IJPSR (2026), Volume 17, Issue 6 **(Research Article)**

INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH

Received on 05 January 2026; received in revised form, 10 February 2026; accepted, 15 February 2026; published 01 June 2026

UNDERSTANDING PATIENT PERSPECTIVES ON GENERIC MEDICINES: EVIDENCE FROM A CROSS-SECTIONAL STUDY IN JAIPUR

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Keywords:

Generic medicines, Knowledge, Attitude and Practice, Patients, Jan Aushadhi, Healthcare affordability, India

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ABSTRACT: Background: Generic medicines are a key strategy for improving healthcare affordability and access, particularly in India, where out-of-pocket expenditure remains high. Despite policy initiatives such as the Pradhan Mantri Bhartiya Janaushadhi Pariyojana, patient acceptance and utilisation of generic medicines remain inconsistent. **Objectives:** This study aimed to assess the knowledge, attitude, and practice (KAP) of patients regarding the use of generic medicines in Jaipur and to examine the association of KAP scores with selected demographic variables. **Methods:** A cross-sectional study was conducted among 100 patients using a structured questionnaire. Data were analysed using descriptive statistics, independent-samples t-tests, and one-way ANOVA to assess associations between KAP scores and demographic factors. **Results:** Patients demonstrated moderate to good knowledge of generic medicines (mean knowledge score: 7.15 ± 3.12); however, attitudes (6.42 ± 2.94) and practices (5.85 ± 1.82) were comparatively lower, indicating a knowledge–practice gap. Higher educational status and urban residence were significantly associated with better knowledge scores ($p < 0.05$). In contrast, practice scores were significantly higher among rural participants ($p < 0.001$). Knowledge and attitude scores were not significantly associated with age, gender, or employment status. Concerns regarding quality, therapeutic effectiveness, and availability remained prominent barriers. **Conclusion:** Although awareness of generic medicines was satisfactory, this did not consistently translate into favorable attitudes or optimal practices. Targeted patient education, strengthened healthcare provider engagement, and improved availability are essential to enhance the rational use of generic medicines.

INTRODUCTION: Generic medicines are central to improving affordable and equitable healthcare in India, where a substantial proportion of health expenditure is paid out of pocket. As therapeutically equivalent alternatives to branded medicines, generics meet the same regulatory standards for quality, safety, and efficacy while offering significant cost savings.

QUICK RESPONSE CODE

DOI: 10.13040/IJPSR.0975-8232.17(6).1923-31

This article can be accessed online on www.ijpsr.com

DOI link: https://doi.org/10.13040/IJPSR.0975-8232.17(6).1923-31

Although India is a leading global producer of generic medicines and has implemented initiatives such as the Pradhan Mantri Bhartiya Janaushadhi Pariyojana to enhance access through Jan Aushadhi Kendras, utilization of generic medicines at the patient level remains uneven.

Evidence suggests that limited awareness, persistent misconceptions regarding quality and effectiveness, preference for branded medicines, and prescriber influence continue to hinder acceptance of generic medicines. While several studies in India have examined generic medicine use, most focus on healthcare providers or are conducted in hospital-based settings.

Data specifically exploring patients' knowledge, attitudes, and practices (KAP) toward generic medicines in urban community settings remain limited, particularly in Jaipur.

Jaipur, a rapidly expanding urban center with diverse socioeconomic and healthcare-seeking patterns, represents an important yet underexplored context for understanding patient-level barriers to generic medicine utilization. This study addresses this gap by assessing the KAP of patients regarding generic medicines in Jaipur and identifying factors influencing their acceptance. The findings are expected to contribute context-specific evidence to guide targeted educational interventions and support policies aimed at promoting rational and cost-effective medicine use.

Literature Review: Research on patients' knowledge, attitudes, and practices (KAP) regarding generic medicines has evolved over the past decade in parallel with policy efforts to reduce out-of-pocket healthcare expenditure. Early international studies established the conceptual framework for understanding patient perceptions of generic medicines. Evidence from developed settings indicated that patient knowledge, educational status, and recommendations from healthcare professionals strongly influenced acceptance, whereas brand loyalty and mistrust toward lower-priced alternatives emerged as major barriers to utilization [7, 12].

In the Indian context, initial investigations largely focused on price variation and general awareness of generic medicines. Ahire *et al.* demonstrated substantial cost differences between branded and generic drugs and identified low public awareness, limited physician acceptance, and poor consumer confidence as key challenges to wider adoption [14].

Subsequent assessments of the Jan Aushadhi initiative reported that, despite its objective of improving access to affordable medicines, awareness and utilization among patients remained suboptimal. Sadiq *et al.* observed that although physicians were generally aware of the scheme, generic prescribing was uncommon and patient awareness of Jan Aushadhi outlets was limited [8]. Cost analyses by Mukherjee further highlighted pricing inconsistencies within the scheme, raising concerns regarding its effectiveness in consistently providing the most economical alternatives [10].

From 2018 onward, patient-focused KAP studies gained prominence. A community pharmacy–based study from Jaipur by Jangra *et al.* provided important local evidence, reporting relatively high awareness of generic medicines but persistent misconceptions regarding their quality and efficacy [1]. Physician recommendation strongly influenced patient preference, with most respondents opting for generics only when advised by prescribers. Similar patterns were observed in tertiary care–based studies from northern India, where utilization of generic medicines remained low despite moderate levels of awareness [2]. During the same period, international systematic reviews reaffirmed that negative perceptions and strong brand preferences continued to limit generic medicine acceptance across diverse settings [7, 12].

More recent community-based investigations expanded the focus to include barriers and actual utilization practices. Ballala *et al.* reported that although educational interventions improved patient attitudes, this did not consistently translate into regular use of generic medicines [3]. Evaluations of PMBJP implementation in Jaipur and other regions identified operational constraints, inconsistent availability, and inadequate prescriber support as persistent barriers [9, 11].

Studies conducted in dental clinics and rural settings indicated higher willingness to use generics when therapeutic equivalence was clearly explained, underscoring the importance of targeted patient education [6].

Recent evidence from 2021 to 2024 continues to demonstrate incremental improvements in awareness but ongoing gaps in attitudes and practices. Studies from Shimoga, Punjab, and the Andaman and Nicobar Islands reported low awareness of Jan Aushadhi Kendras and sustained mistrust toward generic medicines [4, 5]. Overall, the literature reflects a gradual improvement in patient knowledge over time; however, negative attitudes, low utilisation, and systemic barriers persist. These findings highlight the continued need for focused KAP studies among patients in Jaipur to inform targeted interventions and policy refinement [1, 3, 12].

METHODS:

Sample Size Determination: The sample size for the present study was calculated using the single population proportion formula. In the absence of prior local prevalence data on patients' knowledge, attitudes, and practices regarding generic medicines in Jaipur, a conservative prevalence of 50% was assumed to ensure maximum variability. With a 95% confidence level (Z = 1.96) and an absolute precision of 10%, the minimum required sample size was calculated as 96. To compensate for potential non-response and incomplete questionnaires, the sample size was rounded to 100 participants.

Sampling Technique and Sampling Frame: The sampling frame comprised patients attending the outpatient department (OPD) of selected community health centres during the study period who fulfilled the inclusion criteria.

Data were collected through face-to-face interviews in Hindi or English, as per participant preference, ensuring confidentiality and voluntary participation.

The study was conducted in five public Community Health Centres (CHCs) in Jaipur district, recruiting patients from general OPDs. Emergency, inpatient, and speciality clinic attendees were excluded. Eligible patients were identified from OPD records and selected using simple random sampling until 100 participants were enrolled. Written informed consent was obtained before data collection.

Data Collection Instrument: The data were collected using a structured KAP questionnaire specifically designed for this study. The instrument was developed based on a comprehensive literature review of validated KAP surveys on generic medicines conducted in India and similar settings [15]. The questionnaire consisted of four sections:

Demographic Information: Age, gender, education, employment, place of residence.

Knowledge: Awareness of generic medicines, understanding of their equivalence and regulatory approval.

Attitudes: Beliefs and perceptions about generic medicine quality, safety, and acceptability of generic substitution.

Practices: Patterns of generic medicine usage, sources of information, and common barriers or facilitators to usage.

Data Management and Analysis: Data were entered into Microsoft Excel and analysed using SPSS (version 22). Responses to knowledge, attitude, and practice items were recorded as binary responses (Yes/No). Knowledge, attitude, and practice (KAP) scores were calculated by assigning 1 point to each correct or positive response, with higher scores indicating better knowledge, more favourable attitudes, and appropriate practices regarding generic medicines.

Descriptive statistics were used to summarise demographic characteristics and KAP variables. Categorical data were presented as frequencies and percentages, while continuous variables were expressed as mean ± standard deviation (SD) and median with interquartile range (IQR).

Before inferential analysis, the distribution of continuous variables, including knowledge, attitude, and practice scores, was assessed for normality using the Shapiro–Wilk test. In addition, visual inspection of histograms and Q–Q plots was performed to corroborate the test results.

The Shapiro–Wilk test indicated that the composite knowledge, attitude, and practice scores were approximately normally distributed ($p > 0.05$ for all variables). Therefore, parametric statistical tests were considered appropriate and were applied in subsequent analyses.

Associations between KAP scores and demographic variables were analysed using independent sample t-tests for two-group comparisons (e.g., gender, residence, type of medical facility) and one-way analysis of variance (ANOVA) for variables with more than two categories (e.g., age group, education level, employment status, number of healthcare visits). A p-value < 0.05 was considered statistically significant.

Ethical Considerations: The study protocol was reviewed and approved by the Institutional Ethics Committee of the host institution in Jaipur before initiation.

RESULTS:

TABLE 1: DEMOGRAPHIC CHARACTERISTICS OF PATIENTS IN STUDY POPULATION (N=100)

Variable	Category	Frequency (%)
Age Group	18–25	10 (10.0%)
	26–35	34 (34.0%)
	36–45	25 (25.0%)
	46–55	23 (23.0%)
	≥56	8 (8.0%)
Gender	Male	48 (48.0%)
	Female	52 (52.0%)
Education	No formal education	11 (11.0%)
	Primary school	10 (10.0%)
	High school	28 (28.0%)
	College / University	28 (28.0%)
	Postgraduate	23 (23.0%)
Employment Status	Employed	46 (46.0%)
	Unemployed	14 (14.0%)
	Retired	15 (15.0%)
	Student	25 (25.0%)
Type of Residence	Rural	46 (46.0%)
	Urban	54 (54.0%)
Number of Visits to Healthcare Facilities (per year)	1–3 times	26 (26.0%)
	4–6 times	30 (30.0%)
	7–10 times	15 (15.0%)
	>10 times	29 (29.0%)
Type of medical facility	Public	47 (47.0%)
	Private	53 (53.0%)
Source of Information on Generics	Doctor/Healthcare provider	37 (37.0%)
	Pharmacist	34 (34.0%)
	Media (TV/Internet/Newspapers)	19 (19.0%)
	Family or friends	8 (8.0%)
	Other	2 (2.0%)

The study included 100 participants with representation across all age groups, with the largest proportion belonging to the 26–35-year age category. The gender distribution was nearly equal. Participants demonstrated varied educational backgrounds, with most having completed secondary or higher education. Nearly half of the participants were employed, while the remainder included students, retired individuals, and unemployed participants. Slightly more than half of the study population resided in urban areas. Regarding healthcare utilization, participants reported varying frequencies of visits to healthcare facilities throughout the year, and both public and private healthcare facilities were commonly used. Doctors and pharmacists were the primary sources of information regarding generic medicines, while media and personal contacts played a lesser role. Detailed demographic characteristics are presented in **Table 1.**

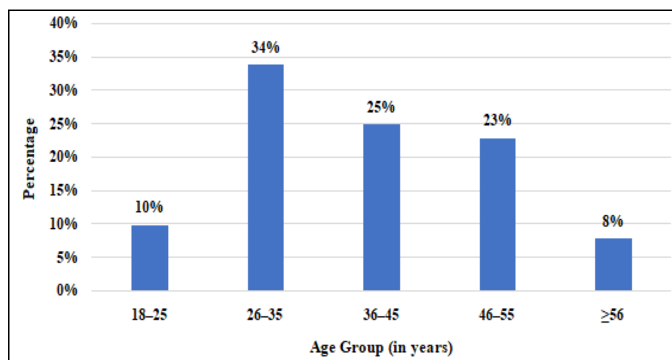

FIG. 1: BAR CHART FOR AGE GROUP IN STUDY POPULATION

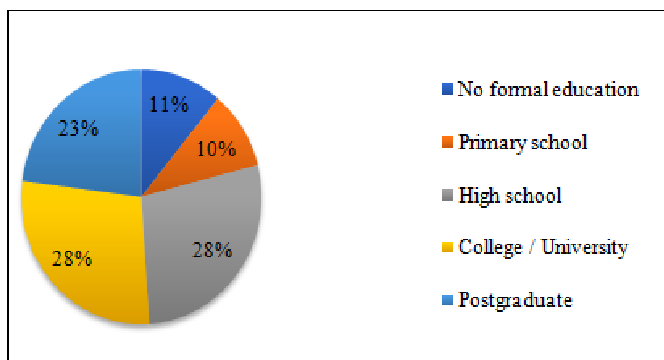

FIG. 2: EDUCATIONAL LEVEL OF PARTICIPANTS IN THE STUDY POPULATION

TABLE 2: KNOWLEDGE OF PATIENTS REGARDING UTILIZATION OF GENERIC MEDICINES IN STUDY POPULATION (N=100)

Knowledge of Patients	Frequency (%)
Aware of generic medicines	66 (66.0%)
Knows generic medicines can be substituted for branded medicines	59 (59.0%)
Knows the difference between branded and generic medicines	60 (60.0%)
Aware of Jan Aushadhi Yojana	72 (72.0%)
Knows the correct dosage of generic medicines	63 (63.0%)
Aware of any government law regarding generic medicines	66 (66.0%)
Believes generic medicines meet the same standards as branded medicines	64 (64.0%)
Aware that regulatory authorities approve generic medicines	62 (62.0%)
Believes generic medicines are interchangeable with branded medicines	45 (45.0%)
Believes generic medicines are manufactured in low-level facilities	47 (47.0%)
Believes generic medicines take longer to act	61 (61.0%)
Believes generic medicines have a higher therapeutic failure rate	50 (50.0%)

*Visiting a Jan Aushadhi store reflects utilisation behaviour and does not require prior conceptual awareness of generic medicines. *Misconceptions (manufactured in low-level facility, higher therapeutic failure and longer time to act) are scored in the reverse manner.

Overall, patients demonstrated moderate to good knowledge regarding generic medicines. About two-thirds of participants were aware of generic medicines (66.0%), government regulations (66.0%), and correct dosage (63.0%). Awareness of the Jan Aushadhi Yojana was relatively high (72.0%), indicating good exposure to government initiatives. A majority recognized that generic medicines are approved by regulatory authorities (62.0%) and meet the same standards as branded medicines (64.0%). However, important misconceptions persisted: 61.0% believed that generic medicines take longer to act, 50.0% perceived higher therapeutic failure, and 47.0% believed they are manufactured in low-level facilities, reflecting lingering doubts about efficacy and quality despite reasonable awareness **Table 2.**

TABLE 3: ATTITUDES OF PATIENTS REGARDING UTILIZATION OF GENERIC MEDICINES IN STUDY POPULATION (N=100)

Attitude of patients	Frequency (%)
Patients should have the freedom to choose between generic and branded medicines	56 (56.0%)
Patients are willing to buy generics if the pharmacist recommends them	41 (41.0%)
Pharmaceutical marketing influences doctors' prescribing behavior	48 (48.0%)
Every hospital should have a generic medicine store available	47 (47.0%)
Doctors should consider a patient's economic condition when prescribing medicines	57 (57.0%)
Stricter laws should be enforced to promote the use of generic medicines	54 (54.0%)
Generic medicines are equally safe compared to branded medicines	49 (49.0%)
More awareness campaigns about generic medicines are needed	44 (44.0%)
Patients are concerned about potential side effects of generic medicines	51 (51.0%)
Patients are comfortable with pharmacists substituting a cheaper bioequivalent medicine	51 (51.0%)
Generic medicines are not easily available when needed	47 (47.0%)
The price of a medicine does not determine its quality	51 (51.0%)
Doctors should prescribe generic medicines more frequently	46 (46.0%)
Is price important to you while choosing medicines	45 (45.0%)

Patients' attitudes toward generic medicines were mixed and less favourable compared to knowledge levels. While more than half supported patient autonomy in choosing medicines (56.0%), consideration of economic condition by doctors (57.0%), and stricter laws to promote generics (54.0%), willingness to act on these beliefs was inconsistent. Only 41.0% were willing to buy generics if recommended by pharmacists, and fewer than half supported the availability of generic stores in every hospital (47.0%) or increased prescribing by doctors (46.0%). Concerns about side effects (51.0%) and availability issues (47.0%) further indicate attitudinal barriers. Although half of the participants believed that price does not determine quality, skepticism toward generics remained evident. 45 (45%) of participants believed that price was important to them while choosing a medicine **Table 3.**

TABLE 4: PRACTICES OF PATIENTS REGARDING UTILIZATION OF GENERIC MEDICINES IN STUDY POPULATION (N=100)

Practice of patients	Frequency (%)
Uses generic medicines	52 (52.0%)
Buys generic medicines by specifically asking for them	59 (59.0%)
Reads labels to check whether the medicine is generic	59 (59.0%)
Encourages other patients to use generic medicines	57 (57.0%)
Prefers generic medicines for basic ailments	53 (53.0%)
Buys generic medicines only if prescribed by a doctor	67 (67.0%)
Asks doctor or pharmacist for a generic option	50 (50.0%)
Believes switching to generic medicines changes treatment outcome	63 (63.0%)
Has visited a Jan Aushadhi store	69 (69.0%)
Has faced issues with generic medicines	56 (56.0%)
Types of issues	
Non-availability at the pharmacy/store	21 (15.0%)
Perceived reduced effectiveness	19 (19.0%)
Confusion due to packaging or labelling	9 (9.0%)
Concern about side effects	5 (5.0%)
Other issues	2 (2.0%)

Among the 100 participants, 52 (52.0%) reported using generic medicines. Active engagement was observed, with 59 (59.0%) specifically asking for generic medicines and 59 (59.0%) checking labels to confirm generic status. Preference for generics in minor ailments was reported by 53 (53.0%), and 57 (57.0%) encouraged others to use generic medicines.

Practice was strongly prescriber-dependent, as 67 (67.0%) purchased generic medicines only when prescribed by a doctor, while 50 (50.0%) asked doctors or pharmacists for generic alternatives. Concerns remained, with 63 (63.0%) believing that switching to generic medicines alters treatment outcomes. Exposure to government initiatives was relatively high, with 69 (69.0%) having visited a Jan Aushadhi store. However, 56 (56.0%) reported facing issues while using generic medicines.

The most commonly reported issue was non-availability at pharmacies or stores (21; 21.0%), followed by perceived reduced effectiveness (19; 19.0%), confusion due to packaging or labelling (9; 9.0%), concern about side effects (5; 5.0%), and other miscellaneous issues (2; 2.0%) **Table 4.**

TABLE 5: KAP SCORES OF PATIENTS REGARDING UTILISATION OF GENERIC MEDICINES

Variable	Mean ± SD	Median (IQR)	Min–Max
Knowledge score (N=12)	7.15 ± 3.12	7.0 (5.0)	0–12
Attitude score (N=15)	6.42 ± 2.94	7.0 (4.0)	0–13
Practice score (N=10)	5.85 ± 1.82	6.0 (2.0)	0–10

The mean knowledge score was 7.15 ± 3.12, indicating moderate knowledge of generic medicines. Attitude scores were slightly lower (6.42 ± 2.94), while practice scores were the lowest (5.85 ± 1.82), suggesting that although patients had reasonable awareness, this did not consistently translate into positive attitudes or optimal use of generic medicines **Table 5.**

TABLE 6: COMPARISON OF KAP SCORES BETWEEN DEMOGRAPHIC VARIABLES IN STUDY POPULATION (N=69)

Demographic Variables	N	Knowledge score (Mean ± SD)	Attitude score (Mean ± SD)	Practice score (Mean ± SD)
Age group (years)				
18–25	10	7.40 ± 2.32	6.60 ± 2.22	6.40 ± 1.65
26–35	34	7.15 ± 3.34	6.09 ± 3.23	6.18 ± 1.51
36–45	25	6.36 ± 3.30	5.56 ± 2.83	5.60 ± 2.08
46–55	23	8.00 ± 2.50	7.35 ± 2.46	5.52 ± 1.86
≥56	8	6.88 ± 3.98	7.63 ± 3.50	5.50 ± 2.27
Eta Squared		0.035	0.063	0.036
P Value		0.493	0.180	0.479

Gender				
Male	48	6.73 ± 3.39	6.21 ± 2.86	5.83 ± 2.01
Female	52	7.54 ± 2.81	6.62 ± 3.02	5.87 ± 1.63
Cohen's D		-0.26	-0.14	-0.02
P Value		0.196	0.492	0.930
Education				
No formal education	11	2.18 ± 2.36	1.82 ± 1.54	6.00 ± 1.55
Primary school	10	5.10 ± 2.64	3.60 ± 2.12	6.00 ± 1.89
High school	28	6.18 ± 1.83	5.61 ± 1.69	6.18 ± 1.79
College / University	28	8.75 ± 2.27	7.61 ± 1.89	5.43 ± 2.03
Postgraduate	23	9.65 ± 1.61	9.39 ± 1.41	5.83 ± 1.72
Eta Squared		0.578	0.671	0.026
P Value		<0.001	<0.001	0.640
Employment				
Employed	46	6.83 ± 3.23	6.52 ± 3.12	5.83 ± 1.69
Unemployed	14	8.29 ± 3.63	6.29 ± 3.20	5.21 ± 2.04
Retired	15	7.00 ± 3.21	6.47 ± 2.56	6.53 ± 1.68
Student	25	7.20 ± 2.53	6.28 ± 2.82	5.84 ± 1.95
Eta Squared		0.024	0.001	0.039
P Value		0.500	0.986	0.281
Type of Residence				
Rural	46	6.02 ± 3.06	5.87 ± 2.99	6.85 ± 1.43
Urban	54	8.11 ± 2.85	6.89 ± 2.84	5.00 ± 1.68
Cohen's d		0.71	0.35	1.17
P Value		<0.001	0.084	<0.001
Number of visits to medical facility (per year)				
1–3 times	26	7.27 ± 3.28	6.62 ± 3.38	5.96 ± 2.14
4–6 times	30	8.17 ± 2.48	6.83 ± 2.53	5.97 ± 1.81
7–10 times	15	8.40 ± 3.14	6.53 ± 3.25	4.80 ± 1.37
>10 times	29	9.86 ± 3.25	5.76 ± 2.77	6.17 ± 1.58
Eta Squared		0.084	0.022	0.062
P Value		0.038	0.538	0.103

*Tukey's HSD has been used for intergroup comparison. *Eta squared has been used for ANOVA, and Cohen's d for IST to show effect sizes.

Knowledge scores did not differ significantly across age groups ($\eta^2 = 0.035$; $p = 0.493$), attitudes ($\eta^2 = 0.063$; $p = 0.180$), or practices ($\eta^2 = 0.036$; $p = 0.479$). Gender-based differences were also non-significant for knowledge ($d = -0.26$; $p = 0.196$), attitude ($d = -0.14$; $p = 0.492$), and practice scores ($d = -0.02$; $p = 0.930$).

Educational status showed a strong and statistically significant association with knowledge ($\eta^2 = 0.578$; $p < 0.001$) and attitude scores ($\eta^2 = 0.671$; $p < 0.001$). Mean knowledge scores increased progressively from no formal education (2.18 ± 2.36) to postgraduate level (9.65 ± 1.61). A similar trend was observed for attitude scores, ranging from 1.82 ± 1.54 to 9.39 ± 1.41. Practice scores did not differ significantly by education ($\eta^2 = 0.026$; $p = 0.640$). No significant associations were observed between employment status and knowledge ($\eta^2 = 0.024$; $p = 0.500$), attitude ($\eta^2 = 0.001$; $p = 0.986$), or practice scores ($\eta^2 = 0.039$; $p = 0.281$).

Type of residence was significantly associated with knowledge ($d = 0.71$; $p < 0.001$) and practice scores ($d = 1.17$; $p < 0.001$). Urban participants had higher knowledge scores (8.11 ± 2.85) compared to rural participants (6.02 ± 3.06), whereas practice scores were higher among rural participants (6.85 ± 1.43 vs. 5.00 ± 1.68). Attitude scores did not differ significantly by residence ($d = 0.35$; $p = 0.084$).

Knowledge scores varied significantly with frequency of healthcare visits ($\eta^2 = 0.084$; $p = 0.038$), increasing from 7.27 ± 3.28 (1–3 visits/year) to 9.86 ± 3.25 (>10 visits/year). No significant differences were observed for attitude ($p = 0.538$) or practice scores ($p = 0.103$) **Table 6.**

CONCLUSION: This study assessed patients' knowledge, attitudes, and practices regarding generic medicines among attendees of public-sector outpatient departments in Jaipur. Overall, patients demonstrated moderate knowledge of generic

medicines; however, this awareness did not consistently translate into favorable attitudes or routine utilization. Higher knowledge scores were observed among participants with greater educational attainment and those residing in urban areas, whereas actual use of generic medicines was more pronounced among rural participants, indicating a persistent knowledge–practice gap. These findings suggest that patient behavior toward generic medicines is shaped not only by awareness but also by perceptions of trust, prior experiences, and reliance on prescribing practices. The study provides localized evidence from public healthcare settings in Jaipur and contributes to a clearer understanding of patient-level factors influencing the utilization of generic medicines.

DISCUSSION: The present study evaluated patients' knowledge, attitudes, and practices regarding generic medicines among attendees of public-sector outpatient departments in Jaipur, and examined their association with selected demographic variables **Table 6**. The findings demonstrate that the three KAP domains vary independently, indicating the absence of a uniform relationship between awareness, perceptions, and actual utilisation.

Knowledge scores differed significantly across educational categories, with participants having college/university and postgraduate education demonstrating higher scores compared to those with lower educational attainment ($p < 0.001$). This finding is consistent with earlier Indian studies that identified education as a key correlate of awareness and understanding of generic medicines [1, 3, 15]. A significant association was also observed between knowledge scores and frequency of healthcare visits ($p = 0.038$), suggesting that increased interaction with healthcare services may be associated with greater exposure to information regarding medicines, as reported previously.[3] Knowledge scores were additionally higher among urban residents compared to rural residents ($p < 0.001$), a pattern also documented in studies evaluating awareness of generic medicines and Jan Aushadhi initiatives [4, 5]. No significant differences in knowledge were observed by age, gender, or employment status, in agreement with prior reports [1, 2]. Attitude scores showed a statistically significant association only with educational status ($p < 0.001$). Participants with higher education expressed more favorable perceptions toward generic medicines, a trend similarly reported in community- and hospital-based studies from India [3, 6]. Attitude scores did not vary significantly by age, gender, residence, employment status, or healthcare visit frequency ($p > 0.05$).

Practice scores differed significantly by place of residence, with rural participants demonstrating higher practice scores than urban participants ($p < 0.001$; Cohen's $d = 1.17$). Similar findings have been reported in studies highlighting greater reliance on public-sector facilities and Jan Aushadhi outlets in rural populations [7, 9]. Practice scores were not significantly associated with education, age, gender, employment status, or healthcare visit frequency ($p > 0.05$), indicating that higher knowledge did not necessarily correspond to increased utilization.

Overall, the findings demonstrate a persistent knowledge–practice gap, consistent with prior Indian literature, wherein awareness alone does not translate into routine use of generic medicines [1, 2, 8]. As this was an observational cross-sectional study, the associations observed should not be interpreted as causal.

Limitations and Further Scope of Study: The cross-sectional design of this study limits the ability to establish causal relationships between knowledge, attitudes, and practices regarding generic medicines. Data were obtained through interviewer-administered, self-reported responses, which may be subject to recall bias and social desirability bias. Although a simple random sampling method was applied, the sampling frame was confined to patients attending public-sector community health centres, which may limit the representativeness of the findings. In the future, studies with larger samples, multiple study sites, and longer follow-up periods are needed. Including objective data such as prescription records and considering factors like health literacy, illness severity, would help in better understanding and improving the use of generic medicines.

ACKNOWLEDGEMENT: The authors express their sincere gratitude to all the patients who participated in this study for their valuable time and

cooperation. The authors also thank IIS (Deemed to be University), Jaipur, for institutional support and guidance in conducting this research.

CONFLICT OF INTEREST: The authors declare that there is no conflict of interest regarding the publication of this research.

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How to cite this article:
Khandelwal T and Choraria P: Understanding patient perspectives on generic medicines: evidence from a cross-sectional study in Jaipur. Int J Pharm Sci & Res 2026; 17(6): 1923-31. doi: 10.13040/IJPSR.0975-8232.17(6).1923-31.

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