

Experience Of Consumers Regarding The Usage Of Generic Medicines – A Study With Respect To Price, Efficacy, Safety And Easy Availability

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Abstract

Background- Generic medicines are low-cost alternatives to the branded medicines. The quality of generic medicines has always been the point of concern to all consumers, physicians and pharmacists. This study is conducted to understand the experience of Consumers regarding the usage of Generic Medicines particularly with respect to the Price, Efficacy and Safety of Generic Medicines. This will help us to understand the factors if worked upon can lead to enhanced growth in consumption of generic medicines.

Methods- Exploratory research method was used to analyse the data . Sample frame: People of Nagpur City

Results- Out of the total sample of 284 consumers, 80.28% of the population prefer to use generic medicines or have used generic medicines.

Out of the consumers who use or have used Generic Medicines, 89.47% consumers have experienced that the generic medicines are substantially of low pricing than that of branded generics, 80.70% consumers have experienced that the generic medicines are as safe as branded generics and 79.82% consumers have experienced that the generic medicines are as effective as branded generics.

Out of the 20% population who have never used generic

medicines, majority of them perceive that branded medicines are more effective and costlier medicines are of good quality. Hence, the quality is the dominating factor behind the decision of not choosing generic medicines.

Conclusion- It is evident from the result that 80% i.e. the majority of consumers use or have used generic medicines. The major factors that drive the usage of generic medicines amongst consumers are low price, safety and efficacy of generic medicines.

Keywords- Generic Medicines, Quality of Generic Medicines, Therapeutic Effect of Generic Medicines, Experience of Consumers, Usage of generic medicines, Impact of Quality, Price of Generic Medicines, Pricing Policy of Generic Medicines, Safety of Generic Medicines, Efficacy of Generic Medicines.

Introduction-

Consumer experiences with generic medicines can vary widely. Some consumers find generic medicines to be a cost-effective alternative to brand-name drugs, as they often come at a lower price. Many generics have the same active ingredients and effects as their brand-name counterparts, leading to similar therapeutic outcomes. However, there might be subtle differences in inactive ingredients, which can lead to variations in side effects or tolerability for certain individuals. Some consumers report positive experiences with generic medicines, citing affordability and effective results. Others may be sceptical due to concerns about quality, efficacy, or unfamiliarity with the generic version. It is important to note that generic medicines are rigorously tested for safety and efficacy by regulatory authorities before being approved for sale. Ultimately, individual experiences with generic medicines can depend on factors such as personal preferences, specific health conditions, and medical advice from healthcare professionals.

Review of literature-

During the study, Electronic Secondary Data in the form of Repositories, several books, magazines, journals, newspaper articles etc. on Quality of Generic Medicines are being studied.

What do people really think of generic medicines? A systematic review and critical appraisal of literature on stakeholder perceptions of generic drugs, by Suzanne S. Dunne¹ and Colum P. Dunne focuses on understanding the perspectives of Physicians, Pharmacists and Consumers regarding generic medicines.

Research methodology followed in this study was 16 papers on physician opinions, 11 papers on pharmacist opinions and 31 papers on patient/consumer opinions were included in this review. In all three cohorts, opinions of generic medicines have improved but some mistrust remains, most particularly in the patient group where there appears to be a strongly held belief that less expensive equals lower quality. Acceptance of generics appears to be higher in consumers with higher levels of education while patients from lower socioeconomic demographic groups, hence generally having lower levels of education, tend to have greater mistrust of generics.

Consumer perception of generic drugs in comparison to branded drugs: a qualitative Study by Ruta Joshi², Aradhna Gandhi suggests that consumer perception regarding generic drugs is greatly varied and depends on the consumer experience and their beliefs. For example, participants that have a better economic background had lesser awareness about generic drugs, as they had the power to afford branded drugs whenever there was a requirement. It was also discovered that participants as a whole were likely to go along with the Doctor's instructions and hence it falls to these healthcare practitioners to impart knowledge, awareness and also prescriptions for generic drugs. In addition to this, it was found that educational background of the participants played no role in their perception to generics, and very highly educated folks were found to be more unaware of generic drug existence. Hence, an obvious gap is seen in marketing and awareness around generics and definitely needs to be addressed by pharma companies.

Jan aushadi scheme³: an initiative in making quality generic medicines at affordable prices by T.M. Pramod Kumar, S.H. Chalasani is a review on Jan Aushadi Scheme. Pradhan Mantri Bhartiya Janaushadhi Kendras (PMJK), an audacious initiative in India to make affordable quality medicines to reach its millions of people who are staggering around poverty lines and to reduce the out of pocket expenses. India celebrated 70 summers of

Independence and is one of the leading countries to export world class generic medicines and making one out of every six medicines, globally. Yet, only 40% of its population is able to afford the branded medicines whose market is \$1200 billion. The Jan Aushadhi scheme was designed to bridge this dichotomy and bring the world class of medications to rest of the 60%.

Generic medicine brand knowledge structure, relationships and purchase; an article published in International Journal of Pharmaceutical and Healthcare Marketing in December 2020. The findings of the study state that Brand awareness, image, trust and belief in efficacy positively influenced purchase. All these factors, except brand awareness, positively led to satisfaction. The tested adapted model explained 53.0 and 58.5% variances of purchase and brand satisfaction, respectively.

Rationale for selecting this topic-

In spite of tremendous efforts by Govt. to enforce the usage of generic medicines, there prevail a resistance towards the prescription and consumption of Generic Medicines. Therefore, the study aims to find out the Experience of Consumers regarding the usage of Generic Medicines with respect to Price, Efficacy and Safety. This would help us to get the clear on the ground report regarding the views of consumers. The study would enable the policymakers to find the direction towards the scope of betterment.

Objective-

To study the Experience of Consumers regarding the Usage of Generic Medicines with respect to Price, Efficacy and Safety.

Research methodology-

An exploratory research method is performed by using a well-structured questionnaire as the survey tool.

Findings-

The survey is being conducted on 300 consumers from all parts of the Nagpur region. 16 questionnaires are not being considered for analysis of survey due to ingenuine pattern of answers while 284 sincere questionnaires are being considered for final data analysis.

Data- The sample size of 284 consumers is considered for data analysis.

Total Sample Size	284			
	Agree	%	Disagree	%
Have you ever used Generic Medicines	228	80.28%	56	19.72%

Out of the total sample size of 284 consumers, majority (80.28%) of consumers use or have used generic medicines. It is therefore important to understand their experience with generic medicines to enable us to find the factors that have major impact on decision to choose generic medicines.

The questionnaire was designed to understand the experience of consumers with respect to price, efficacy, safety and easy accessibility. These factors are hypothesized for the study.

Hypothesis 1-

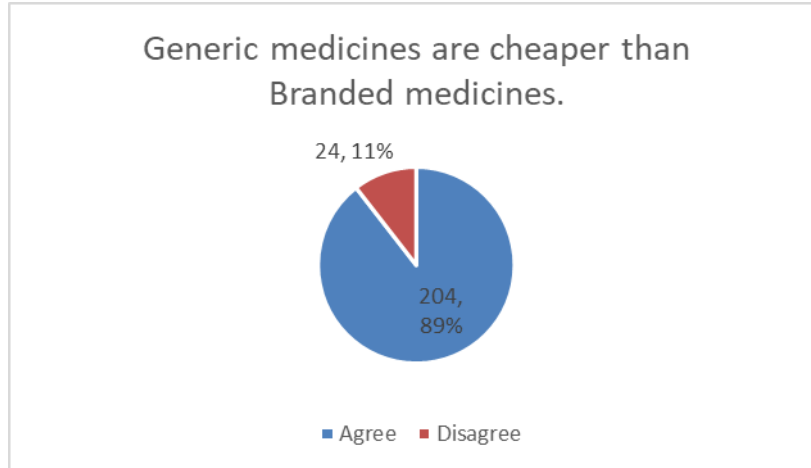
$H_0: P = 0.5 \longrightarrow$ 50% Consumers Experienced that Generic Medicines are cheaper than Branded Generics.

$H_1: P > 0.5 \longrightarrow$ More than 50% Consumers Experienced that Generic Medicines are cheaper than Branded Generics.

Hypothesis is tested with Hypothesis Testing for Proportions Method.

Data-

Total Users	228			
Factor	Agree	%	Disagree	%
Generic Medicines are cheaper than Branded Generics.	204	89.47%	24	10.52%



Calculation-

$pH_0 = 0.5$: Hypothesized Value of the Population Proportion

$$\begin{aligned} qH_0 &= 1 - pH_0 \\ &= 1 - 0.5 \\ &= 0.5 \end{aligned}$$

Sample Size (n) = 228

$\bar{p} = 0.89$ Sample Proportion of Positive Samples

$\bar{q} = 0.11$ Sample Proportion of Negative Samples

$\alpha = 0.05$ (Level of Significance)

$$\begin{aligned} \sigma_p \text{ Variance} &= \sqrt{(pH_0 \times qH_0) / n} \\ &= \sqrt{(0.5 \times 0.5) / 228} \\ &= 0.0331 \text{ (Standard Error of Proportion)} \end{aligned}$$

$$\begin{aligned} \text{Critical Z Value: } Z &= (\bar{p} - pH_0) / \sigma_p \\ &= (0.89 - 0.5) / 0.0331 \\ &= 11.78 \end{aligned}$$

$$Z_c = -1.1645$$

$$Z > Z_c$$

$$11.78 > -1.1645$$

Z value falls under Rejection Region. Hence, Null Hypothesis $H_0: P = 0.5$ is rejected.

Therefore, Alternate Hypothesis $H_1: P > 0.5$ is Accepted.

Inference- More than 50% Consumers Experienced that Generic Medicines are cheaper than Branded Generics.

Hypothesis 2-

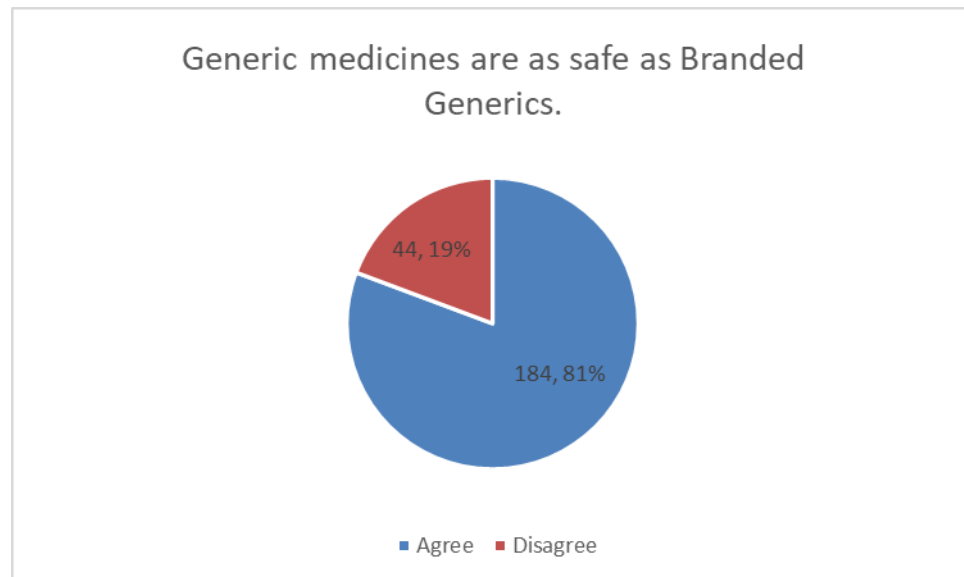
$H_0: P = 0.5$ → 50% Consumers Experienced that Generic medicines are as safe as Branded Generics.

$H_1: P > 0.5$ → More than 50% Consumers Experienced that Generic Medicines are as safe as Branded Generics.

Hypothesis is tested with Hypothesis Testing for Proportions Method.

Data-

Total Users	228			
Factor	Agree	%	Disagree	%
Generic medicines are as safe as Branded Generics.	184	80.70%	44	19.30%



Calculation-

$pH_0 = 0.5$: Hypothesized Value of the Population Proportion

$$\begin{aligned} qH_0 &= 1 - pH_0 \\ &= 1 - 0.5 \\ &= 0.5 \end{aligned}$$

Sample Size (n) = 228

$\bar{p} = 0.81$ Sample Proportion of Positive Samples

$\bar{q} = 0.19$ Sample Proportion of Negative Samples

$\alpha = 0.05$ (Level of Significance)

$$\begin{aligned} \sigma_p \text{ Variance} &= \sqrt{[(pH_0 \times qH_0) / n]} \\ &= \sqrt{[(0.5 \times 0.5) / 228]} \\ &= 0.0331 \text{ (Standard Error of Proportion)} \end{aligned}$$

$$\begin{aligned} \text{Critical Z Value: } Z &= (\bar{p} - pH_0) / \sigma_p \\ &= (0.81 - 0.5) / 0.0331 \\ &= 9.36 \end{aligned}$$

$$Z_c = -1.1645$$

$$Z > Z_c$$

$$9.36 > -1.1645$$

Z value falls under Rejection Region. Hence, Null Hypothesis $H_0: P = 0.5$ is rejected.

Therefore, Alternate Hypothesis $H_1: P > 0.5$ is Accepted.

Inference- More than 50% Consumers Experienced that Generic Medicines are As Safe As Branded Generics.

Hypothesis 3-

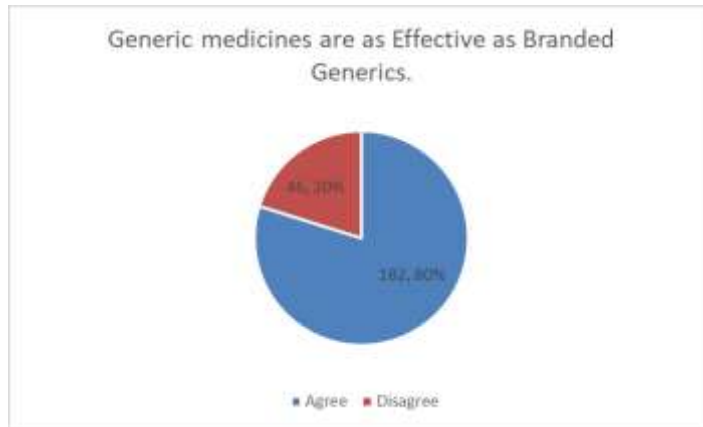
$H_0: P = 0.5 \longrightarrow$ 50% Consumers Experienced that Generic medicines are as Effective as Branded Generics.

$H_1: P > 0.5 \longrightarrow$ More than 50% Consumers Experienced that Generic Medicines are as Effective as Branded Generics.

Hypothesis is tested with Hypothesis Testing for Proportions Method.

Data-

Total Users	228			
Factor	Agree	%	Disagree	%
Generic medicines are as Effective as Branded Generics.	182	79.82%	46	20.17%



Calculation-

$pH_0 = 0.5$: Hypothesized Value of the Population Proportion

$qH_0 = 1 - pH_0$

$= 1 - 0.5$

$= 0.5$

Sample Size (n) = 228

$\bar{p} = 0.80$ Sample proportion of positive samples

$\bar{q} = 0.20$ Sample proportion of negative samples

$\alpha = 0.05$ (Level of significance)

$\sigma_p \text{ Variance} = \sqrt{(pH_0 \times qH_0) / n}$

$= \sqrt{(0.5 \times 0.5) / 228}$

$= 0.0331$ (Standard error of proportion)

Critical Z Value: $Z = (\bar{p} - pH_0) / \sigma_p$

$= (0.80 - 0.5) / 0.0331$

$= 9.06$

$Z_c = -1.1645$

$$Z > Z_c$$

$$9.06 > -1.1645$$

Z value falls under Rejection Region. Hence, Null Hypothesis $H_0: P = 0.5$ is rejected.

Therefore, Alternate Hypothesis $H_1: P > 0.5$ is Accepted.

Inference- More than 50% of consumers experienced that generic medicines are as effective as branded generics.

Hypothesis 4-

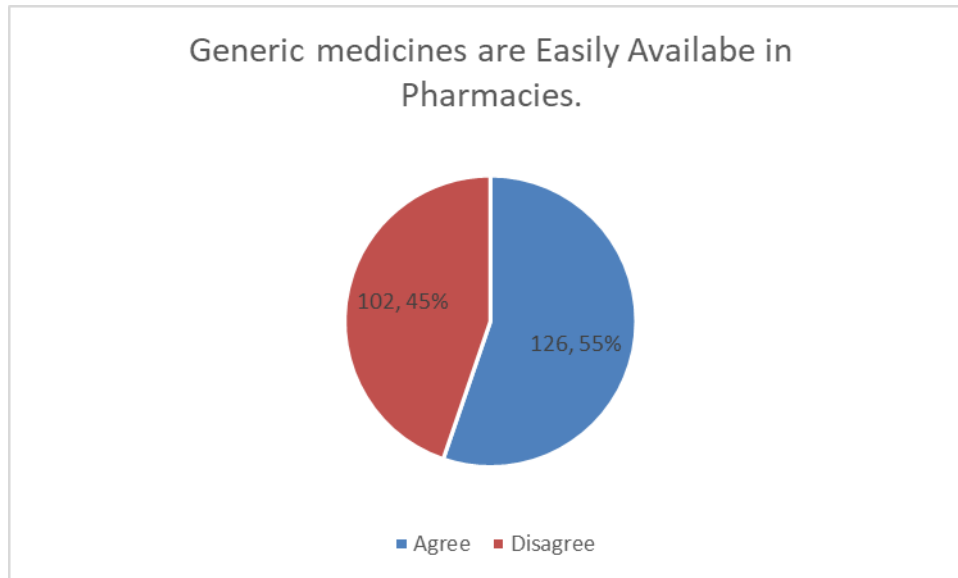
$H_0: P = 0.5$ → 50% of consumers experienced that generic medicines are easily available in pharmacies.

$H_1: P > 0.5$ → More than 50% of consumers experienced that generic medicines are easily available in pharmacies.

Hypothesis is tested with 'hypothesis testing for proportions' method.

Data-

Total Users	228			
Factor	Agree	%	Disagree	%
Generic medicines are Easily Available in Pharmacies.	126	55.26%	102	44.74%



Calculation-

$pH_0 = 0.5$: Hypothesized value of the population proportion

$qH_0 = 1 - pH_0$

$= 1 - 0.5$

$= 0.5$

Sample Size (n) = 228

$\bar{p} = 0.55$ Sample proportion of positive samples

$\bar{q} = 0.45$ Sample proportion of negative samples

$\alpha = 0.05$ (Level of significance)

σ_p Variance = $\sqrt{(pH_0 \times qH_0) / n}$

$= \sqrt{(0.5 \times 0.5) / 228}$

$= 0.0331$ (Standard error of proportion)

Critical Z Value: $Z = (\bar{p} - pH_0) / \sigma_p$

$= (0.55 - 0.5) / 0.0331$

$= 1.51$

$Z_c = -1.1645$

$Z > Z_c$

$1.51 > -1.1645$

Z value falls under rejection region. Hence, null hypothesis H_0 : $P =$

0.5 is rejected.

Therefore, Alternate Hypothesis H_1 : $P > 0.5$ is accepted.

Inference- More than 50% of consumers experienced that generic medicines are easily available in pharmacies.

Observation-

Out of the total sample size of 284 Consumers, 228 Consumers use or have used generic medicines. That means, 80% of the population prefer to use generic medicines.

Out of the consumers who use or have used generic medicines, 89.47% of consumers have experienced that the generic medicines are substantially of low pricing than that of branded generics, 80.70% of consumers have experienced that the generic medicines are as safe as branded generics, 79.82% of consumers have experienced that the generic medicines are as effective as branded generics and 55.26 % of consumers experienced that generic medicines are easily available in pharmacies.

Conclusion-

As per the findings of the study, majority (80%) of consumers use or have used generic medicines. The positive approach of consumers towards generic medicines is predominantly dependent on low price, safety and efficacy of generic medicines.

Hence, the positive relation can evidently be seen between the usage of generic medicines and low price, safety and efficacy of generic medicines respectively.

Suggestion-

1. Separate pricing policy needs to be framed to address the pricing of generic medicines.
2. Safety and efficacy checks should mandatorily be followed.
3. Generic medicines should have the quality control check approval mark on the strip. This will help to further enhance the confidence of consumers to use generic medicines.

Limitations of the study-

- 1) One of main limitation of the study would be that the survey will be conducted in Nagpur region only.

- 2) As compared to total pharmacies, physicians, pharmaceutical companies and consumers in the region, only a limited number are considered during the study and are included in the questionnaire for the survey.
- 3) The sample size may be limited and may not represent the whole population.
- 4) Under the primary data collection, the answers given by the surveyed sample may not be reliable.
- 5) Under the secondary data collection researcher will rely over the data sources which may or may not be perfect.
- 6) This study is with respect to pharmaceutical sector only.

References, bibliography & webography

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