Acceptability and Perceptions of Generic Drugs among Patients, Pharmacists, and Physicians

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Authors’ contributions
This work was carried out in collaboration among all authors. Authors KP, SY, JC, MC, AG and DS designed the study, performed the statistical analysis, wrote the protocol, and wrote the draft of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Background: Generic drugs are the painstaking solution to deal with out of pocket expenditure however, the impact has not yet been seen in India. Thus, to understand the facilitators and barriers, this study aimed to gather evidence on the perception of the acceptability of generic drugs among patients, pharmacists, and physicians.

Methods: The key informant interviews (KII) were conducted during 2017-2018 in Gujarat, India. A total of 25 (9 patients, 8 pharmacists, 8 physicians) KIIs were included in the thematic analysis.

Results: Most of the patients knew about cheaper drugs are available in the market, but they perceived that those meant for poor people. Pharmacists talked about the profit from branded

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Drugs are higher than generics. Pharmacists and doctors expressed concern for the efficacy of generic drugs, as it requires more visits to hospitals. Patients usually report more side effects if using generic drugs, apart from poor packaging and lack of trust on generic also remained an issue in terms of satisfaction. Pharmacists and patients are both expressed their reliance on doctors suggestion and prescription; however, doctors are mainly not in favour to prescribe generics. The ethical dilemma remained with the pharmacists in not suggesting generics as an alternative to the branded drugs.

**Conclusion:** The study concludes that cost is the main perception of patients, pharmacists, and physicians, however; the decision power lies with the pharmacist and doctors, which is mainly not in favour to use or promote the generic drugs even if the cost is low because of efficacy and satisfaction issues.

**Keywords:** Generic; perception; acceptability; patients; pharmacist; physician.

1. **INTRODUCTION**

High expenditure and growing health care costs are prime concerning factors in the health care system globally. According to the latest data published by the national sample survey organization, 78% of healthcare spending generates as out of pocket cost out of which 70-87% is spent on medicines [1]. Studies have concluded that the price of medicines is highly variable in India and poor populations cannot afford to spend on medicines [2]. WHO defined generic drug as “a pharmaceutical product, usually intended to be interchangeable with an innovator product, that is manufactured without a license from the innovator company and marketed after the expiry date of the patent or other exclusive rights”[3]. Economies wanting to curb rising costs on healthcare and spend this saving on other facilities, the promotion of generic medicines is highly beneficial [4]. Various government agencies and insurers in developed and developing countries want to rip these benefits, however generic medicines are underused. Various studies published in this context are in the form of quantitative questionnaire based studies to know perceptions of stakeholders involved in healthcare setups largely focusing on consumers. Very few studies are available which are qualitative but perceptions of the other two stakeholders, pharmacists, and professionals from the pharma industry are not known. If these aspects of generic drugs are studied and rectified according to the need of various stakeholders and healthcare providers, the use of generic medicines can be immensely increased. India is one of the leading manufacturers and providers of generic medicines. However, there is a dearth of evidence from the Indian perspective about generic drug demand, availability, and perception among different stakeholders. Thus the present study uses qualitative methods in Indian stakeholders with an objective to suggest measures to enhance the prescription, sale and use of the generic drugs by respective stakeholders.

2. **MATERIALS AND METHODS**

The key informant interview (KII) as part of a qualitative method was used to collect the data about the perception of generic drugs. The study was conducted in the Patan city of Gujarat, India in 2017-2018. Three different types of stakeholders were included in this study: patients (for consumer perspective), pharmacist (for sale perspective) and physicians (as practitioner perspective). A trained research assistant conducted semi-structured interviews. A qualitative workshop was organized for research staff to ensure that they are adequately trained. By doing a detailed literature review on generic drugs, two different interview guides were developed and used for data collection. (see Table 1).

Thirty semi-structured interviews (10/each category) were planned to be conducted in vernacular language, however ended with completing 25 KIIs. Interviews were conducted with adequate privacy after taking the written consent of the participants. A total of 25 Interviews were conducted that includes 8 from Pharmacist (3 public and 5 private), 9 from patients (5 male and 4 female), and 8 from Physicians (2 public and 6 private providers). The participants were purposively selected based on their willingness to be part of the study. The non-response rate for the KII with pharmacists and physicians was very high.
Table 1. Semi-structured interview guide for KIs

| Items                         | For patients                                                                 | For pharmacist/doctors                                                                 |
|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| **General Information**       | About health status / Acute or chronic condition / Since how many days / Weeks / Years | Engagement with this profession/association with public and/or private                  |
| **Awareness and/or knowledge**| Awareness / Knowledge/about cost / efficacy / Availability /Past experience if any / Efficacy of generic medicines with reference to branded | Awareness / Knowledge about cost/efficacy / Availability /Dispensing of drugs/Issues related to dispensing generic medicines /Legal status on dispensing/ prescribing generic drugs by pharmacists / Doctors |
| **Decision-making/Practices** | Who decides the purchase of drugs /dispensing GD /Any request to Doctors on prescribing GD /Any request to Pharmacist on giving GD /Cross-checking of drugs prescribed and purchased by whom & why | Why doctors do or don’t practice prescribing generic drugs/ Why pharmacists do not dispense generic drugs |
| **Perceptions**               | Patients perception of generic drugs                                                                                       | Is there any practice of the pharmacist of informing patients about the availability of choices between generic drugs and branded drugs |
| **Way forward**               | The practice of informing patients about the availability of choices between generic drugs and branded drugs (Probe why and why not) | What can be done for improving awareness and practices of dispensing GD by Pharmacists, Prescribing GD by Doctors & Community awareness regarding GD |

KII: Key-informant interviews, GD: Generic drugs

Data was prepared to conduct a thematic analysis. The researcher trained in qualitative data preparation transcribed and translated the data. An inductive approach was used to analyze the data. The data were summarized and coded manually. Additionally, Atlasti software was used to conduct for thematic graphs and to see the relationship between themes.

3. RESULTS

3.1 General Characteristics of Participants

They were between 23 to 62 years of age group. Male patients were visiting medicine OPD and came for chronic diseases, while females were visiting general practitioners. Further, out of 8 pharmacists interviewed, 63% belongs to the private sector and had an experience of at least 3 years to a maximum of 15 years. As per the academic qualification, all of those interviewed were minimum diploma in pharmacy and the maximum academic qualification was a masters in pharmacy. The last participants were a total of 8 doctors who agreed and gave the full interview. Their educational qualifications were two with bachelor degree (MBBS), two with specialized in pediatricians, two physicians, and two surgeons.

The observations pooled out from all interview transcripts and the thematic analysis is presented below. A total of four themes are derived which include cost, efficacy, satisfaction, and decision. The overall perception is shown in Fig. 1.

3.2 Cost of Generics

The cost was a very first impression of generic drugs among all stakeholders. The majority of patients did not know about generic drugs however while prompting on cheaper drugs, many of them replied that they knew about some cheaper drugs are available in the market but it is mainly for poor people.

“I know Generics are low-cost drugs for poor patients those who go to government hospitals and are relatively cheaper or sometimes free of cost” (Patient, PP3).

In terms of doctors, they didn’t talk much about the cost however only one doctor mentioned that about the financial status of the patient.
Cheaper drugs are preferable, less response to cheaper drugs, fewer margins in generic and additional fees to doctors were talked by the pharmacist mainly. One of the pharmacists told that the less cost of drugs is contradicted with additional fees to doctor.

“It’s a poor illiterate community, for them, costly drugs are better than cheap drugs as it gives better results; Sometimes the patients share, it’s better to give few more money in better drugs rather than taking drugs with poor efficacy that will increase the duration of illness and more monetary loss; it may cost giving additional fees to the doctors if the illness is not cured on time” (Pharmacist, PPH6)

The majority of pharmacists talked about the profit from branded drugs is high than generics. They also pinpointed that one does not lose the main investment money.

“In branded drugs, there are few where you can get the credit of around 4 weeks and in case there is some stock left over the main distributor is ready to receive it back with some cuts” (Pharmacists, PPH5).

3.3 Efficacy of Generics

Pharmacists and doctors expressed concern for the efficacy of generic drugs highly. There was no direct perception of efficacy from patients however, doctors and pharmacists talked about that.

“Cost is very cheap and affordable but had a question on the efficacy of the drugs”. (Pharmacist, PPH1)

One of the doctors and pharmacists talked about the risk with no evidence on the efficacy of the generic drug.

“Efficacy is surely a concern; I have seen patients complaining of that there have been cases of more visits to doctors if they use generic drugs: to an extent that they request to give drugs of better quality even if its costs high”. (Pharmacist, PPH5)

“Its difficult to take a chance in cases like anemic pregnant, what if the anemia doesn’t improve, it will be non-ethical if I use the drug which doesn’t have evidence enough to be at par with the branded drugs” (Doctor, DP3)

The code bitter in the test was talked by three participants includes doctors and pharmacists. Further is associated with the code less preferred by kids.

“The taste of the generic drugs especially syrups used in pediatric formulation, he shared that the branded syrups also come in various flavors and hence palatable, but there are some generics which are non-flavored and bitter, so the kids do not prefer or vomit all, hence the parents also request for branded drugs” (Pharmacist, PPH3)

3.4 Satisfaction for the Generics

The drug of choice between generic and branded generally relies on satisfaction. The less satisfaction for generics, side effects, less preferred to kids, unsure about efficacy, unavailability during an emergency, time-consuming to explain patients, the long duration for cure are the important codes found for...
describing the satisfaction in the context of generic.

One pharmacist drew attention towards the patient perspective about common use over the counter of branded drugs and that is effective enough that the patient doesn't want to use any other brand.

"There are some brands so common in the local community like CROCIN, COMBIFLAM that they have now identified them by name and packing and very often they request for same drugs, hence even if we offer them generic Paracetamol, they are not satisfied and request for the same brand" (Pharmacist, PPH4).

Further, less profit margin in generic highlighted by pharmacists, which shows the link to the satisfaction.

"In branded drugs, there are few where you can get the credit of around 4 weeks and in case there is some stock left over the main distributor is ready to receive it back with some cuts" (Pharmacist, PPH6).

Further, the lack of satisfaction is also addressed by addressing the side-effects after taking the generic substitutes or drugs. One of the participants shared that

"Just for an experiment, I took the IFA tablet by XXX company, The taste was so bitter that after the drug, I felt nauseated for the whole day and even vomited; can you now think that I will suggest this drug to anyone: No NEVER" (Pharmacist, PPH5).

Similar observations were made for IFA tablets as one of the respondents shared that

"The IFA by a XXX generic company is having serious side effects of constipation and bitter taste in mouth after eating this so the patients do not repeat the same drug and request for an alternative branded drugs" (Pharmacist, PPH2).

On inquiring about any issues in dispensing the Generic medicines, all the participants were comfortable in dispensing the drugs, there were however some concerns about the packaging of the drugs especially syrups. Almost all the doctors were straight forward that they even were not ready to use for themselves also.

"The packaging needs to be improved, look at the branded drugs packaging and the generic drug packaging, some generic drug packaging is so poor that the consumer request for a better strip" (Pharmacist, PPH6).

"Look at the ORS package that is a low-cost solution to most common brands like XXX but see the packaging, it's moist everywhere, they should improve the packaging and it should be resistant to moisture" (Pharmacist, PPH3).

"If I am not very comfortable in giving generics for my patient; how can be I comfortable with my family" (Doctors, DP2).

The majority of doctors were opined that the patients nowadays don't want to wait and want quickly regain their health. Hence they often force the doctors to prescribe the drugs which are more reliable and trusted and for some reasons as generic is a new concept it might take some years to develop similar confidence both in the community as well the doctors.

One doctor also talked about side-effects and bitter test leads to a lack of satisfaction. According to her,

"Its difficult to take a chance in cases like anemic pregnant, what if the anemia doesn't improve, it will be non-ethical if I use the drug which doesn't have evidence enough to be at par with the branded drugs" (Doctor, DP3).

3.5 Decision and Ethics

Decision and ethics is the last and most important theme. This theme is more dynamic compared to rest three. The inquiry of knowledge on generics and choice of drugs found that males knew better about generic drugs than females. Further patient perspective on the decision of using generic drugs mostly depends on the male member of the family shows the role of gender here.

"We generally used to take medicines that were purchased by our husband, whenever we require he accompany us to hospital and brings drugs" (Patient, PP7).

Over the counter, drug consumption practice is key to build patients’ trust and belief in pharmacist that shows the decision power of switching to generic substitute lies with the pharmacist.

"I have been purchasing drugs from this pharmacy shop for many years, he sometimes gives me drugs even without prescription and he
is a gentleman; Why will he cheat me" (Patient, PP1).

“I don’t mind if my pharmacist switches my prescription to a generic medication, but then he should explain to me the reason for the same” (Patient, PP2).

Both of the public hospital pharmacists talked that the superior level has decision power for keeping the generic drug in stock. According to him,

“We have no choice in keeping drugs, we have to be dependent on CMSO, it’s the apex body which decides the drugs to be procured and kept at PHC level, it’s a centralized procurement process and hence we get it from Gandhinagar”. (Pharmacists, Public Hospital).

Nevertheless, ethics play an important role mainly in who is eligible for advising or prescribing the generic drug as a substitute for branded drugs. This is an important aspect of the decision on the use of a generic drug. Many participants mainly include pharmacists and doctors talked on this. Pharmacist mainly said that the decision on prescribing the generics mainly should become from doctors to maintain the ethics. Further one of the pharmacists also talked on risk by violating ethics.

“We are bound, we cannot prescribe anything of our own, neither the law nor our council permits the same, more so there is a restriction on scheduled drugs and we need to adhere to what is prescribed by the doctor” (Pharmacist, PPH2).

“We cannot take chances as we may have to face real consequences if something goes wrong with the patient if we change the drugs: People are illiterate, they just need to follow whatever has been suggested by the doctor” (Pharmacist, PPH5).

The doctor simply said that he is not ready to prescribe the generic drug and on inquiring if pharmacist should have permission to substitute brand by generic majority were against this as they felt that it’s up to the doctor to decide and fix the prescription based on the best suitable assessment, which pharmacist is not aware of.

“Don’t you think its funny that a 2 or 4-year degree holder can overturn someone who is 8 - 10 years of learning and years of practical experience” (Doctor, DP2).

“……..if there is any need, confusion, the pharmacist should consult the doctor before changing the drug prescription” (Doctor, DP7).

“It should be up to the physician and he can take a call based on assessing financial conditions of the patient” (Doctor, DP1).

4. DISCUSSION

The study analyzed data from semi-structured interviews with patients, pharmacists, and physicians (doctors) on the perception regarding generic drugs. In a similar direction, the other studies also assessed the quality of drugs and explained the negative perceptions towards generic drugs in public health services [5].

The present study found that less cost is the main perception of all groups of participants. The association between less cost of generic drugs is for poor people was highlighted by patients however the less cost of generic drugs can be benefited for the long treatment of chronic disease was highlighted by the pharmacist and the prescription of generic drugs should be based on the assessment of financial status was linked by the doctors. Similar findings were also reported by the Greece study that generic means low cost [6] and African study where patients narrated that poor people are forced to “settle” for generics [7]. There is also a link between the low cost leads to the increased visits to the hospital thus patients choose the high cost but better quality of branded drugs. The study from Ethiopia also reported similar findings [8].

Side effects and bitterness in the test was mainly lead to the question of efficacy and quality. Mainly pharmacists and doctors addressed it. Swedish pharmacist community also reported similar findings of side effects [9]. The same study also pinpointed their concern on new side effects due to the use of generic drugs amongst patients. One of the systematic reviews also shown that doctors have a very strong perception of less efficacy of generic drugs [10]. The doctor raised more questions on efficacy compared to pharmacists in the present study. The qualitative study from Ireland also shows a similar pattern [11].

Unsure of efficacy leads to a lack of satisfaction. Due to the bitter test, perception of timely not cures, time-consuming to explain the patient, and less preferred for kids leads to the lack of satisfaction. The quantitative study from Ethiopia
shows some (about 30%) agreement on generic takes a longer time to cure [12] and one of the systematic reviews also shows the strength of association between the long duration of hospitalization is low [13]. The major hurdle for pharmacists was the poor packaging, no demand for generics, the stock issue with the generics, and unavailability during emergency leads to a loss in profit that further reason for the lack of satisfaction. Belay 2017 also reported pharmacists believed that demand is the most important factor for generic drugs [12], Pharmacists and physicians both reported that poor packaging is a factor for lack of satisfaction among patients [11]. The report from Europe also highlighted the risk of a shortage of generic drugs even if the tender is approved [14].

The decision to use, advise substitutes, or prescribe the generic drug is dynamic. Physicians mainly have the perception that doctors should prescribe the generic drug, which is also the perception of few pharmacists. The study with similar findings reported that low prescribing practices also because of a lack of government regulations or emphasis on private sectors [11]. Nevertheless, the very few pharmacists and doctors said they could advise for the substitute based on the type of drug or severity of disease like acute/chronic considering the balance of side effect and cost. The study from Ethiopia shows that proof of bioequivalence, and improving the awareness of the generic drug is important to advise the substitute. The same study also shows that the patients mainly follow doctors’ advice and they have trust in pharmacists for substitution. However, the gender role shows a mainly male member of the family decides to agree on a generic substitute or not [15].

5. CONCLUSION

The study concludes that cost is the main perception of patients, pharmacists, and physicians however; the decision power lies with the pharmacist and doctors, which is mainly not in favor to use or promote the generic drugs even if the cost is low because of efficacy and satisfaction issue. Thus, it is important to improve the efficacy of the generic drug or to advocate for the improvement of the perception of pharmacists and physicians by providing sufficient evidence on the efficacy of generic drugs which will help further to improve the satisfaction. Pharmacists could play the key role not for improving the usage but also for improving the knowledge of generic among patients. Overall, the cost, efficacy, satisfaction, and decision are very much interlinked which should be considered in the future for the improvement in generic drug usage.

CONSENT AND ETHICAL APPROVAL

This study was approved by the Institutional ethics committee of the Indian Institute of Public Health Gandhinagar. Further, written or oral consent was taken from all study participants.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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