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An Empirical Study in India Examined How Patients' Attitudes Affected their Satisfaction and their Likelihood of Switching to a Different Generic Medicine Provider

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Abstract
Modern culture has raised people's awareness of the need of living a healthy, risk-free lifestyle. There are a lot of factors to consider when deciding which medical care provider to use and which medication to take when someone is ill. It's common knowledge that generic versions of branded pharmaceuticals pose a serious threat to their market share, but few people realize that generics may also be a major cost-cutting strategy in the pharmaceutical sector. There's a chance that the government or patients might end up saving money as a result of this. With this in mind, it is important to learn which medicine types patients prefer (brand name and generics) and how they feel about each, as well as whether or not their opinions and feelings influence their actual behavior and drug purchases in the future. This research is an early attempt to examine how patients' perspectives affect their happiness with their current pharmaceutical provider and their propensity to switch providers in the future (i.e., generic and brand choices). Five hundred and thirty-seven patients from various cities in the Indian state of Odisha were surveyed and their answers analyzed. According to the study's findings, patients' dispositions influenced their levels of satisfaction and their likelihood of making a transition. Introducing generic medications has several benefits, including increased patient satisfaction and the introduction of competition that drives innovation among brand-name drug manufacturers. Generic drugs help create a more resilient healthcare system because of their reduced prices and the increased competition they encourage.

Keywords: Generic Medication, Patient Attitudes, Switching Intentions, Satisfied Patients, and Indian Pharmacies

Introduction

The old saying "Health is Wealth" is as relevant now as it was back then. As a species, we spend a lot of time and energy trying to find new methods to keep ourselves healthy. The worrying fact here is that even after centuries of understanding and paying importance to health and well-being, we still haven't devised a mechanism by which We have the ability to build primary healthcare facilities everywhere in the world, regardless of whether a country is developing, underdeveloped, or developed. One of the basic human rights to which we have not yet been able to live up to is the right to health care.

The growth rate of the pharmaceutical sector is intrinsically tied to the good delivery level of health care. The pharmaceutical industry's research and development operations are vital to health care since they have quietly solved a wide range of issues in the healthcare sector, ensuring the sector's long-term viability [2]. To prevent diseases and sufferings and lengthen people's lives, it is the responsibility of the pharmaceutical business to provide these remedies to the general population and make them easily available. To a large extent, this is where marketing comes in. The job of every pharmaceutical company's marketing division is to ascertain patient problems and offer appropriate treatments [3]. With the advent of IoT and AI, forecasting future health care service and drug requirements will be a simple and scalable procedure [4, 5].

Information on the unmet demand for a drug that is currently not on the market can be gathered from a doctor and used to inform the creation of a new product. A multi-pronged promotional plan [6] is required to get the word

out to customers after the R&D team has designed the product. Although it is challenging to evaluate healthcare technology, artificial intelligence (AI), the Internet of Things (IoT), and blockchain technology can help raise awareness and track the efficacy of various health care services (such as consultations, medication, etc.) [7]. In the midst of the COVID-19 pandemic, when individuals were already struggling to make ends meet, medical professionals exploited them by charging exorbitant fees for care, treatment, and support [8]. This is because customers just aren't informed [9].

Medical representatives' involvement is crucial in raising the drug's profile among doctors. The next step is to include the medicine into the organization's distribution network (such as wholesalers, merchants, etc.). When the medicine has been prescribed to patients, used by those patients, and shown to be successful, demand for the drug rises.

The healthcare system in India has been the subject of a great deal of research. The goal of this study is to learn how the generic drug business feels about a recent examination of patient satisfaction in India.

This paper's focus is on this issue, and its overarching goal is

- To investigate how patients' perceptions of the ultimate cost of purchasing Indian generic drugs are influenced by several aspects related to the purchasing choice.
- learn how patients' mindsets affect their degree of satisfaction and their desire to transfer providers.

Review Of Literature

One of the most worrisome parts of growing medical costs is how it may affect people's ability to purchase prescription drugs [10]. One of the most important reasons to promote generic medicines is to help sick individuals save a significant amount of money on their prescriptions. India has some of the highest drug costs worldwide [11, 12], thus these generic drugs might help the country save a lot of money that could be used towards addressing other health issues. There appears to be substantial disagreement amongst patients and clinicians over the use of generic drugs, whether in terms of therapeutic outcomes or security concerns [13], despite the financial benefits associated with doing so. Because of this, it is important to learn how people feel about generic pharmaceuticals and what they find satisfactory.

Generic drug sales have increased at a CAGR of 8.7 percent over the previous five years, with several players, including Sun Pharmaceutical, Dr. Reddy, Novartis, and Teva, dominating sizable chunks of the industry, as reported by the Global Generic Medicines Market (2020) [14]. Companies [17] need to survey patients about their experiences with medical goods and their willingness to pay for them in order to inform the development of national healthcare policies and procedures [18].

One's decision to buy generic pharmaceuticals may be influenced by a number of factors [12], including medical advice, past experiences, product attributes, and perceived quality. Possibilities exist that value proposals might affect emotions and levels of contentment. The research shows that it is challenging to understand the user's experience of getting generic medications in terms of attitude and satisfaction [19].

This is "the patient's view on the drug acceptance method and the drug's effects," as described by Shikiar and Rentz [20]. Patients' levels of contentment with a medicine can be used as a proxy for their likelihood of taking it as prescribed. Without dissatisfaction with prescribed treatments, patient compliance may decrease [21].

Satisfaction among patients is defined as "patient values generated from patient satisfaction with specific elements of generic pharmaceutical therapy, such as side effects, effectiveness, and administration problems," within the context of this study. [22, p2] Since patient satisfaction would fall under the subcategory of therapeutic satisfaction [23], a commonly used generic assessment of medication satisfaction, the Treatment-Satisfaction-Questionnaire - for Medicine (TQSM) [24], could be used in this study to measure patient- satisfaction --with =generic medicine. The -four pillars of user care that the TSQM addresses are overall satisfaction, convenience, side effects, and effectiveness. The present research demonstrates that TSQM is the only model employed in both disease-specific and general situations [23, 25]. In order to gauge how satisfied patients are with generic medicine in a developing country like India's, the current study employed the Total Quality Management (TSQM) method.

The study's hypotheses were drawn from a review of the related literature, and the results of the empirical investigation tested those hypotheses. The study set out to answer if and to what degree patients' opinions on generic drugs' quality, efficacy, effectiveness, convenience, perceived risk, and side effects influence their choices.

It was also looked at if and how much patient satisfaction and attitude towards generic medicine influenced a strong desire for substituting generic for name-brand medication. This study looks at whether or not patients' anticipations influence their actual encounters with generic drugs.

Research Methods And Design

This study is entirely descriptive and based on a survey. After data validation, 537 patient answers were obtained out of 725 surveys gathered utilising the convenience and proliferation (Snowballsnow-ball) approach by visiting several medicine stores (Jan Ausadhi Medical-Stores-) in different main cities- of Odisha -state, India.

The Ethics Committee-of--Kalinga-Institute--of Industrial Technology, India, waived the necessity for ethical approval for this publication because the research is in the social sciences and deals with issues of attitude and perception.

Primary data was gathered by administering the Malhotra & Bricks [26] questionnaire, which required coding before analysis. A five-point Likert scale was used to evaluate each response. The hypotheses generated up through Amos-17 were tested using structural equation modelling. Below are some examples of factors found in the analysis: Using factor analysis in SPSS, we were able to glean information about many different dimensions, including quality, efficacy, perceived risk, attitude, switching intent, effectiveness, side effects-, convenience, -and -overall satisfaction.

Results And Discussion

In order to get an idea of how consistent the research variables were, a reliability analysis was performed using Cronbach's alpha ().

The nine dimensions' calculated reliability coefficients (Cronbach's alpha) were more than 0.70, the threshold often accepted as showing the scales' internal consistency (see Table 1). Construct validity testing requires an evaluation of "discriminant and convergent validity" (27 p 259).

TABLE 1: CRONBACH'S -ALPHA- (A) SCORES- OF RELIABILITY- ANALYSIS

Study- Variable	Alpha - (α)	Study-Variable	Alpha - (α)	Study-Variable	Alpha - (α)	Study- Variable	Alpha - (α)
Qualities	0.964	Efficacies	0.917	Perceived-risks	0.932	Attitudes	0.857
Study- Variable	Alpha - (α)	Study-Variable	Alpha - (α)	Study-Variable	Alpha - (α)	Study- Variable	Alpha - (α)
Switching--Intentions	0.891	Effectiveness	0.789	Side-effects	0.766	Conveniences	0.842
Study- Variable	Alpha - (α)						
Overall Satisfactions	0.811						

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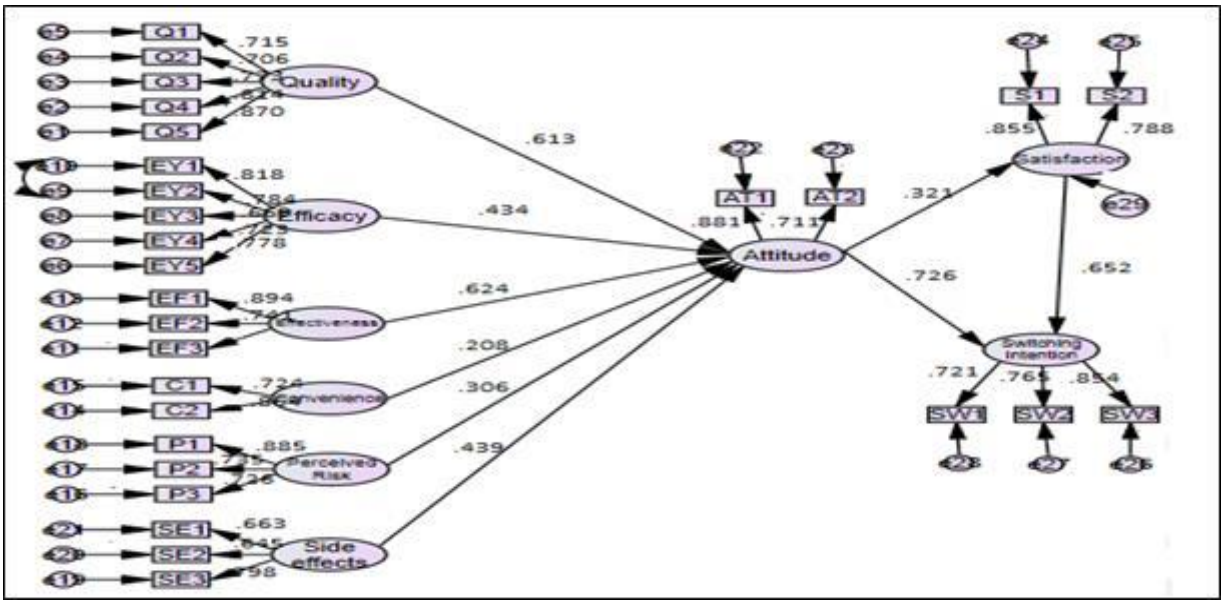

Table 2: Scores-Of-Construct-Validity-Analysis

Study Variables	Discriminant validity	Convergent Validity	ASV	MSV	AVE	CR
Qualities			0.302	0.229	0.603	0.912
Efficacies			0.318	0.211	0.757	0.964
Perceived risks			0.339	0.217	0.573	0.868
Attitudes			0.311	0.206	0.519	0.910
Switching intenstions			0.368	0.332	0.733	0.955
Effectives			0.337	0.225	0.501	0.893
Side-effects			0.363	0.214	0.446	0.802
Conveniences			0.321	0.238	0.512	0.926
Overall satisfactions			0.334	0.213	0.475	0.919

* Yes, it exists.

Convergent and discriminant validity will be examined by referring to the "maximum shared variance (MSV), average variance explained (AVE), and average shared variance (ASV), composite reliability (CR)" (28, p. 235) shown in Table 2. Convergent validity is defined as "CR > 0.7, CR > AVE, -and-AVE > 0.5"-(28-, p. 237). All estimated CRs were more than 0.7 across the board. Each expected AVE value also surpassed the threshold of 0.5. There is agreement between the proposed instrument and a set of existing instruments-that define-quality, -efficacy, - convenience, and adverse effects, and the CR value for each individual construct is higher than the associated AVE value. The ASV and MSV for are also calculated in the same way. For each concept, we developed and validated measures of discriminant validity; these measures do not correlate with the established measures, but they do provide further evidence for the constructs' reliability and validity. Structural -equation-modelling-(SEM) was used to analyse the connections between variables such product quality and manufacturing process efficiency, consumer attitude and switching intent, product efficacy and side effects, user friendliness and satisfaction. In structural equation modelling, a positive path coefficient indicates a correlation between two theoretical concepts. The model's implied causal connection is illustrated by these arrows. These lines are the regression coefficients in a statistical sense (Figure 1).

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Table 3 displays the beta coefficient of construct standardised regression weights.

Diagram 1: SEM (PATH DIAGRAM)

Table 3: Mean Standard Regression Scores (Hypotheses Test Results)

Hypotheses	Path	P- Value	t-Statistics	Estimate	Remark
H1	Qualities → Attitudes	0.002	8.641	0.623	
H2	Efficacies → Attitudes	0.002	7.611	0.424	
H3	Effectives → Attitudes	0.002	3.341	0.624	
H4	Conveniences → Attitudes	0.071	1.642	0.218	
H5	Perceived risks → Attitudes	0.111	0.774	0.316	
H6	Side-effects → Attitudes	0.002	11.241	0.419	
H7	Attitudes → Satisfactions	0.002	6.113	0.311	
H8	Attitudes → Switching intentions	0.002	5.103	0.716	
H9	Satisfactions → Switching intentions	0.002	4.442	0.612	
R^2 Attitudes=0.63; R^2 Satisfactions=0.43; R^2 Switching intentions=0.47 O Supported-, oo Not-Supported					

As the calculated p-value is smaller than-the-significant 0.05 level, hypotheses (H1), (H2), and (H3) are accepted; it is determined that product -quality, -efficacy, -effectiveness, and side effects significantly influenced attitude towards generic pharmaceuticals.

Because the p-value computed is larger than the significant alpha-value of-0.05, we can conclude that-patients believe generic drugs are as effective as brand-name drugs. This is because generic drugs are made to the same exacting standards as brand-name drugs and have the same effects with fewer or no noticeable side effects. In a manner similar to how Patient satisfaction and the likelihood that they would move from brand-name to generic medications are positively correlated with their perspective on generic alternatives, as shown by a statistical analysis (p0.05).

Last but not least, a p-value of less than 0.05 indicates a substantial correlation between patient satisfaction with generic pharmaceuticals and the likelihood that they would move from branded to generic alternatives. From this it follows that all of the hypotheses from H1 to H9 are accepted, with the exception of H4 and H5, which indicate that patients have a negative outlook on the risks and benefits of using generic medications.

Table 4: Sem-Fit-Summary

Indices	Recommended value	Model Value
Absolute Fit Measures		
$\chi 2$-		2203.051
Df-		931
($\chi 2$/df) -	<2.9	2.266
GFI-	> 0.85	0.914
AGFl-	> 0.890	0.911

NFI-	> 0.890	0.924
CFI-	> 0.890	0.912
IFI-	> 0.890	0.911
RMSEA-	< 0.079	0.056

Summarizing evidence for and against a model's goodness of fit, the SEM model demonstrates that the model fits well when both the comparative-fit-index and the normal-fit-index are more-than-0.9. (Table 4). As the root mean square of error estimate was less than 0.1 and all indications were found to be satisfactory, it may be concluded that the measurements are reliable.

Conclusion

Having patients' opinions on generic and brand versions of the same formulary medicine is important for both doctors and drug firms. The pharmaceutical business might benefit from building a-reliable and-valid-TSQM model-for India and-other developing nations by doing so, since this could lead to greater patient satisfaction and longer industry longevity, especially in the setting of the generic drug market. The results of this research provide credence to the TSQMs as a tool for assessing customer happiness with generic-pharmaceutical -companies in-India, and more specially in the state of Odisha. As an added bonus, the findings demonstrated a favourable correlation between the efficacy, patient satisfaction, and usability of generic medication.

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