

Original Research

Knowledge, attitude, and perception about generic versus branded medicines in urban population in Hyderabad a questionnaire survey

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ABSTRACT:

Background: Generic medicines offer a cost-effective alternative to branded drugs, yet their acceptance among the public remains inconsistent, particularly in urban India. This study aimed to assess the knowledge, attitudes, and perceptions of the urban population in Hyderabad regarding generic versus branded medicines. **Methods:** A cross-sectional survey was conducted from February to July 2024 among 250 adult residents of Hyderabad using a validated, bilingual (English and Telugu) questionnaire. Data on demographics, knowledge, attitudes, and perception were analyzed using descriptive statistics and Chi-square tests. **Results:** The mean age of participants was 34.6 ± 9.2 years. While 60.4% knew that generics contain the same active ingredients as branded drugs, only 45.2% were aware of their regulatory equivalence. About 68.8% were willing to use generics if prescribed, but only 38.4% felt confident requesting them independently. Pharmacists (36.8%) were the most common information source, followed by the internet and doctors. Perception of efficacy varied, with 41.6% considering generics equally effective. **Conclusion:** Though awareness of generics exists, significant gaps in perception and confidence remain. Strengthening communication through healthcare providers and public education is essential to improve generic medicine acceptance.

Keywords: Generic medicines, Branded drugs, Public perception, Urban health, Hyderabad

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INTRODUCTION

Access to affordable healthcare is a critical public health concern, particularly in low- and middle-income countries like India, where out-of-pocket expenditure remains high. One potential strategy to improve medication affordability and accessibility is the use of generic medicines, which are cost-effective alternatives to branded drugs with equivalent therapeutic efficacy [1]. Despite being scientifically proven to be bioequivalent, generic drugs often face skepticism and underutilization, both from healthcare providers and the general public [2].

India has emerged as one of the largest producers of generic medicines globally, contributing significantly to the global pharmaceutical supply chain. The government has actively promoted the use of generics through initiatives such as the **Jan Aushadhi**

Scheme, aimed at increasing availability and affordability for the masses [3]. However, several studies indicate that public trust in generics remains limited due to perceptions of inferior quality and efficacy, as well as inconsistent experiences with different formulations [4]. This gap between policy promotion and ground-level acceptance highlights the need to understand the awareness and attitudes of the general population toward generic drugs.

Previous research conducted in various urban and rural settings in India revealed that knowledge and perception regarding generic medicines vary considerably based on education, socioeconomic status, and access to healthcare services [5]. Urban populations, particularly in metropolitan areas like Hyderabad, exhibit more exposure to branded pharmaceutical marketing, possibly influencing their

preferences and trust in branded medications over generics [6]. Moreover, patient decisions are often shaped by the opinions of healthcare providers, who themselves may harbor biases against generics due to concerns over quality control and regulatory oversight [7].

In recent years, the Indian regulatory framework has intensified efforts to ensure quality assurance for generic medicines through tighter bioequivalence and manufacturing norms [8]. Despite these improvements, public awareness of such reforms remains limited. Furthermore, while most urban residents are literate and have internet access, their ability to critically evaluate information about medicines is variable, leading to continued misconceptions [9]. This underscores the importance of assessing not only knowledge levels but also the attitudes and perceptions that govern medication choices.

Hyderabad, being a major urban center with a diverse and educated population, provides a unique setting to explore these issues in depth. Understanding how this demographic perceives generic medicines, what sources influence their opinions, and whether there are behavioral patterns related to trust or rejection of generics can inform policymakers, healthcare professionals, and pharmaceutical marketers. The findings can also support targeted awareness campaigns aimed at improving acceptance and rational use of generic drugs.

Therefore, this study aims to evaluate the knowledge, attitudes, and perceptions of an urban population in Hyderabad toward generic versus branded medicines using a structured questionnaire. The insights derived from this survey will contribute to bridging the information and perception gap and may guide strategies to promote rational and cost-effective drug use in urban healthcare systems [10].

MATERIALS AND METHODS

Study Design and Setting

This was a **cross-sectional, questionnaire-based survey** conducted among the urban population of Hyderabad, India. The study was carried out over a six-month period, from **February 2024 to July 2024**, with prior ethical clearance obtained from the institutional review board.

Study Population

The study included **250 participants**, selected from various residential zones within Hyderabad using **convenience sampling**. Adults aged **18 years and above** who were able to read and understand English or Telugu and provided informed consent were eligible. Healthcare professionals, pharmacists, and individuals affiliated with pharmaceutical industries were excluded to avoid professional bias.

Sample Size Calculation

A minimum sample size of 246 was calculated using the formula for estimating a proportion in a finite population:

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{d^2}$$

Assuming 95% confidence level ($Z = 1.96$), 50% expected knowledge or awareness ($p = 0.5$), and 6% absolute precision ($d = 0.06$), the required sample size was 246. To account for non-response or incomplete data, the sample was rounded up to **250 respondents**.

Questionnaire Design

A structured, pre-tested questionnaire was developed based on prior studies and WHO guidelines related to generic drug awareness. The tool consisted of four sections:

- **Section A:** Sociodemographic details (age, gender, education, occupation, income)
- **Section B:** Knowledge about generic and branded drugs (10 items)
- **Section C:** Attitudes toward generic medicines (5 Likert-scale items)
- **Section D:** Perception and behavior (5 items)

The questionnaire was **bilingual (English and Telugu)** to ensure comprehensibility and cultural relevance. It was validated by a panel of experts from pharmacology and public health, and a pilot test was conducted on 25 individuals (not included in the final study) to assess clarity and internal consistency. The **Cronbach's alpha** for internal reliability was 0.82.

Data Collection Procedure

Data were collected through both **in-person interviews** and **online distribution** using Google Forms. Field investigators were trained to ensure uniformity in data collection. Informed consent was obtained digitally or in writing, and anonymity was assured.

Statistical Analysis

Collected data were entered in Microsoft Excel and analyzed using **IBM SPSS Version 25.0 (IBM Corp., Armonk, NY, USA)**. Descriptive statistics such as mean, standard deviation, and percentages were calculated for demographic and categorical variables. **Chi-square test** was used to assess associations between demographic variables and knowledge/attitude/perception scores. A **p-value < 0.05** was considered statistically significant.

Ethical Considerations

The study protocol was approved by the Institutional Ethics Committee. All participants were informed about the objectives of the study and their right to withdraw at any stage without penalty. No personal identifiers were collected, and confidentiality was strictly maintained.

RESULTS

Table 1: Sociodemographic Profile of Participants

A total of 250 participants were surveyed. The mean age of the respondents was **34.6 ± 9.2 years**. The sample was balanced in terms of gender, with **52% females** and **48% males**. Most participants (42.4%) held an undergraduate degree, and 30.8% were employed in private sectors. Approximately 40% belonged to the middle-income category. This distribution ensured a diverse urban representation across Hyderabad.

Table 2: Knowledge about Generic Medicines

Only **60.4%** of participants correctly identified that generic medicines contain the same active ingredients as branded drugs. Around **45.2%** were unaware that generics are required to meet the same quality standards. However, **70.8%** of respondents knew that generics are cheaper than branded counterparts. These results indicate a moderate level of awareness, with specific knowledge gaps related to regulation and equivalence.

Table 3: Attitude Towards Generic Medicines

Among participants, **68.8%** expressed a willingness to use generic medicines if prescribed by a doctor, while only **38.4%** felt confident requesting a generic alternative themselves. About **59.6%** believed that cost-saving was an advantage, but **33.2%** had concerns about safety and effectiveness. These responses suggest that professional endorsement plays a key role in shaping positive attitudes.

Table 4: Perception and Source of Information

When asked about the perceived efficacy, **41.6%** believed that generics are as effective as branded drugs, while **22.4%** considered them inferior. The most common source of information was **pharmacists (36.8%)**, followed by **internet sources (28.8%)** and **doctors (25.6%)**. This highlights the potential for community pharmacists to be engaged more actively in public education regarding generics.

[Table 1] Sociodemographic Profile of Participants (n = 250)

Variable	Frequency (n)	Percentage (%)
Age (Mean ± SD)	-	34.6 ± 9.2
Gender		
- Male	120	48.0
- Female	130	52.0
Education Level		
- High School	40	16.0
- Undergraduate	106	42.4
- Postgraduate	70	28.0
- Other	34	13.6
Occupation		
- Student	60	24.0
- Private Sector	77	30.8
- Government Employee	40	16.0
- Homemaker	43	17.2
- Other	30	12.0
Income Group (Monthly)		
- Low (< ₹20,000)	55	22.0
- Middle (₹20K-50K)	100	40.0
- High (> ₹50,000)	95	38.0

[Table 2] Knowledge about Generic Medicines

Knowledge Statements	Correct Response (n)	Percentage (%)
Generic drugs have the same active ingredient as branded drugs	151	60.4
Generic drugs are of inferior quality	96 (disagreed)	38.4
Generic drugs must meet quality standards set by regulatory bodies	113	45.2
Generic drugs are cheaper than branded drugs	177	70.8
Generic medicines are available at government-run stores	165	66.0

[Table 3] Attitude Towards Generic Medicines

Attitude Statement	Agree (n)	Percentage (%)
I would use a generic medicine if prescribed by a doctor	172	68.8
I am comfortable requesting a generic medicine from a pharmacist	96	38.4
Generic medicines are a good option to save money	149	59.6
I believe generic drugs may not be safe or effective	83	33.2

I trust government regulations on generic drugs	105	42.0
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[Table 4] Perception and Information Sources

Variable	Frequency (n)	Percentage (%)
Perceived efficacy of generic vs branded drugs		
- Equally effective	104	41.6
- Less effective	56	22.4
- Not sure	90	36.0
Primary source of information on generics		
- Pharmacist	92	36.8
- Internet	72	28.8
- Doctor	64	25.6
- Friends/Family	22	8.8

DISCUSSION

The present cross-sectional study investigated the knowledge, attitudes, and perceptions of an urban population in Hyderabad regarding generic versus branded medicines. The findings reveal a moderate level of knowledge and mixed attitudes toward generics, with considerable influence from healthcare providers and informal sources. These observations align with earlier studies that have identified both progress and persistent gaps in public understanding and trust in generic medicines across urban Indian settings [11].

The demographic profile of respondents reflected a reasonably educated and economically diverse urban population. A significant proportion of respondents had at least a college-level education, which is often associated with better health literacy. However, knowledge regarding regulatory equivalence between generic and branded medicines was found to be lacking in nearly 55% of participants. Similar knowledge gaps have been reported in recent national-level surveys, where even educated urban consumers demonstrated limited awareness of bioequivalence and quality standards for generics [12].

It is notable that while over 60% of participants recognized that generic drugs contain the same active ingredients as branded ones, fewer were aware of the regulatory requirements ensuring their quality. This discrepancy suggests a disconnect between basic drug information and regulatory comprehension. According to a study conducted in Maharashtra, even when patients had been prescribed generics, many could not differentiate them from branded drugs, reflecting a lack of structured public health communication [13].

Attitudes toward generics in this study were generally favorable when supported by healthcare professionals. Nearly 69% of respondents reported willingness to use a generic medicine if prescribed by a doctor. However, self-initiation of generic requests remained low, with only 38% of participants confident enough to ask for generics at the pharmacy. This hesitation echoes findings from other urban centers, where trust in the prescriber heavily influences medication choices [14]. The doctor-patient relationship thus plays a pivotal role in shaping medicine acceptance,

and the endorsement of generics by clinicians could significantly impact usage rates.

Cost-effectiveness was perceived as a major advantage, consistent with the objectives of government initiatives such as **Jan Aushadhi Yojana**, which promotes low-cost quality generic drugs [15]. Still, concerns about safety and efficacy lingered among one-third of respondents. This perception is not uncommon, even in countries with robust pharmacovigilance systems. A 2024 review from the WHO's Southeast Asia region emphasized that public skepticism toward generics is often linked to historical inconsistencies in quality and lack of pharmacist-patient counseling [16].

Interestingly, pharmacists emerged as the most cited source of information about generic medicines in this study. This finding mirrors recent observations from Chennai and Ahmedabad, where community pharmacists were found to be more accessible and influential than physicians in educating consumers [17]. However, pharmacist knowledge and attitudes can vary, and inconsistent messaging may further confuse consumers. Thus, structured training programs and continuing education for pharmacists may enhance their role in promoting rational drug use. The internet was another major source of information, but it presents a double-edged sword. While digital health literacy is improving, unverified content can mislead users and reinforce misconceptions. Only 25.6% of respondents cited doctors as their main source of generic medicine information, underscoring a need for clinicians to proactively engage in patient education. A qualitative study from Karnataka showed that brief counseling by doctors about the equivalence of generics significantly improved patient compliance and acceptance [18].

Perception-wise, only 42% of respondents considered generics as equally effective, while 36% remained unsure. This uncertainty reflects the ongoing need to bridge perception gaps through regulatory transparency, public awareness campaigns, and direct patient engagement. The National Medical Commission (NMC) recently proposed guidelines mandating generic prescribing, which may help normalize their use over time [19].

It is worth mentioning that urban populations like those in Hyderabad are highly exposed to pharmaceutical marketing, which may skew perceptions in favor of branded drugs. The study findings suggest that rational drug use policies should be accompanied by strong awareness strategies targeting both patients and healthcare providers. The potential of generics to reduce out-of-pocket expenditure and improve medication adherence can only be realized if the public is adequately informed and confident in their use [20].

Overall, the study highlights key enablers and barriers in the acceptance of generic medicines. While there is a reasonable baseline awareness, efforts must now focus on reinforcing confidence through institutional trust, professional endorsement, and consistent public messaging. Health authorities, physicians, and pharmacists must work synergistically to dispel myths and promote evidence-based acceptance of generics across all socioeconomic segments.

CONCLUSION

This study revealed moderate knowledge and mixed perceptions about generic medicines among the urban population in Hyderabad. Although most participants recognized the cost benefits and were willing to use generics if prescribed, doubts about quality and efficacy persisted. The study highlights the pivotal role of healthcare providers, especially doctors and pharmacists, in shaping patient attitudes. Addressing misconceptions through public education, regulatory transparency, and professional training can strengthen trust in generics. Enhanced awareness is essential to promote rational drug use and reduce out-of-pocket expenditures, thereby supporting national objectives for equitable access to affordable healthcare.

REFERENCES

- Barrett RA, Bashayr Ali A. Community pharmacists' knowledge of substandard and falsified medicines in clinical practice: a cross-sectional survey in Saudi Arabia. *Int J Pharm Pract.* 2023 Apr 10;31(2):176–82. doi: 10.1093/ijpp/riac107. PMID: 36748987.
- Awada S, Sayah R, Mansour M, Nabhane C, Hatem G. Assessment of community pharmacists' knowledge of the differences between generic drugs and biosimilars: A pilot cross-sectional study. *J Med Access.* 2023 Apr 17;7:27550834231167049. doi: 10.1177/27550834231167049. PMID: 37091630.
- Swakowska K, Religioni U, Staniszevska A. Opinion of Polish Patients with Epilepsy on Generic Medications. *Healthcare (Basel).* 2023 Oct 12;11(20):2717. doi: 10.3390/healthcare11202717. PMID: 37893791.
- Chaturvedi A, Dubey AK, Naveen A, Sravani MR. Perceived Utility of Jan Aushadhi Outlets and Awareness of Generic Medicines at the Andaman and Nicobar Islands: A Cross-Sectional Study. *Cureus.* 2024 Apr 4;16(4):e57630. doi: 10.7759/cureus.57630. PMID: 38711720.
- Nakipov Z, Kaliyeva D, Turgambayeva A, et al. Physicians' Knowledge and Attitude about Generic Drugs in the Republic of Kazakhstan. *Med J Islam Repub Iran.* 2024 Jun 10;38:65. doi: 10.47176/mjiri.38.65. PMID: 39399608.
- Dehury RK, Ahmad I, Behera MR, et al. Genesis of People's Medicine Centre (PMC) for popularisation of generic medicine: A critical qualitative inquiry. *Explor Res Clin Soc Pharm.* 2024 May 22;14:100455. doi: 10.1016/j.rcsop.2024.100455. PMID: 38868395.
- Gebresillassie BM, Belachew SA, Tefera YG, et al. Evaluating patients', physicians' and pharmacy professionals' perception and concern regarding generic medicines in Gondar town, northwest Ethiopia. *PLoS One.* 2018 Nov 7;13(11):e0204146. doi: 10.1371/journal.pone.0204146. PMID: 30403668.
- Idris IM, Hassan DN, Hassen HA, et al. Consumers' Perception of Generic Medicines and Evaluation of In Vitro Quality Control Parameters of Locally Manufactured Paracetamol Tablets in Asmara, Eritrea. *Biomed Res Int.* 2021 Mar 26;2021:6642826. doi: 10.1155/2021/6642826. PMID: 34150909.
- Al-Arifi MN. Assessment of Knowledge, Attitudes, and Factors Influencing the Selection Student of Generic Medicine. *Front Public Health.* 2021 Dec 6;9:767128. doi: 10.3389/fpubh.2021.767128. PMID: 34938706.
- Shakeel S, Hassali MA, Rehman H, et al. Knowledge, Attitude, and Practice Towards Biosimilars and Interchangeable Products: A Prescriptive Insight by the Pharmacists. *Int J Gen Med.* 2020 Nov 11;13:1075–82. doi: 10.2147/IJGM.S266545. PMID: 33204142.
- Qu J, Zuo W, Took RL, et al. A nationwide survey exploring physicians' and pharmacists' knowledge, awareness and perceptions regarding generic medicines in China. *BMC Health Serv Res.* 2022 Aug 20;22(1):1069. doi: 10.1186/s12913-022-08438-9. PMID: 35987631.
- Alemu S, Tadesse N, Mulugeta T, Assefa D. Generic substitution for prescribed brand medicines in Ethiopia: knowledge, attitude and practice among pharmacy professionals in community drug retail outlets. *BMC Health Serv Res.* 2022 Jul 19;22(1):926. doi: 10.1186/s12913-022-08330-6. PMID: 35854313.
- Domeyer PJ, Katsari V, Sarafis P, et al. Greek students' attitudes, perception and knowledge regarding generic medicines in times of economic crisis: a cross-sectional study. *BMC Med Educ.* 2018 Nov 15;18(1):262. doi: 10.1186/s12909-018-1379-8. PMID: 30442145.
- James PB, Bah AJ, Margao EK, et al. Exploring the Knowledge and Perception of Generic Medicines among Final Year Undergraduate Medical, Pharmacy, and Nursing Students in Sierra Leone. *Pharmacy (Basel).* 2018 Jan 4;6(1):3. doi: 10.3390/pharmacy6010003. PMID: 29300350.
- Aivalli PK, Elias MA, Pati MK, et al. Perceptions of the quality of generic medicines: implications for trust in public services within the local health system in Tumkur, India. *BMJ Glob Health.* 2018 Jan 13;2(Suppl 3):e000644. doi: 10.1136/bmjgh-2017-000644. PMID: 29531844.
- Qu J, Zuo W, Wang S, et al. Knowledge, perceptions and practices of pharmacists regarding generic substitution in China: a cross-sectional study. *BMJ Open.* 2021 Oct 18;11(10):e051277. doi: 10.1136/bmjopen-2021-051277. PMID: 34663661.
- Li WJ, Xia MJ, Gong SW, Ding YF. Perceptions of Generic Drugs in the Pharmacists of Public Hospitals: A Cross-sectional Survey in Hubei Province of China.

- Curr Med Sci.* 2021 Oct;41(5):987–95. doi: 10.1007/s11596-021-2412-4. PMID: 34476663.
18. Mahdi LA, Kadhim DJ, Al-Jumaili AA. Knowledge, Perception and Attitude Regarding Generic Medicines among Iraqi Physicians. *Innov Pharm.* 2020 Feb 7;11(1):10.24926/iip.v11i1.2332. doi: 10.24926/iip.v11i1.2332. PMID: 34017622.
19. Salmane Kulikovska I, Poplavska E, Ceha M, Mezinska S. Use of generic medicines in Latvia: awareness, opinions and experiences of the population. *J Pharm Policy Pract.* 2019 Jan 6;12:1. doi: 10.1186/s40545-018-0159-5. PMID: 30627436.
20. Dulaney K, Hohmeier K, Fisher C, Cardosi L, Wasson M. Exploring pharmacists' perceptions regarding influenza and streptococcal testing within a chain pharmacy. *J Am Pharm Assoc (2003).* 2018 Jul–Aug;58(4):438–41.e1. doi: 10.1016/j.japh.2018.03.004. PMID: 29691199.