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Knowledge and Perceptions of Generic Drugs: A Cross Sectional Study

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Abstract

Generic medicines are pharmaceutical products usually intended to be interchangeable with the originator brand product, manufactured without a license from the originator manufacturer and marketed after the expiry of patent or other exclusivity rights. The current potential economic benefits associated with their use have been exponentially rising and thus, generic medicines are a significant approach to reduce the massive expenditure on medicines. Governments are thus emphasizing on and promoting the usage of generic medicines. However, negative perceptions of their quality influence use and raise issues of certainty and trust in medications. The objective of this study is to identify consumers in terms of their perceptions towards branded and generic medicines in the country. A cross - sectional study was conducted with consumers of various age demographics and location factors. Using convenience sampling, survey forms were distributed to them via social media platforms. For a period of 30 days, 236 respondents had participated in the survey. Assessments of the results were conducted on qualitative data to develop an insight into the perception of medicines amongst the masses. The survey confirmed that generic drug awareness was considerably high among younger age groups than older respondents. An overwhelming 78% respondent understood that generic medicines are cheaper than branded medicines. Regardless, 34.8% of respondents who were aware of generic drugs did not realize that they were less expensive than brand-name drugs. The survey conducted showed a high support for generic substitution. Furthermore, it indicates that programs should be implemented in order to boost generic drug prescriptions by medical practitioners.

Keywords: generic, branded, awareness, healthcare, survey

INTRODUCTION

Access to quality healthcare has always been of public health importance and has remained a major challenge in India[1]. One of the ways of improving this is providing affordable quality medicine to the patients. Generic medicines are usually cheaper than innovator brands and therefore save costs on medicines[2,3]. These are identical or bioequivalent to an innovator or product brand name drug in dosage, form, safety, strength, route of administration, quality, performance, characteristics and intended use[4]. Generic drugs are only cheaper because the manufacturers have not had the expenses of developing and marketing a new drug. Patents held by brand-name manufacturers nearing expiration, local manufacturers can apply to the FDA for permission to make and sell generic versions of the drug; and without the start-up costs for development of the drug, other companies can afford to make and sell it more cheaply[5].

India is the largest provider of generic medicines in the world and accounts for 20 per cent of global exports in terms of volume[6]. It also contributes to 40% of the United States' generic demand[7]. Thus, India is competent enough to cater to its own generics demand of a large population belonging to marginalized categories which cannot afford branded medicines. Rationally, it should have a wider user base on a go-to basis. However, the practice of generic medicines prescribing, dispensing and substitution in developing countries has been controversial among both doctors and patients, particularly due to issues on quality, safety, and efficacy. Moreover, generic medicines in the past have been criticized for being substandard mainly due to poor adherence with good manufacturing practice guidelines and their bioequivalence approval issues[8].

With campaigns such as the Jan Aushadhi Pariyojana (PMBJP), launched by the Government of India in 2008 and active in most major towns and village centres since 2012, the government is trying to facilitate supply of generics at affordable prices[9]. Patients being the end users in the consumption of medicinal drugs, it is crucial to understand their perceptions and the extent of willingness towards the intake of the generic medicines. This is a core requirement to facilitate the increase of generics production and the upkeep of such campaigns.

LITERATURE ANALYSIS

An extensive review of literature was performed to study the consumers' perception toward generic and branded medicines. In this narrative report, only the peer reviewed and original research studies which measured consumers' views and perceptions towards generic medicines were included.

Electronic databases searched included Medline, PubMed, ISI Web of Knowledge, Science Direct, Springer Link, JSTOR, Sci-Hub and Google Scholar. Search terms included the following terms: brand, branded, brand-name, generic, generic medications, generic medicines, generic drugs, prescription, consumers, patients.

Research papers including both qualitative and quantitative approaches were considered for the review. However, quantitative survey studies with fewer than 100 respondents sample size were excluded. 13 of the 28 manuscripts analyzed did not really assess consumers' or patients' knowledge of and views towards generic medicines and therefore were not suitable for inclusion in the review. Majority of these reports were overlooking the effectiveness and bioavailability of generic medicines.

Thus, 15 studies were potentially appropriate for possible inclusion in the review. However, four observational quantitative studies which were conducted before the year 2005 were also eliminated. In the final review, 11 studies which satisfied the selection guidelines were included in the analysis.

Hoshi and Kimura in their study to find awareness of generics concluded that approximately 51.3% of respondents considered generic medicines to be expensive although an impressive 86.7% were aware of them. The authors noted that the reason to explain this higher awareness was the then recent increase in generic drug advertisements both in newspapers and on television. However, they noted that generic drug usage had still not increased.[10]

Skaltsas, L. N. and Vasileiou observed in the Greek study that only 33.1% of the patients knew that the generic drug contains the same active ingredient as the brand name drug, while 26.3% said that it is cheaper than the brand name. This could be attributed to the fact that a majority (71.2%) of the patients' physician or pharmacist has never proposed to them a drug substitution by generics.[11]

Al-Gedadi et al, however, reported a staggering 71.7% of respondents lacked knowledge of generic medicines. Nonetheless only 32% of them felt that generics may cause more side effects than branded medicines. This survey highlighted a massive gap in consumers' knowledge and understanding about generic medicines. The report further indicated that direct patient education by healthcare providers on issues related to the safety and efficacy of generic drugs can further increase their uptake.[12]

According to Barbosa de Lira et al, of the total participants surveyed only 48.6% were able to define generic medicines correctly. Conclusively, the sample study showed sufficient knowledge of generic drugs in terms of definition, efficacy and cost amongst the respondents. In addition, the results of this study indicate that some programs should be implemented to encourage physicians to prescribe generic drugs.[13]

In Himmel et al, one-third of the respondents considered cheap generics to be inferior to, or completely different from, costlier brand-name medicine because of their lower cost. Respondents who were more than 60 years of age, chronically ill, and/or without higher education were more inclined to express this view.[14]

In a different study, Babar et al. concluded that of all the respondents, 51.6% had previous knowledge of generic medicines. Reportedly, 16% of respondents had been told by their health care professionals to continue on the prescribed brand. Consequently, in the event of a minor illness, 78% respondents were likely to substitute to generic drugs. They cited pharmacists as the main source of information regarding generic medicines followed by doctors and the media. Those with a higher education level had a better understanding of generics.[15]

In the national survey conducted by Shrank et al, most participants (94%) believed that generic medicines are cheaper than their counterpart brand medicines. Conversely, only 37.6% agreed to using generic medicines for themselves. This could be attributed to 53.7% participants mentioning that their physicians never discussed about generic drug intake with them.[16]

Of the total respondents surveyed by Auta et al. in Nigeria, 92.9% respondents supported generic substitution practices. Despite this view, only 39% respondents reported that pharmacists should be allowed to perform generic substitution without consulting the prescribing physician. 54.5% respondents held negative perception stating generic medicines were not of equivalent quality to branded ones.[17]

Contrary to these findings, the Norwegian study conducted by Kjoenniksen et al. revealed that 41% of the people surveyed would not switch if they had no personal economic incentives. This might be pertinent to the fact that almost one-third of the patients who had their medication substituted reported negative experiences.[18]

The Tandel et al. survey showed that 76.5% of the participants understand that generic drug can be used in place of innovator (patented) drug. However, 72% faculties believed the fact that generic drug manufacturers need to conduct bioequivalence studies to prove quality difference does not exist between the generic and innovator drug.[19]

Lastly, Kohli and Buller conducted a study indicating consumers' positive inclination towards generic drugs. The vast majority (91%) of participants believed that generic and branded medicines are of the same quality. The same number also agreed that generic drugs go through the same Food and Drug Administration approval process as brand name drugs. Further analyses indicated that 51%of participants ''often'' or ''almost always'' choose generics over brand name drugs.[20]

METHODOLOGY

The objective of this study is to identify consumers in terms of their perceptions and the extent of willingness towards consumption of branded and generic medicines.

Study setting and design

The questionnaire was based on the literature review conducted and in accordance with the research objectives. It was designed using google forms and MS Word. Owing to the recent pandemic, the survey had to be conducted largely online, and thus circulated via various social media platforms. A few in-person surveys were also collected from out-patients at a local healthcare center.

A cross sectional survey employing the questionnaire as the data collection tool was conducted from 10th January to 09th February 2022 amongst 470 participants. A total of 12 questions were evaluated through convenient sampling out of which 2 constituted of demographics and the rest were based on a 3-point scale. After 9 preliminary questions, some amount of information was provided to check the change in perceptions of the respondents. The participants were from different backgrounds and of varying age groups.

Statistical analysis

The data was analyzed by descriptive statistics via Excel. Graphs were used to generate analysis including certain demographics. Most of the calculations were manually performed.

RESULTS

Out of those a total of **236** were filled out correctly, hence the overall response rate was 51.3%. Demographic data revealed that a majority of the respondents, 170 (72%) belonged the 19–35 year-old category. 36 (15.3%) respondents were teens <18-year-old, 24 (10.2%) belonged to the 36–59 year-old

category. And lastly only 6 (2.5%) of the total respondents were aged 60 years and above.

Respondents belonging to urban areas were 172 (72.8%), those from semi-urban were 54 (22.8%) and rural areas were represented by just 10 (4.4%) of the total.

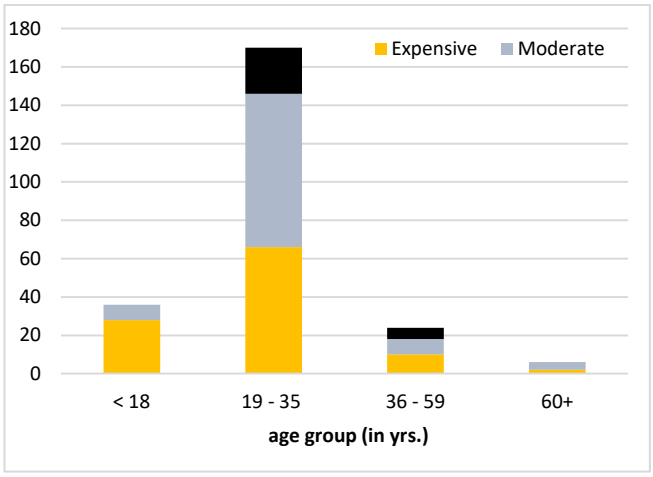

Figure 1: Opinions of different age groups on prices of medicines they generally buy

An overwhelming 184 (¬78%) respondents were knowledgeable about the existence of generic drugs. The younger age groups showed a higher awareness of generic drugs.

Regardless, 64 (34.8)% of respondents, *who were aware of generic drugs*, did not realize that they were less expensive than brand-named rugs.

Figure 1.0 illustrates what each age group thinks of the prices of medicines generally in the market. It is thus understood that most of the participants consider them to be expensive.

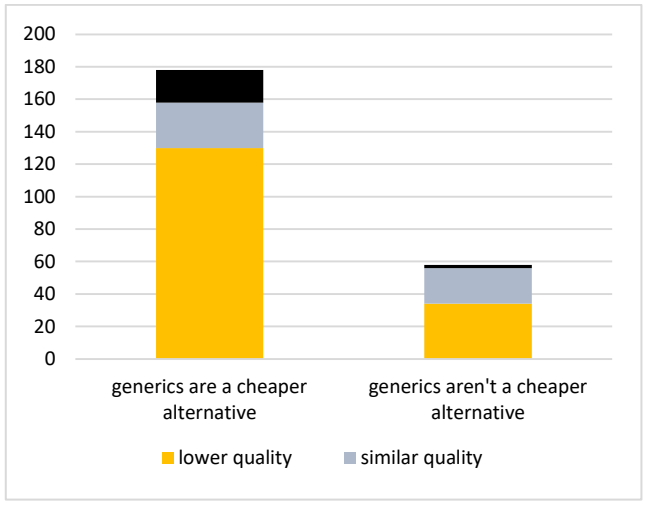

Figure 2: Perceptions of respondents on quality levels of generics

In the survey, 174 (73.7%) out of the total 236 participants had the knowledge of generic medicines being the cheaper variant of medicines.

Over 130 (55.1%) respondents, who knew that generic medicines are cheaper, consider them to be of a lower quality than their brand-named counterparts. There was no significant correlation between negative perceptions about generics with age or area which the participants belong to.

When inquired about what kind of medicines are prescribed normally, 156 (66.1%) responded 'Branded', 52 (22%) admitted they did not know and only 28 (11.9%) participants were prescribed with generic substitutes.

A staggering 230 (97.4%) of respondents revealed that pharmacists do not recommend generics as a cheaper alternative to branded medicines. The Jan Aushadhi program which provides affordable substitute for brand named medicines was only known to 66 (28%) of the respondents. Awareness on the specifics of generics was found to be low amongst all age groups.

The following information was provided before asking further questions:

"Generic drugs are copies of brand-name drugs that have exactly the same dosage, intended use, effects, side effects, strength, etc. as the original drug. In other words, generic medicines work in the same way and provides the same clinical benefit as the brand- named medicines."

On questioning about their preferences, 108 (45.8%) respondents were positive about switching from branded to generic medicines. 102 (43.2%) were however, undecided on the topic whereas 26 (11%) wanted to continue with branded drugs.

178 (75.4%) respondents agreed that mandatory training program for healthcare providers should exist to increase the awareness regarding generic medicines. 46 (19.5%) were undecided and the rest 12 (5.1%) respondents disagreed on the training program.

And finally, 120 (50.9%) of the participants were neutral on whether there should law mandatory for using generic medicines in government hospitals (to reduce healthcare costs), 90 (38.1%) agreed on the topic and 26 (11.0%) disagreed on generic use in hospitals.

DISCUSSION

India has a large population belonging to marginalised categories which cannot afford branded medicines. Generic medicines are usually cheaper than innovator brands and therefore save costs on medicines. According to a report conducted by Niti Aayog in 2021, India's health sector is characterized by low Government expenditure on health, high out-of-pocket expenditure (OOPE), and low financial protection for adverse health events[21]. These OOPE which largely depends on costs of medicines can be subsidised by switching over to generics.

The Indian pharmaceutical industry is the world's 3rd largest by volume and 14th largest in terms of value[22]. It is well equipped to combat the high rising prices of pharmaceutical drugs. Owing to this combined with the Jan Aushadhi scheme, generic drug production requirements of the country could be met easily. Underprivileged sections of the country can be relieved from the otherwise overburdening costs in outpatient care prescriptions.

An amendment in Clause 1.5 of Indian Medical Council states that "Every physician should prescribe drugs with generic names legibly and preferably in capital letters and he/she shall ensure that there is a rational prescription and use of drugs"[23]. For successful implementation of such government schemes and policies, it is also necessary for consumers to trust the substitute drugs. Awareness amongst the populace will help in the process.

The present study confirmed that generic drug awareness was considerably high among younger age groups than older respondents. Concerns about branded drug costs are high, however, misconceptions of efficacy and quality of generics exist amongst a majority of the consumers. As mentioned in an IJMR article, skepticism towards authenticity of innovator

drugs is a real concern shared by patients and healthcare professionals alike[24]. Recommendations by health care professionals, price difference (i.e., cost saving), previous experience of generic medicines, and knowledge/information about generic medicines proved to be important factors that affect a patient's decision to use a generic medicine or a brand medicine.

The survey also highlights the participants' willingness of switching over to generics. Moreover, these respondents considered having laws and training programs in place for healthcare professionals to facilitate and diversify their options of medications.

Due to the study being conducted mostly in urban settings, views of consumers in rural settings could not be judged. Convenient sampling and low response rate has also been a limitation factor in the findings of this study. Hence, actual results carried for a national level study might differ.

CONCLUSION

Questions have been raised about the efficacy of innovator drugs. Thus, only awareness is not enough to change perception towards drugs. Strict laws and good manufacturing practices for pharma companies, drug trials including pharmacovigilance, bioequivalence studies are necessary to create an impact. Extensive peer reviewed research conducted would largely drive the opinion of consumers towards generic drugs. Lastly investment in healthcare and API (active pharmaceutical ingredient) research will also help in bridging gaps between branded and generic drug formulations.

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Conflict of Interest

The author has no conflicts of interest with regard to this topic.

Data availability

The manuscript does not contain clinical studies or patient data

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