.*, 68.9% prescribed generic medicines. 78.5% opined that they take into consideration economic status of patient while prescribing. In the study done by Badwaik *et al.*, 53% participants prescribed generic drugs. 64% opined that they take into consideration economic status of patient while prescribing generic drugs. In the study

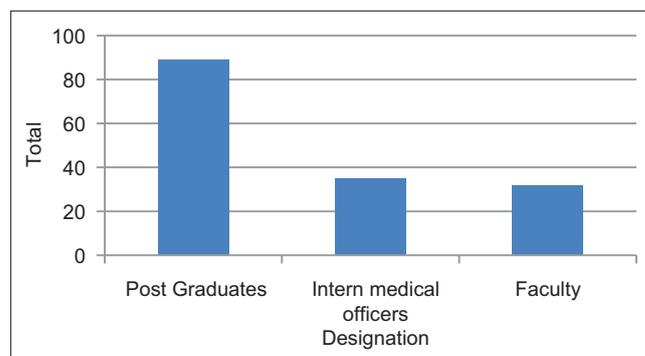


Fig. 1: Professional qualification of the participants

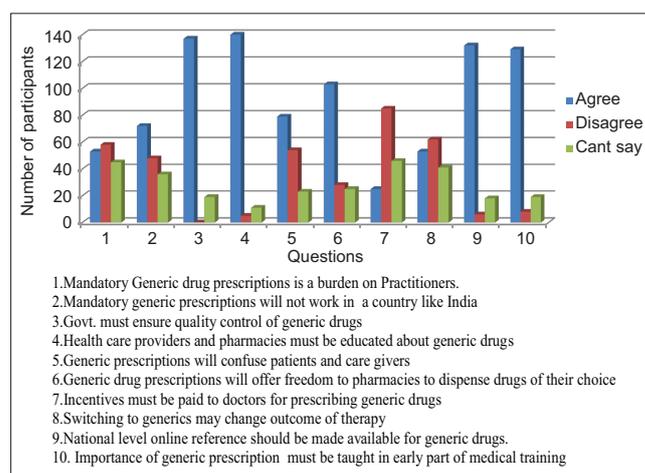


Fig. 2: Evaluation of attitude

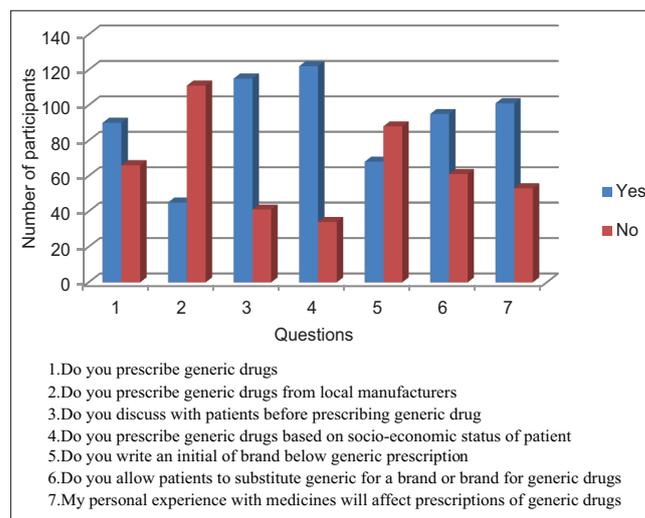


Fig. 3: Evaluation of practice

done by Bhattacharjee *et al.*, 93% participants prescribed generic drugs. 98% take into consideration economic status of patient while prescribing generic drugs. In the study done by Guptha *et al.*, 63% participants prescribed generic drugs. 3% take into consideration economic status of patient while prescribing generic drugs.

## CONCLUSION

This study shows that participants were well aware about generic drugs. As opined by the clinicians, a national level online reference

must be made available. Although they prescribe good number of generic medicines, concerns about efficacy, safety, and availability were present. Educational and regulatory interventions to address these concerns are required.

#### Limitation

Duration of study and sample size.

#### ACKNOWLEDGMENT

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#### CONFLICTS OF INTEREST

None.

#### REFERENCES

- World Health Organization. Generic Drugs. Department of Trade, Foreign Policy, Diplomacy and Health of World Health Organization. Geneva: WHO Press; 2004. Available from: <http://www.who.int/trade/glossary/story034/en>. [Last accessed on 2018 Aug].
- Bugeja V. Medicines: Mere generic facts. *J Malta Coll Pharm Pract* 2007;13:424.
- Swain TR, Giri PP. Generic medicines: Old wine in new bottle? *J Young Pharm* 2015;7:1434.
- Hassali MA, Alrasheedy AA, McLachlan A, Nguyen TA, Al-Tamimi SK, Ibrahim MI, et al. The experiences of implementing generic medicine policy in eight countries: A review and recommendations for a successful promotion of generic medicine use. *Saudi Pharm J* 2014;22:491-503.
- Jamshed SQ, Hassali MA, Ibrahim MI, Babar ZU. Knowledge attitude and perception of dispensing doctors regarding generic medicines in Karachi, Pakistan: A qualitative study. *J Pak Med Assoc* 2011;61:80-3.
- Bakthavathsalam G. Generic medicines: Cost effective alternative to branded drug. *Health Adm* 2006;19:16-9.
- Department of Pharmaceuticals, Ministry of Chemicals and fertilizers, Government of India. Jan Aushadhi. Generic Medicine Campaign Improving Access to Medicines. Available from: <http://www.janaushadhi.gov.in>. [Last accessed on 2018 Jul].
- King DR, Kanavos P. Encouraging the use of generic medicines: Implications for transition economies. *Croat Med J* 2002;43:462-9.
- Steinman MA, Chren MM, Landefeld CS. What's in a name? Use of brand versus generic drug names in United States outpatient practice. *J Gen Intern Med* 2007;22:645-8.
- Shrank WH, Cox ER, Fischer MA, Mehta J, Choudhry NK. Patients' perceptions of generic medications. *Health Aff (Millwood)* 2009;28:546-56.
- Sontakke SD, Bajait CS, Pimpalkhute SA, Jaiswal KM, Jaiswal SR. Comparative study of evaluation of self medication practices in first and third year medical students. *Int J Biol Med Res* 2011;2:561-4.
- Zaverbhai KD, Dilipkumar KJ, Kalpan DC, Kiran DM. Knowledge, attitude and practice of resident doctors for use of generic medicines at a tertiary care hospital. *J Young Pharm* 2017;9:263-6.
- 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.
- Bhattacharjee P, Das L, Ghosh R, Das UK, Chakraborty M. Knowledge, attitude and practice of generic medicines among doctors in a tertiary care teaching hospital of Tripura. *Int J Basic Clin Pharmacol* 2017;6:1-6.
- Gupta KS, Nayak PR, Vidyarthi SK. A study on the knowledge, attitude and practice of generic medicines among doctors in a tertiary care teaching hospital in South India. *Natl J Physiol Pharm Pharmacol* 2015;5:39-44.