Evaluation of Public Perception Towards Safety, Efficacy and Awareness of Generic Drugs

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ABSTRACT

Generic medicines are affordable alternatives to branded ones that have previously received regulatory approval. An urban cross-sectional study was undertaken to learn more about how consumers feel and know about generic medications. A questionnaire was created containing inquiries about their usage of, perceptions of, knowledge about, and awareness of generic medications. To determine whether consumers favored using generic medications over branded ones and to learn about their opinions of generic medications, several questions pertaining to generic medications were included in the questionnaire. Despite a high level of public knowledge and awareness about generic pharmaceuticals, this poll found that the majority of individuals do not wish to use them. There were 311 total responses, and the majority of respondents (82.8%) had an excellent understanding of generic medications. The majority of the population (52.1%) only occasionally utilized generic medications, and 28.3% never did. According to a survey, just 33.2% of doctors prescribe generic medications, and switching to a substitution of branded medication by a doctor or pharmacist is uncommon. To increase the use of generics, a multifaceted strategy is required. Healthcare professionals can play a critical role in devising measures to increase the popularity of generic medications.

Key Words: *Generic, Jan Aushadhi, Consumers, Knowledge, Awareness, Healthcare professional*

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INTRODUCTION

Generic medications have the same active ingredient as the reference medicinal product, the same pharmaceutical form, the same therapeutic indications, and similar bioequivalence. Because generic drugs act physiologically similarly to their brand-name counterparts, they can theoretically be used interchangeably [1-4].

The use of generic drugs has increased significantly in all countries in recent years. Even though the use of generic medications has increased dramatically over the last two decades, recent national surveys show that roughly one-third of patients, physicians, and pharmacists are still skeptical of their safety, effectiveness, and quality [5]. India is the largest provider of generic drugs, exporting to over 200 countries and accounting for 20% of global generic drug exports in terms of volume. However, India faces the challenge of providing equal access to affordable and high-quality essential medicines for its citizens. Because only 15% of Indians have medical or health insurance, out-of-pocket medical expenses are common. Out-of-pocket medical expenses are common because only 15% of Indians have medical or health insurance [6]. As a result, the majority of the population's healthcare expenses are a significant financial burden, and access to low-cost essential medicines of comparable quality and efficacy, known as generics, is critical. The Government of India, through the Department of Pharmaceuticals, launched a new initiative called "Jan Aushadhi" in 2008. This program aimed to make unbranded quality medicines available to poor people in the country at a reasonable and affordable price via retail outlets established with government assistance. In an amendment to the code of conduct for doctors made in October 2016, the Medical Council of India recommended that every physician prescribe drugs with legible generic names and ensure that there is a rational prescription that promotes the use of generic drugs [7].

A few common misconceptions about generic medications have been identified globally, including the belief that they are less effective, have a delayed benefit, are unsafe, and are of inferior quality [8]. As a result, having the right

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knowledge and attitude about generics is critical for increasing their use without compromising their quality.

MATERIALS AND METHODS

Study design

The purpose of this study was to assess public perception of the safety and efficacy of generic medicines. An exploratory and anonymous population-based e-survey was created and integrated into the Google survey tool (Google Forms), and a shareable link was created and distributed via social knowledge, and perceptions of generic drugs. The questionnaire was divided into four thematic sections. The first block contains demographic data, the second examines consumer knowledge and awareness of generic medicines, the third examines consumer opinions and perceptions of generic medicines, and the final phase looks into general information about consumers that they visit generic medical stores were collected. The data collection was performed between May 1 2021 to May 16, 2021. Results obtained from the questionnaire were assessed and discussed accordingly.

Study Population and sample size

The Inclusion criteria of participants were being adults (≥18 Years old), having good internet access, and having voluntary participation. The Exclusion criteria included being under 18 years old. Being a descriptive survey, the sample size was calculated as per Cochran's formula

$$n = \frac{Z^2 p(1-p)}{e} \qquad (1)$$

n= required sample size

p = estimated proportion of the population which has the attribute in question;

The value for Z is found in statistical tables which contain the area under the normal curve

The Inclusion criteria of participants were being adults (≥18 Years old), having internet access to online respondents, and having voluntary participation. The Exclusion criteria included being under 18 years old. Being a descriptive survey, the sample size was calculated as per Cochran's formula

RESULTS AND DISCUSSION

There were 311 responses in total. Male and female participants from the states of Telangana and Andhrapradesh are among those taking part. 59.5 percent of respondents were female, while 40.5 percent were male. Almost half of the respondents were students, mostly from the healthcare field. Responses were gathered from Telugu states' rural and urban areas, with Telangana accounting for 74.28 percent and AP accounting for 25.7 percent.

The responses were gathered from participants over the age of 18. The respondents who were 18 years or younger made up 25% of the sample, while those aged 30 to 50 made up 55% and those over 50 made up 20%.

Knowledge and awareness of consumers on generic drugs

The majority of respondents (82.8%) are quite knowledgeable about generic drugs. This is in line with previous studies [9]. Generic drugs are well-known among consumers. They understand how branded drugs differ from

generic versions, but 31.2% of respondents were unable to distinguish between branded medicines and generic versions of the same. 69.8 % are aware that generic medications are less expensive. The majority of them (39.9%) learned about generic drugs from pharmacists, followed by peer groups and other people **(Figure 1)**. When compared to adults, students have a better understanding of generic medications In **Table 1** the outcomes were presented.

Table 1. Knowledge of consumers on Generic drugs

S. NO	Question	% Yes	% No	Knowledge and awareness
1	Do you know that A generic drug is a medication created to be the same as an already marketed brand-name drug in dosage form, safety, strength, route of administration, quality, performance characteristics, and intended use?	82.9	17.1	Good
2	Do you know that branded medicine is the original product that has been developed by a pharmaceutical company?	84.8	15.2	Good
3	Do you know that branded generics are medicines that are now off-patent and sold by different companies under a different brand name?	67.7	32.3	Above Average
4	Do you understand the difference between a branded medicine and branded generic?	68.8	31.2	Above average

5	Do you know that Generic medicines are available at a cheaper rate?	69.8	30.2	Above average

Frequency of generic drug use

The majority of respondents (52.1 %) rarely used generic medications, and 28.3 % never used generics as shown in the **Figure 1**. The most significant barrier may be a lack of understanding about generics, their therapeutic benefits, and their cost advantages.

They were aware of generic drugs such as paracetamol but were unaware that generics are also used for specialized ailments [10].

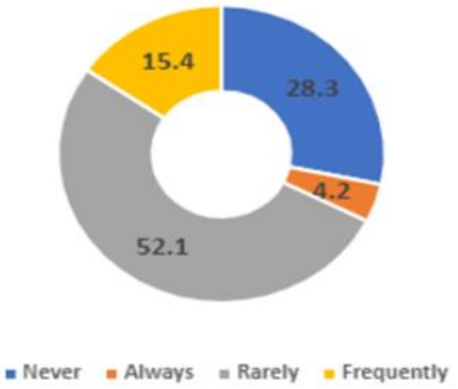

Figure 1. Frequency of generic drug use

The practice of generic drug Prescription and Frequency of drug substitution

As per the survey, the practice of generic drug prescription by doctors was only 33.2% and substitution of a branded drug by a physician or pharmacist is rare. Most of the pharmacies never offered Substitution. Only 8-25% are practicing substitution **(Figure 2)** at pharmacies and the reason for substitution is mainly the unavailability of a drug at pharmacies [11-15].

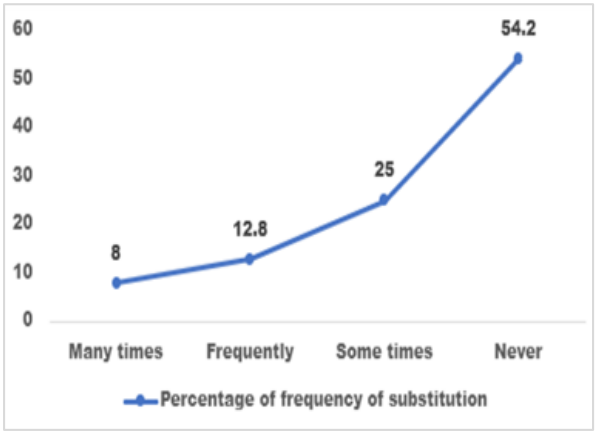

Figure 2. Frequency of drug substitution

Although the doctors had good knowledge and attitude regarding generic drugs, this was not reflected in prescription rates, which is showing the gap between knowledge with attitude and practice. This behavior of doctors was found in earlier studies also [16]. The poor quality and non-availability of generic medicines were cited as major reasons for prescribing brand medicines [17].

Reasons for not choosing generic medicine

According to **Figure 3**, the majority of consumers (41.2 %) do not use generic medicines because doctors do not prescribe them, 27 % are concerned about the quality and efficacy and believe they are ineffective, 3.2 % believe that both brands and generics are similar in price even though few are aware of the generic drugs, and only 28.6 % use them. Consumers' concerns about not using generics are reflected in the percentages.

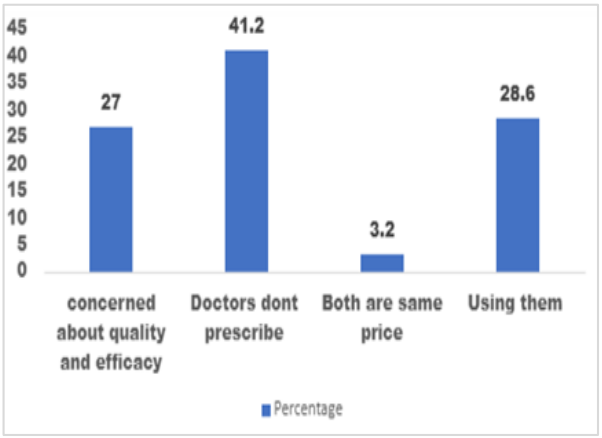

Figure 3. Reasons for not choosing generic medicine

When participants were asked about quality, the percentage who said generic medicines had different quality and safety than branded medicines ranged from 11.3 percent to 12.5 percent, the percentage who felt safety was less, and the percentage who said both quality and safety were different ranged from 12.5 percent to 40.5 percent. Only 15.8% of consumers said the quality and safety of generics were the same as those of brands, compared to 12.2% who said the same about quality and 7.7% who said the same about safety. **Figure 4** lists the positive and negative responses regarding consumers' perceptions of generic drugs in comparison to branded ones (quality and side effects).

Most customers had concerns about the efficacy and safety of generic medications. Most of them are worried about their quality aspects. The majority of consumers think that the quality of generic drugs is lower than that of branded ones. Although they are aware of generics, they do not believe they are equivalent, effective, or of high quality. It shows a significantly lower level of support for the

substitution policy as well as less exuberance for generic drugs.

Participants in other surveys have expressed the opinion that brand-name and generic medications are interchangeable, equally effective, and safe. However, very few participants expressed the opinion that patients should be allowed to choose whether to receive a prescription for a generic drug or a brand-name innovator drug. Some of them believe that opening generic drug stores inside every hospital, encouraging patients to use more generics, and emphasizing the value of generic medicine prescriptions are the best ways to promote generic medicines. However, many of them believe that generics are of lower quality [18].

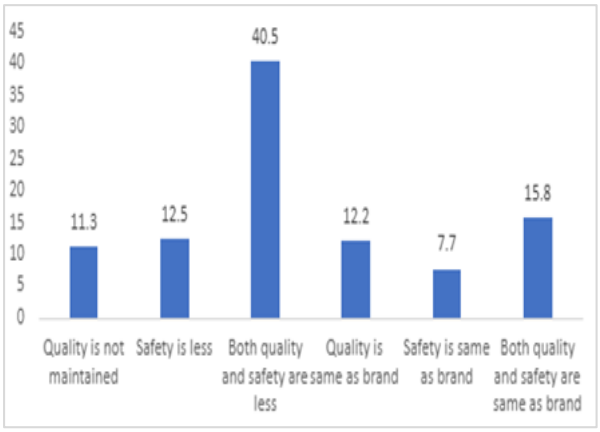

Figure 4. Perception of consumers on Generic drugs with respect to branded drugs

Most common categories of generic medicines used by people

It has been observed that people frequently use generic drugs in cases of vitamin deficiencies. As shown in the graph **(Figure 5)** below, the majority of people (20.1%) use generic drugs for vitamin deficiencies, followed by 9.6% for cold, cough, and fever, 6% for diabetes, 8.6% for hypertension, 2% for Gastrointestinal disorders, and 1% for heart disorders.

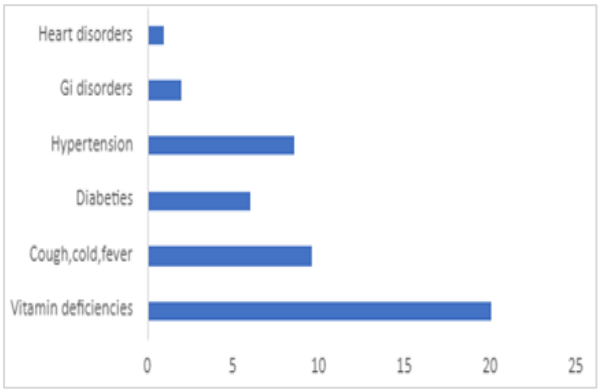

Figure 5. Percentages show for what diseases people are using generics

According to the results of the survey, the majority of consumers use multivitamins, vitamin C, calcium supplements, and Paracetamol. The use of these medications has increased as a result of the COVID-19 pandemic because vitamin C, vitamin D3, and multivitamins act as immunity boosters. Additionally, because generics are readily available and affordable, consumers are more likely to use them. Additionally, it was found that consumers do not use generic medications for serious or moderate illnesses. 59 % of responders never used generic medicines. Vitamin C was found to be the most used supplement. Different categories of Generic medicines used by the public recently are given in **Figure 6**. In addition, it was observed that 47.3% of customers indicated they would opt to use generic pharmaceuticals in the future, 11.6% said they would not, and 41.2% said they would use them in the future.

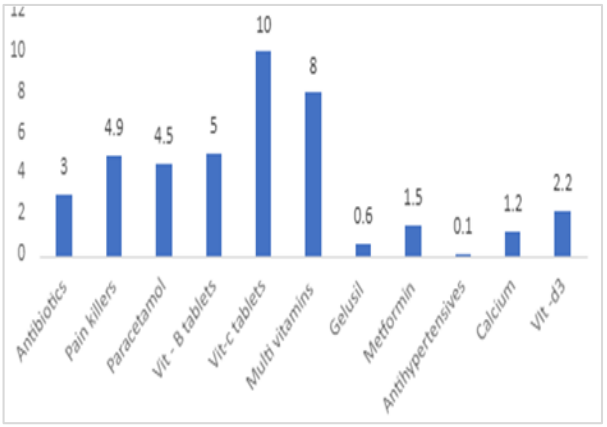

Figure 6. Categories of medicines used by consumers

With a revenue market share of 70%, generic medications currently earn the most in India's pharmaceutical sector. [19]. However, despite being 30–80% less expensive than their brand-name counterparts, generic medications are not widely used in India.

Globally, the use of generic medications is rising steadily. However, there are still unfavorable opinions regarding their caliber. Although consumers had a decent understanding of generic medications, the results showed that they had a poor opinion of them. This demonstrated that the majority of them are concerned with both quality and safety [20].

The price and accessibility while purchasing a medicine received higher ratings from consumers than other factors. Even with the introduction of Janaoushadhi stores by the government, there are still very few exclusive generic stores available. This may also be a barrier to the usage of generic medications in comparison to branded ones.

Physicians won't be able to readily persuade patients, even the wealthy, to take generic pharmaceuticals unless the

real-time effectiveness of generic drugs is documented and publicized.

Companies are following the guidelines for current good manufacturing practices. Purity, potency, stability, and drug release are therefore the crucial factors that determine the quality of generic medications, and these should be controlled within a suitable limit, range, or distribution to achieve the required drug quality. Building trust in the quality of medicine (as well as treatment) in government health facilities is important for policies and programs that aim to increase drug availability, especially generic medicine availability [21].

CONCLUSION

To increase the use of generics, a multifaceted strategy is required. Consumers' faith in generics can be increased by the government sector's strict quality control oversight. Access to medicines programs must routinely invest in data on the quality of generic drugs and develop strategies to boost confidence in government-provided healthcare if they are to be effective. In addition to encouraging the use of generics, pharmacists could significantly improve patient understanding of generics. Therefore, we would conclude that this research emphasizes the necessity for a greater effort to be made in the nation about generics information and utilization.

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