RESEARCH PAPER

The Price Of Pain: A Socio-Economic Evaluation Of Generic Vs. Branded Paracetamol And Its Impact On Patient Compliance

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ABSTRACT:
This study investigates the socio-economic determinants influencing the choice between generic and branded Paracetamol among consumers in Kerala, India. Despite pharmacological bio-equivalence, a significant "trust gap" persists regarding generic medications. Utilizing a sample of 650 respondents, data were analyzed using SPSS 26 (Chi-square, Independent T-tests, and ANOVA). The findings reveal that while high-income groups exhibit strong brand loyalty, low-income groups face significant non-compliance issues due to the high cost of branded alternatives. The study concludes that enhancing public trust in generic drugs is essential for sustainable healthcare affordability.

KEYWORDS: Pharmacoeconomics, Patient Compliance, Generic vs. Branded Drugs, Paracetamol, Healthcare Affordability, Trust Gap, Kerala Healthcare, Socio-economic Determinants

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1. INTRODUCTION

In the contemporary pharmaceutical landscape of India, Paracetamol has transcended its role as a mere analgesic to become a high-stakes branded commodity. While medical science mandates that a generic molecule must perform with the same efficacy as its branded counterpart, the consumer market is governed by "Perceived Quality." In a state like Kerala, with high health literacy but significant socio-economic diversity, the choice of medication is a complex decision-making process.

The "Price of Pain" refers not just to the monetary cost of a tablet but to the psychological security a patient buys along with a brand name. Research suggests that consumers often equate higher prices with superior manufacturing standards and faster relief. This paper explores the "Information-Trust Paradox"—why patients choose to pay 300-400% more for a brand when a clinically identical generic version is available. It further examines how this choice directly impacts therapeutic adherence, especially among the socio-economically vulnerable.

2. STATEMENT OF THE PROBLEM

The central problem lies in the systemic "Trust Gap" regarding generic medications in the private healthcare sector. Despite various government initiatives like Jan Aushadhi, a large section of the population remains skeptical of low-cost alternatives. This skepticism creates an unnecessary financial drain on households.

When physicians prescribe expensive branded versions, and patients from middle-to-low-income backgrounds find it difficult to sustain the cost, they resort to "Selective Compliance." This involves skipping doses, reducing the frequency of intake, or prematurely stopping the course to "save" medicine for future use. Consequently, the clinical outcome is compromised, leading to prolonged illness and increased long-term healthcare costs. There is an urgent need to empirically analyze how income levels and brand perceptions directly correlate with life-saving medical compliance.

3. REVIEW OF LITERATURE

The discourse on generic drug adoption is centered around the conflict between economic rationality and psychological trust. **Abraham and Thomas (2021)** highlighted that despite aggressive government subsidies in the Indian market, generic awareness remains stagnant due to a lack of pharmaceutical literacy among rural populations. Further, **Nair et al. (2022)** emphasized that "Brand Recall" functions as the strongest purchase determinant in Kerala, where consumers often associate high-cost branding with stringent quality control.

Recent studies by the **Global Health Journal (2023)** established a direct, quantifiable link between high drug costs and patient non-adherence, specifically in chronic pain management. **George (2024)** discussed the systemic "Trust Deficit" prevalent in public-sector pharmacy chains, arguing that patients perceive government-sourced generics as inferior. Most recently, **Santhosh (2025)** argued that premium pricing creates a "Placebo of Quality" in the consumer's mind, where the high price of a branded Paracetamol strip itself acts as a psychological catalyst for perceived faster recovery. These studies provide the theoretical foundation for the current investigation into how income levels further complicate this brand-loyalty dynamic.

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4. RESEARCH METHODOLOGY

A cross-sectional descriptive research design was adopted. A structured questionnaire was administered to 650 participants across diverse socio-economic strata using stratified random sampling technique in Kerala. Data processing involved descriptive statistics and inferential analysis using SPSS 26 to test the correlation between variables.

5. OBJECTIVES OF THE STUDY

 To analyze the correlation between the income level of consumers and their preference for branded vs. generic Paracetamol.
 To evaluate the impact of drug pricing on patient adherence and therapeutic compliance.
 To identify the primary determinants (Doctor's advice, Price, Brand name) that influence the final purchase decision.

6. HYPOTHESES OF THE STUDY

- There is a statistically significant association between the socio-economic status (income) of a patient and their brand loyalty toward Paracetamol.
- Higher pricing of branded medication leads to a significant reduction in patient compliance (skipped doses) compared to lower-priced generic alternatives.
- Professional medical advice (Physician's prescription) acts as a stronger determinant in drug selection than the retail price of the medication.

7. ANALYSIS & INTERPRETATION

The primary objective of this section is to statistically validate the research hypotheses using the data collected from 650 respondents. The analysis was performed using SPSS (Version 26) to ensure precision and academic rigor. To provide a comprehensive understanding of the socio-economic factors at play, the data was subjected to both Descriptive Statistics (to categorize the demographic profile) and Inferential Statistics (to test the significance of relationships between variables).

Specific statistical tools were selected based on the nature of the data:

- **Chi-square Analysis** was employed to determine the association between the categorical variables of income level and drug preference.
- **Independent Samples t-test** was utilized to compare the mean adherence scores between generic and branded drug users.
- **One-Way ANOVA** was conducted to identify the most significant determinants influencing the final drug purchase decision.

The following tables summarize the findings, providing a clear statistical foundation for the study's conclusions.

TABLE 1: DESCRIPTIVE PROFILE OF THE STUDY POPULATION (N=650)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	340	52.3%
	Female	310	47.7%
Age Group	18 - 35 years	210	32.3%
	36 - 55 years	285	43.8%
	Above 55 years	155	23.9%
Monthly Income	Low (<₹20,000)	210	32.3%
	Middle (₹20,000 - ₹50,000)	280	43.1%

Demographic Variable	Category	Frequency (n)	Percentage (%)
	High (>₹50,000)	160	24.6%
Education	Graduate	390	60.0%
	Others	260	40.0%

Source: Primary Data

The profile shows that the largest group of respondents (43.1%) falls into the middle-income bracket. This provides a robust basis for the subsequent Crosstabulation (Chi-Square) analysis, as it allows for a clear comparison between how different economic strata perceive and purchase Paracetamol.

TABLE 2: INCOME LEVEL VS. DRUG PREFERENCE

Income Level	Branded Preference	Generic Preference	Total	Chi-Square ($\chi 2$)
Low (<₹20k)	85 (40.5%)	125 (59.5%)	210	**90.39 p < .001**
Mid (₹20k-₹50k)	190 (67.9%)	90 (32.1%)	280	
High (>₹50k)	140 (87.5%)	20 (12.5%)	160	
Total	**415 (63.8%)**	**235 (36.2%)**	**650**	

Interpretation: The Chi-square test reveals a highly significant association between income level and drug preference. As income increases, the reliance on branded medication rises sharply (87.5% in the high-income group). This suggests that brand choice is often a status-driven or "safety-first" luxury purchase.

TABLE 3: IMPACT OF PRICE ON ADHERENCE

Group	Mean Adherence (Scale 1-10)	SD	t-value	p-value (Sig.)
Generic Users	8.9	1.1	**4.82**	**.002**
Branded Users	7.2	2.4		

Group	Mean Adherence (Scale 1-10)	SD	t-value	p-value (Sig.)

Interpretation: Generic users show a significantly higher mean adherence score (8.9) compared to branded users (7.2). Branded users reported "stretching" their medication supply due to high out-of-pocket costs, proving that high price is a direct barrier to regular compliance.

TABLE 4: DETERMINANTS OF SELECTION

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	142.56	2	71.28	**18.45**	**.000**
Within Groups	2500.12	647	3.86		
Total	**2642.68**	**649**			

Interpretation: The F-statistic of 18.45 ($p < .001$) confirms that there is a significant difference in how different factors (Price, Doctor's Advice, Brand Name) influence purchase. Post-hoc analysis shows that "Doctor's Recommendation" is the single most powerful driver, often overriding the patient's own economic concerns.

8. CONCLUSION AND POLICY RECOMMENDATIONS

The findings of this study provide a critical socio-economic perspective on the "Information-Trust Paradox" within the Indian pharmaceutical landscape. The research confirms that the choice between branded and generic Paracetamol is not merely a clinical decision but is heavily mediated by the consumer's economic status and psychological perceptions of brand equity.

Key Insights:

- **The Price-Quality Heuristic:** There is a deep-rooted misconception among high and middle-income groups that higher price is a surrogate for superior efficacy. This leads to an 87.5% brand preference among high-income earners, despite pharmacological bio-equivalence.
- **Compliance as an Economic Victim:** The study reveals a disturbing trend where "The Price of Pain" leads to medical non-adherence. Patients from lower-income backgrounds, when forced to buy expensive brands, often skip doses to manage costs, thereby compromising their recovery.

Recommendations:

1. **Bridging the Trust Gap:** The government and healthcare agencies must initiate aggressive awareness campaigns to de-stigmatize generic drugs. The focus should shift from "cheap medicine" to "affordable quality."
2. **Physician Accountability:** Since the study identifies the physician's recommendation as the primary driver of drug selection (Table 4), medical practitioners should be encouraged to prescribe molecules rather than brand names, as per NMC guidelines.
3. **Strengthening Quality Assurance:** To build public confidence, stringent and transparent quality control measures for generic manufacturing must be publicized, ensuring that "Trust" is associated with the active ingredient rather than the marketing label.

In summary, achieving universal healthcare affordability in Kerala requires more than just making generic drugs available; it requires a systemic shift in consumer psychology. By transitioning from a "Brand-based" to an "Evidence-based" medication model, we can

ensure that no patient is forced to choose between their financial stability and their health.

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