

## KNOWLEDGE, ATTITUDE, AND PERCEPTION OF INDIAN POPULATION ABOUT GENERIC VERSUS BRANDED MEDICINES: A WEB-BASED STUDY

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Received: 23 October 2020, Revised and Accepted: 09 December 2020

### ABSTRACT

**Objective:** The objective of the current study is to evaluate knowledge, attitude, and perception of Indian Population about generic versus Branded Medicines.

**Methods:** It was a cross-sectional prospective web-based questionnaire study. We used an application name Google form and link (<https://forms.gle/RJA6XvPeJy6TXNzN9>) was created. Total 537 participants took part in our study. Nineteen questions related to knowledge, attitude, and perception about generic versus branded medicines were asked in the questionnaire.

**Results:** In our study, 78.6% participants had heard about generic medicines. About 66.2% agreed that they understand the difference between both the medicines. About 74.5% knew that there is price difference in both the medicines. According to only 22.1% of our study participants' doctors preferred generic medicines and 37.7% thought that chemists preferred to sell generic medicines than branded ones. About 40.4% knew that generic medicines are promoted by Indian government but surprisingly, 63.3% said that they are unaware of any government rules regarding this. About 44.9% did not know about the type of drugs on their prescription. About 54.8% preferred to buy generic medicines but interesting fact is that 74.3% had not asked their doctors to prescribe generic medicines but 41.7% believed that generic medicines should be promoted.

**Conclusion:** Results of our study revealed that poor knowledge, negative attitude, and false perception regarding generic medicines are the main hindrance of its acceptance by general population.

**Keywords:** Generic medicines, Branded medicines, Out-of-pocket expenditure, Knowledge, Attitude, Perception.

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### INTRODUCTION

Health-care services are the prime objective to achieve by any nation. Health-care services should be accessible to each and every individual of the country.

Indian Pharmaceutical industry stands on the rank 3<sup>rd</sup> in terms of volume of exportation of medicines [1]. Other countries call India as pharmacy of the world because a large volume of medicines is exported from India to various parts of world [2]. Expenses on healthcare are almost 80% of total expenditure. About 86% of this out-of-pocket expenditure is dependent on the medicines alone. One of the economical options to improve health-care facilities and to reduce this out-of-pocket expenditure on medicines is consumption of generic medicines instead of branded medicines by the public [3-6].

Usually, from a single substance two types of products are manufactured by the Pharmaceutical Companies. One of the products is advertise a lot and also promoted by Doctors or Retailers or Pharmacists, called as Branded medicine. Another one is not advertised or promoted; it is called generic medicine [7]. Interesting fact is that, both the drugs are formed by similar molecule. Hence, formulations in both the drugs are similar but the price is quite higher for branded one [8].

To promote the generic medicines, Central Drug Standard Control Organization (CDSCO) Drug Consultant Committee in the 56<sup>th</sup> meeting has made mandatory for doctors that they have to prescribe only generic medicines [9]. Then, Indian Government put their foot forward to promote generic medicines in 2008 by launching a program called "Pradhan mantri Bhartiya Jan Aushadhi", [10]. The aim of this program was to provide effective generic medicines to the people of country

at affordable price [11]. Apart from this, Rajasthan State Government in the year 2011-2012 started a very huge and appreciable project- "Mukhymantri nishulk dava yojana" which was free medicines at government health-care institutions. It was implemented on October 2, 2011. In the year, 2013, it was brought to Community Healthcare Centers and Primary Healthcare Centers [12].

Despite of, cost benefit with generic medicines, there is lack of faith and confidence in generic medicines among doctors and patients as well, in terms of quality [4]. Doctors are usually under confident regarding generic medicines because of lack of data regarding efficacy of generic medicines and unknown hygiene standard of manufacturing pharmaceutical companies.

However, there is conflict regarding effectiveness between branded and generic medicines. Still government is promoting generic medicines. Hence, to assess the knowledge, attitude, and perception of public on generic versus branded medicine, we have conducted a pilot study.

### METHODS

A cross-sectional and prospective online web-based study was conducted in general Indian population. The objective was to evaluate public knowledge, attitude, and perception about generic and branded medicines. The study was conducted among the general population or public, who is approachable through internet.

We used an application named "Google Form" and link (<https://forms.gle/RJA6XvPeJy6TXNzN9>) was created. Questionnaire was available for a period of 1 month from February 15, 2020, to March 15, 2020. All Indian citizens above the age of 18 years were included

while non-resident Indians and foreign citizen were excluded from the study.

The participants were interviewed with a simple questionnaire about generic versus branded medicines. Besides demographic and biological data, questionnaire included three types of questions:

1. About knowledge (difference between generic and branded medicines)
2. About attitude (attitude for buying generic over branded medicines) and
3. About practice of taking generic medicines (asking doctors or pharmacist to prescribe generic medicines, etc.).

### Study procedure

In today's world, internet is the most commonly used facility by the consumer or general public. Hence, internet can reduce the time taken by any researcher to approach participants. This is the reason we also approached the participant through this method. Participants were recruited by sending the survey link through various social network channels such as WhatsApp, LinkedIn, Instagram, and Facebook.

The final sample was obtained using the snowball technique wherein each participant was requested to further circulate the survey link among their respective family members, friends, and colleagues to expand the sample size. Information regarding aim of the study was given to all the participants. Voluntary participation of the participants was considered functional for the study.

### RESULTS

Total 537 individuals had taken part in our study. They responded to 19 questions of the questionnaire. Out of which 489 have given their responses to every question. Total numbers of responses were not same for each question. Table 1 is showing details of the study participants

Responses of study population regarding knowledge on generic versus branded medicine are listed in Table 2.

Responses of study population regarding attitude on generic versus branded medicine are depicted in Fig. 1.

Response of the participants on their suggestions regarding the promotion of generic medicines to evaluate their attitude on generic medicines is depicted in Fig. 2.

Responses of study population regarding perception on generic versus branded medicine are listed Table 3.

In our study population, 68.9% were males and 31.1% were females. Out of 528 responses, 52.3% were graduate, 24.1% were higher secondary qualified, and 20.8% were postgraduates. Out of received

**Table 1: Demographic details of respondents**

Sex	No. of responses (percentage)
Male	364 (68.9)
Female	164 (31.1)
Education	
Illiterate	-
Primary	-
Secondary	15 (2.8)
Higher secondary	127 (24.1)
Graduate	276 (52.3)
Postgraduate	110 (20.8)
Income	
<15000	129 (26.4)
16000-20,000	37 (7.6)
21,000-25,000	26 (5.3)
>30,000	22 (4.5)
Other	275 (56.2)

527 responses, 78.6% of the participants responded that they have heard about generic medicines and 66.2% have showed their positive response that they understand the difference between generic and branded medicines. According to 521 study participants, 74.5% knew about price difference between both the medicines. About 72.8% participants agreed that generic medicines are cheaper.

Regarding purchasing 54.8% showed their preference in buying generic medicines over branded one but, surprisingly 74.3% of the participants revealed by their responses that they have not ever asked their doctors to prescribe and 69.4% have not asked pharmacist to give generic medicines. Majority (52.1%) of the participants thought that there is a difference in the quality of both the drugs. About 30% of study population agreed that generic medicines have lower quality than branded one. Only 16.6% population thought that both the drugs are similar in qualities. About 76.7% of study population thought that there is price difference in both the drugs and out of 513 participants 65.1% agreed that generic medicines have lower price and branded medicines. According to 41.5% and 43.5% study participants believed that branded drugs are preferred by both doctors and chemist, respectively. Majority of the participants 56.9% believed that Indian government promote generic over branded medicines but most of them (63.3%) responded that they were unaware of any government rules regarding this. According to the participants responses 44.9% population knew the fact that generic drugs must be written on the patient's prescription. Out of 518 responses 44.2% participants in the favor of both the medicines promotions. Only 22.3% population suggested that generic medicines should be promoted in selected drug stores.

### DISCUSSION

Although, generic drugs are clinically proven as effective as branded drugs, the trust regarding its use in general population is much lesser than required. Indian government is continuously promoting generic drugs. They are making time to time efforts for its promotion through making different policies. Yet, its popularity among common population is not appreciable. It is an undisputable fact that generic drugs are economically cheap and affordable because generic drugs manufacturers do not have to spend extra money for its discovery and in trials (preclinical and clinical) [10]. However, poor knowledge and negative attitude are the main hindrance of its adoption.

Government is continuously making efforts regarding the use of generic drugs. One of the important policies was formulated in 2008. Government created a new department under the ministry of chemical and fertilizers, which is the department of pharmaceuticals. The prime objective of this department was to regulate complex issues related to cost and affordability of medicine research and development [13].

In 2014, CDSCO released guidelines for bioavailability/bioequivalence studies. One of the other important policies was created in 2016 that there should be proper guidelines showing 90% confidence interval of generic medicines to branded ratio [10].

This pushed us to carry a pilot study to evaluate the knowledge attitude and perception of general population regarding generic medicine.

In our study, we observed that 66.2% participants showed their knowledge on generic drugs. 72.5% knew about price difference between both. About 40.2% participants showed their negative attitude in buying it. Shocking revelation was that 37% believed that generic medicines have lower quality than branded one.

Despite of the efforts and awareness campaigns running by government of India, our study revealed only 36.7% participants showed their positive knowledge regarding government rules, what is a very disappointing data. We observed negative attitude of the participants in asking their doctors (74.3%) or pharmacist (69.4%) for generic medicines. Apart from, the negative attitude their perception toward generic medicines was not encouraging at all. Majority of the

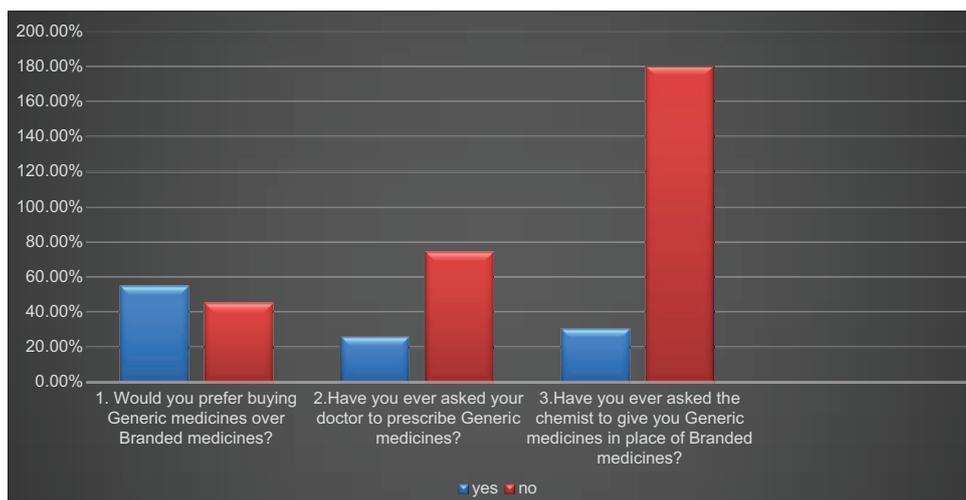


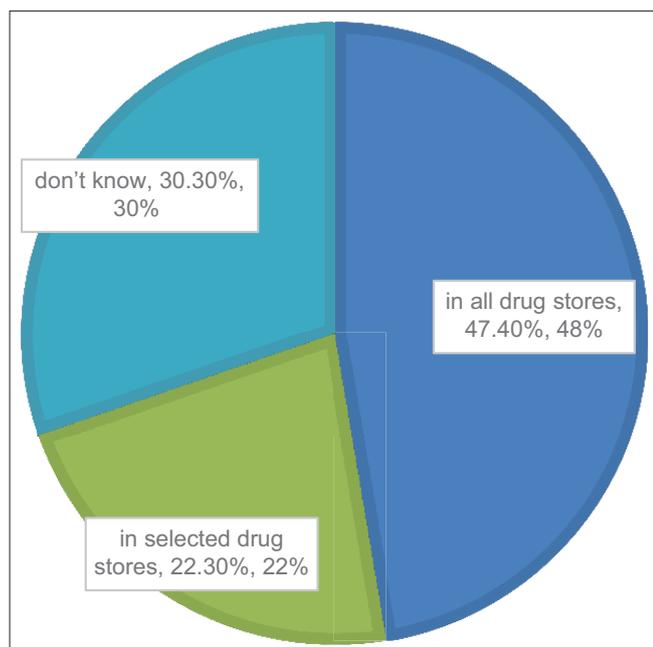
Fig. 1: Attitude of participants about generic and branded medicines

Table 2: Knowledge of participants about generic and branded medicines

Questions	No. of responses (percentage)			
1. Have you ever heard about generic medicine?	Yes 414 (78.6%)	No 113 (21.4%)	-----	-----
2. Do you understand the difference between GENERIC and BRANDED medicine?	Yes 346 (66.2%)	No 177 (33.8%)	-----	-----
3. Do you know that there is price difference between GENERIC and BRANDED medicine?	Yes 388 (74.5%)	No 133 (25.5%)	-----	-----
4. If yes, is generic cheaper?	Yes 374 (72.8%)	No 140 (27.2%)	-----	-----
5. Which type of medicines do doctors prefer to prescribe you?	Generic 115 (22.1%)	Branded 216 (41.5%)	Don't know 190 (36.5%)	-----
6. Which of the drug chemist prefer to sell you?	Generic 196 (37.7%)	Branded 226 (43.5%)	Don't know 98 (18.8%)	-----
7. What type of medicines is prescribed in hospital?	Generic 210 (40.4%)	Branded 134 (25.8%)	Don't know 176 (33.8%)	-----
8. Which type of medicines does Indian Government promote?	Generic 296 (56.9%)	Branded 49 (9.4%)	Don't know 175 (33.7%)	-----
9. Are you aware of any government rules regarding Generic or Branded medicine?	Yes 191 (36.7%)	No 330 (63.3%)	-----	-----
10. Which type of medicine name must be written on the patient prescription as per government rules?	Generic 232 (44.9%)	Branded 53 (10.3%)	Don't know 232 (44.9%)	-----

Table 3: Perception of participants about generic and branded medicines

Questions	No. of responses (percentage)	No. of responses (percentage)	No. of responses (percentage)	No. of responses (percentage)
1. Do you think there is a difference in the quality of generic medicine as compared to branded variant?	Yes 249 (47.9%)	No 271 (52.1%)	-----	-----
2. If answer for above is yes then because-	Generic medicines have better quality than Branded 83 (16.4%)	Generic medicines have lower quality than Branded 151 (30%)	Generic medicines have similar qualities as Branded 85 (16.6%)	If, answer of question 8 is No 187 (37%)
3. Do you think there is a difference in the price of generic and branded medicines?	Yes 396 (76.7%)	No 120 (23.3%)	-----	-----
4. If answer for above is yes then because-	Generic medicines have higher price than Branded medicines 39 (7.6%)	Generic medicines have lower price than Branded medicines 334 (65.1%)	Generic medicines have the same price as that of Branded medicines 33 (6.4%)	If answer of question 10 is No 107 (20.9%)
5. Which type of medicine whether generic or branded, do you consider should be promoted?	Generic 216 (41.7%)	Branded 73 (14.1%)	Don't know 229 (44.2%)	-----



**Fig. 2: Responses of participants regarding their suggestion on promotion of generic medicine**

participants (37%) believed that generic medicines are of lower quality than branded medicines.

Nevertheless, the results of our study are not in the favor of generic medicines. It would be tough challenge for the government to enhance people's knowledge, change their negative attitude and perception regarding it.

#### CONCLUSION

Poor knowledge unfavorable attitude and false perception of general population regarding anything can destroy benefit and advantages of any product. Generic medicines in India are facing the similar problem. General population's inappropriate knowledge, negative attitude, and myth perceptions are the biggest stone to achieve good health-care coverage in India. Majority of the participants in the study knew the fact that generic medicines are lesser in price but their perception regarding its quality was not appreciable.

Medicines are the major expenditure for any country. Hence, it is very necessary for the people of the country to understand its importance. It is also demanded by the government to educate and aware their population about this. Schemes such as "Pradhan mantri Jan aushadhi" [11] and "Mukhyamantri nishulk dava yojana" (by Rajasthan government) [12] are commendable steps. Such more schemes are required in our country to encounter this issue. Our findings suggest that there is a need of more awareness and education in our country regarding benefits of generic medicines so that, we can set a role model for whole world.

#### LIMITATIONS

Although, our study tried to involve population of all social economic and educational status. However, due to web-based study it was not

feasible for individuals of all socioeconomic to take part in this study. Apart from this, shorter time span of the study was also one of the major limitations of the study. Hence, further studies including larger sample size can be conducted.

Another limitation is that we have analyzed knowledge, attitude, and perception of only general population. Hence, the studies regarding analysis of knowledge, attitude, and perception of medical practitioners and pharmacist should be planned to know their opinion, attitude, and perception regarding generic medicines.

#### AUTHOR'S CONTRIBUTIONS

All the authors have contributed equally to this research work.

#### AUTHOR'S FUNDINGS

There had not any funding supports for carrying this research. The total cost of completing the research work was carried by authors own finance.

#### CONFLICT OF INTEREST

The authors declare that no conflict of interest was involved in our study.

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