

# Asian Journal of Research in Chemistry and Pharmaceutical Sciences

Journal home page: [www.ajrcps.com](http://www.ajrcps.com)

<https://doi.org/10.36673/AJRCPS.2022.v10.i03.A12>



## COMPARATIVE SURVEY BETWEEN GENERIC AND BRANDED DRUGS OF ANTIHYPERTENSIVE AND ANTI DIABETIC CATEGORY

Sonali S. Gadge<sup>\*1</sup>

<sup>1\*</sup>P. R. Patil Institute of Pharmacy, Talegaon (SP), Wardha, Maharashtra, India.

### ABSTRACT

**Objective:** The main objective of this study is to show a comparison between Branded and generic Anti-hypertensive and Anti-diabetic medicines, to analyze the beliefs, perceptions, and attitudes of healthcare providers in a tertiary-care hospital toward generic and branded drugs, to analyze the cost between branded and generic drugs of anti-hypertensive and anti-diabetic medicines. **Method:** A questionnaire-based study was conducted by administering a questionnaire to physicians, pharmacists, and patients registered in Amravati, Talegaon, Arvi, and Katol in the Maharashtra state. **Results and Discussion:** A comparative study was carried out by the survey on different branded and generic drugs of antidiabetic and antihypertensive category. **Conclusion:** The survey has shown that there are Negative perceptions about generic medicines and preferential promotion of branded medicines over generics by pharmaceutical companies that could influence prescriber behavior and affect trust in healthcare so as to improve the practice of generic medicines.

### KEYWORDS

Antidiabetic drugs, Antihypertensive drugs, Branded drugs, Generic drugs and Perception.

### Author for Correspondence:

Sonali S. Gadge,

P. R. Patil Institute of Pharmacy, Talegaon,

Wardha, Maharashtra, India.

**Email:** [sonaligadge94@gmail.com](mailto:sonaligadge94@gmail.com)

### INTRODUCTON

There are many arguments related to the importance of encouraging the use of cheaper generic drugs versus brand name drugs. While generic drugs are noted to be comparable to brand-name drugs in their ability to treat conditions, the many debates surrounding their bioavailability, or the concentration of the drug that reaches its site of action, have arisen. Many experts still believe that generic and brand-name drugs are bioequivalent and equally viable options for effective drug treatment, as assumed during this review. Generic drugs contain the identical active ingredients present in

brand-name drugs but often differ in peripheral features that do not impact their bioavailability<sup>1</sup>. The discussion of generic and brand-name drugs has relevancy on a global scale and relates to the affordability, and ultimately, the accessibility of pharmaceuticals for consumers worldwide<sup>2</sup>.

The purpose of this review is to compare the factors related to the generic and branded drugs of anti-hypertensive and anti-diabetic categories. The review is concentrated on addressing the following areas: a) to analyze the policies and expenses associated with gaining approval for brand-name and generic drugs and their subsequent influence on drug pricing; and b) to compare and contrast the government controls and policies between UK, North America, India, and other countries<sup>3</sup>. This review is of significance to physicians, patients, pharmacists, and everyone involved in policy making, and it takes a worldwide outlook in presenting topics of significance to health care providers and systems all over the world<sup>4</sup>.

#### **The similarity between generic and branded drugs**

It must contain identical active ingredients.  
It must have an identical dosage form.  
They need the same quality and performance.  
It must have an identical route of administration.  
Generic drugs are safe and similar to branded drugs.  
It has the same bioavailability<sup>5</sup>.

#### **Difference between generic and branded drugs**

It must contain different inactive ingredients.  
Generic drugs are cheaper than brands.  
They look different due to differences in shape, size, colors, and marking, in generic and branded medicines.  
Branded drugs have sole right (patent) to manufacture and  
Distribution for some time while do generic drugs have not any patent on their manufacturing and distribution<sup>6</sup>.

## **METHODS**

### **Study design**

A questionnaire-based study was conducted by administering a questionnaire to physicians, pharmacists, and patients registered in Amravati,

Talegaon, Arvi, and Katol in the Maharashtra state. A total of 25 questionnaires were assessed, of these 10 questions are for doctors, 7 questions were for pharmacists and 8 were asked for patients. In that questionnaire, we included 10 doctors, 40 pharmacists and 50 patients.

### **Participants**

To be eligible for this study, respondents had to be registered as licensed pharmacists in Amravati, Talegaon, Arvi, Karanja, and Katol in the Maharashtra state with a valid email address listed with the State Board of Pharmacy<sup>7</sup>.

### **Data collection and analysis**

The questionnaire consisted of the following sections: (i) general demographics, (ii) preference of brand versus generic anti-hypertensive and anti-diabetic medications based on symptoms, (iii) influence of cost and bio-equivalency and bioavailability on medication choice, and (iv) health status. The questionnaire was pilot-tested with two graduate students who had a professional pharmacy degree but were not registered as licensed pharmacists in the state of Maharashtra. The survey took about 10-15 min for participants to complete but was allowed as much time to complete it as needed and could stop and restart the survey later<sup>8,9</sup>.

## **RESULTS**

A total of 25 questionnaires were assigned, of these 10 questions are for doctors, 7 questions were for pharmacists and 8 were assigned to patients. In that questionnaire, we included 10 doctors, 40 pharmacists, and 50 patients.

Of all 10 doctors, only 4 doctors said that they prescribe Anti-hypertensive and anti-diabetic generic medicines to patients and the other 6 doctors said that they do not compromise patients' health and quality of medicines; they prescribe only branded medicines to the patients. It means that about 100% of doctors only 40% of doctors are aware of generic medicines of the category antihypertensive and anti-diabetic. 40% of doctors do not take risks about a patient's health and 20% of doctors do not comment on generics and branded antihypertensive and anti-diabetic medicines.

40 pharmacists said that 12.5% of generic anti-hypertensive and anti-diabetic medicines they sell in a whole day. Other 87.5% of pharmacists do not sell generic medicines, they only sell branded medicines.

Of all 50 patients, 81.5% of patients take branded medicines and other 18.5% take generic medicines for long term conditions like hypertension and diabetes (according to survey).

**Table No.1: Some generics and branded medicines of anti-hypertensive category**

S.No	Generic medicines	Branded medicines	Costs	
			Generic	Branded
1	Acebutolol Tablet 200mg	Sectral 200mg	₹ 400.0	₹ 466.0
2	Ramipril Tablet Ip 2.5mg	Ramipres-2.5 (Cipla)	₹ 26.0/pack.	₹ 55/pack
3	Losartan potassium Tablet 25mg	Alsartan-H Tablet	₹ 28.0/Pack	₹ 77/pack
4	Olmesartan 40mg	Olvance-40 tab	₹ 70	₹ 161
5	Hydrochlorothiazide tablets IP 12.5mg	Hydrazide 12.5 (Cipla)	₹ 80/ Box	₹ 206.3/ Box

**Table No.2: Some generics and branded medicines of Anti-diabetic category**

S.No	Generic medicines	Branded medicines	Costs	
			Generic	Branded
1	Metsurge-500 SR	Glyphase SR-500mg	₹ 16.51	₹ 21.3
2	Glemital-(M1)	Glycomet GP-1	₹ 35.07	₹ 116.5
3	Pioglitazone mylan 15mg	Pioz 15-Tablet	₹ 15.23	₹ 47.72

**Table No.3: Questionnaire for Doctors**

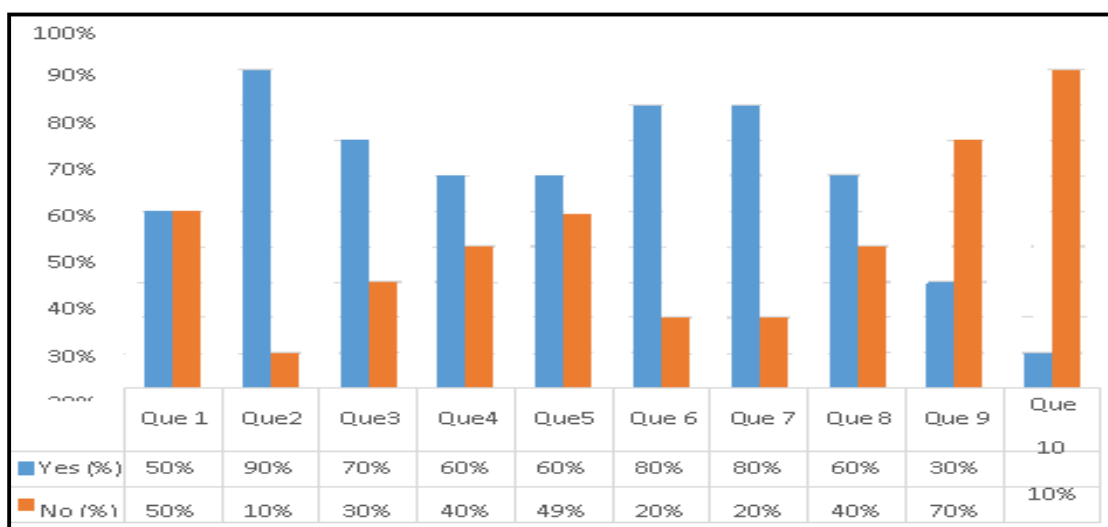
S.No	Questions	Yes (%)	No (%)
1	Are generic medicines like brand-name medicines?	50%	50%
2	Are generic medicines and branded medicines the identical dosage?	90%	10%
3	Do generic medicines are less effective than the brand name medicines?	70%	30%
4	Do generic drugs have the identical quality standard as the Brand name medicine?	60%	40%
5	Are you conscious of that generic drugs are often only marketed after the expiry date of the parent of original drugs?	60%	40%
6	Are you conscious of the scheme of the government of India called <i>Jan Aushadhi</i> ?	80%	20%
7	Are you aware of the Indian medical council (IMC) act to prescribe drugs with generic names?	80%	20%
8	Does one prescribe generic drugs to your patients?	60%	40%
9	Does one prescribe generic medicines in the condition of hypertension?	30%	70%
10	Does one prescribe generic medicines in the condition of Diabetes?	10%	90%

**Table No.4: Questionnaires for pharmacists**

S.No	Questions	Yes (%)	No (%)
1	Is there any issue related to the availability of generic medicines for anti-diabetic and anti-hypertension?	12.5%	87.5%
2	Do you promote the sale of anti-diabetic and anti-hypertensive medicines?	72.5%	27.5%
3	Are generic medicines of anti-diabetic and anti-hypertension as safe as branded medicine?	77.5%	22.5%
4	What is the percentage of generic anti-diabetic medicines being prescribed by doctors as compared to the brand?	16.2%	83.8%
5	What is the percentage of generic anti-hypertensive medicine being prescribed by the doctors as compared to the brand?	10.6%	89.4%
6	Do you personally buy generic medicine instead of the brand for the condition of hypertension and diabetes?	62.5%	37.5%
7	Which pharmaceutical company do you know that makes generic medicines for diabetes and hypertension?	Leeford, Piramal, Lupin	-----

**Table No.5: Questionnaires for patients**

S.No	Questions	Yes (%)	No (%)
1	Do you think there is a difference in the quality of generic medicines as compared to branded medicines?	82.5%	17.5%
2	Are you using any generic anti-hypertensive medicine currently?	15%	85%
3	Have you ever asked your doctor to prescribe generic medicines?	24.5%	75.5%
4	Are you using any generic anti-diabetic medicine currently?	10%	90%
5	What are the benefits of generic medicines?	Cost-effective	-----
6	Would you buy generic medicines over branded medicines?	80%	20%
7	Which brand name or generic medicine do you prefer?	Xtan-20, Deutrol	-----
8	Do you know any medical shop where generic medicines are available?	85.5%	14.5%



**Figure No.1: Doctors survey questionnaires data**

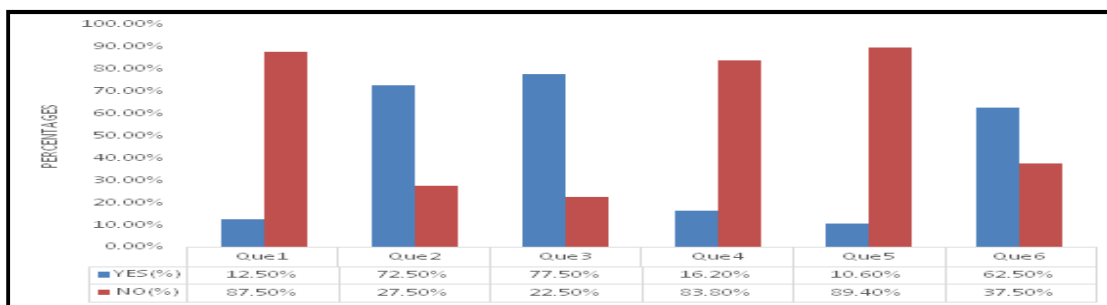


Figure No.2: Pharmacist survey questionnaire data

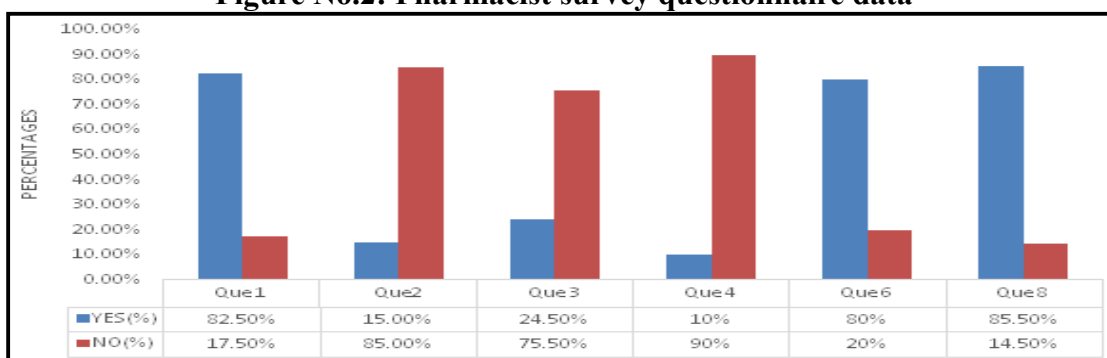


Figure No.3: Patients survey questionnaire data

## CONCLUSION

On the basis of the above presentation we conclude that when people hear the arguments from both sides, there is comfort associated with taking brand-name drugs because of quality safety, and effectiveness. According to pharmacists most patients strictly followed prescriptions that mostly contain the branded drug. People are more doubtful about the difference in effectiveness and quality. In India commission on sales of brand-name drugs is much higher in supply chain management. Even if generic medicines are going to make available free of cost at government hospitals the war of prices between branded and generic may not stop.

## ACKNOWLEDGEMENT

The author is very grateful to Principal, P R Patil Institute of Pharmacy, Talegaon SP, for giving permission to survey in various regions.

## CONFLICT OF INTEREST

The author have no conflict of interest.

## BIBLIOGRAPHY

1. Kesselheim AS, Misono A S, Lee J L, Stedman M R, Brookhart M A. Clinical equivalence of generic and brand-name drugs used in cardiovascular disease, *Journal of the American Medical Association*, 300(21), 2008, 2514-2526.
2. Medina J R, Cortes M, Romo E. Comparison of the USP apparatus 2 and 4 for testing the in vitro release performance of ibuprofen generic suspensions, *International Journal of Applied Pharmaceutical Science*, 9(4), 2017, 90-95.
3. Kamath A. Prescribing generic drugs using a generic name: Are we teaching it right? *Indian Journal of Medical Ethics*, 1(3), 2016, 194.
4. Stafford R S. Regulating off-label drug use - rethinking the role of the FDA, *The New England Journal of Medicine*, 358(14), 2022, 1427-1429.
5. Janodia M. Differences in the price of medicines available from pharmaceutical companies and "Jan Aushadhi" stores, *Value Health*, 18(7), 2015, A850.

6. Arafat M, Ahmed Z, Arafat O. Comparison between generic drugs and brand name drugs from bioequivalence and thermo equivalence perspective, *International Journal of Pharmaceutical Sciences Research*, 9(6), 2017, 1-4.
7. Joshi S S, Shetty Y C, Karande S. Generic drugs - the Indian scenario, *Journal of Postgraduate Medicine*, 65(2), 2019, 67-69.
8. Swain S, Dey A, Patra C N, Bhanoji M E. Pharma regulations for generic drug products in India and US: Case studies and future prospective, *Pharmaceutical Regulatory Affairs*, 3(2), 2014, 1-6.
9. Ghanwat A, M Atkale, A Shinde, V Yedge. Generic drug Vs branded drug view of the public, *Current Trends in Pharmacy and Pharmaceutical Chemistry*, 2(2), 2020, 33-38.

**Please cite this article in press as:** Sonali S. Gadge *et al.* Comparative survey between generic and branded drugs of antihypertensive and anti diabetic category, *Asian Journal of Research in Chemistry and Pharmaceutical Sciences*, 10(3), 2022, 159-164.