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# Generic medicines: Perceptions of Pharmacists in Basrah, Iraq

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## Abstract

**Background:** The use of cheaper generic medicines is a strategy promoted in many countries to reduce rising health care costs. The objective of this study was to investigate generic medicine dispensing trends and substitution practice from the perspective of pharmacists in Basra, Iraq.

**Methodology:** A qualitative approach was used to gather information from the pharmacists in the city of Basrah, Iraq. A purposive sample of ten pharmacist practicing in Basrah was interviewed face to face using a semi-structured interview guide.

**Results:** A total of ten pharmacists were interviewed. Thematic content analysis of the interviews identified five major themes: Generic Medicines substitution practices, Knowledge about generic medication, Quality and safety of generic medicines, Patient education by pharmacists regarding generic medicines, and Strategies to improve generic medicine utility.

**Conclusion:** The present study suggested that, in general pharmacists interviewed in Basrah city were positive towards the use of generic medicines. Patient should be educated to increase the use of generic medicines in the future.

**Key words:** Generic medicine, bioequivalence, perceptions, substitution

## Introduction

Generic medicines provide the opportunity for major savings in healthcare expenditure to both government and consumers, given that they are generally lower price than their counterpart branded<sup>1,2</sup>

In Iraq, the Ministry of Health (MOH) is responsible for importing medicines from companies

that are previously registered with KIMADIA (the state company for importation and distribution of drugs and medical appliances). The MOH distributes imported pharmaceuticals to the public and private sectors (private pharmacies) after obtaining permission from the Drug National Quality Control Laboratories (DNQCL). Iraqi law requires all drugs to be marketed via the KIMADIA system. For over 20 years, KIMADIA has been the sole body authorised to carry out management, planning, selection, quantification, procurement, storage and distribution of medicines and medical equipment. In 1989, it was estimated that 70% of drugs were imported. The other 30% came from Samara Drugs Industries (SDI), a government agency.<sup>3</sup> Until 1994, the supply of medicines was dominated by the public sector. Approximately 90% of the drugs purchased using public funding was allocated to the public sector. Currently, there is no social health insurance system exist in Iraq. There are very small, isolated health insurance programs for employees of specific companies. At present, however, there is no system for reimbursement for money spent by public on private prescriptions in the country.<sup>4</sup> Thus, ensuring the availability of high-quality drugs at affordable prices in Iraq is a public health priority. Prescribing drugs by generic name and encouraging pharmacists to dispense prescriptions with generic medicines is one frequently suggested means for lowering the costs of healthcare.<sup>5-7</sup> Various articles have discussed the implications of generic substitution and other strategies to reduce pharmaceutical expenditure.<sup>8-11</sup> The concept of dispensing and using generic medicines has been controversial, however.<sup>5</sup> Concern has been expressed by pharmacists elsewhere about the efficacy of generic medication.<sup>12,13</sup> This debate has centered on issues

related to bioequivalence and potential confusion that might arise when changes of medicine brands occur in some patient populations.<sup>14,9</sup> The theoretical framework for this study calls on bounded rationality theory which predicts that the quality of the decisions we make are limited by the available information and our ability to synthesize that information.<sup>15</sup> A review of the available literature revealed that a few studies have been carried out in the USA and France, but no studies have been performed in Iraq to explore pharmacists' perceptions regarding the use of generic medications by the consumer. As a result of differences in pharmacy practices and the health care system between Iraq and western countries, the results of such a study would be a significant contribution to the field. Therefore, the aim of this study was to explore perceptions held by Iraqi pharmacists towards the use of generic medicines.

**Method**

Since little research has been carried out in Iraq to identify pharmacists' perceptions of generic medicines, qualitative methods were used to gain understanding of this issue.<sup>16,17</sup> A qualitative approach was adopted because it allows a flexible exploration of informants' attitudes and experiences and produces a richness of data that allows the researcher to gain a deeper understanding of social phenomena.<sup>18,19</sup> One of the challenges faced in the process of recruitment was to obtain a varied sample of informants to participate in the interviews. To address this, purposive sampling procedure was used. The advantages of purposive sampling are that it is cheaper and time-saving to implement in comparison to other sampling procedure. Semi-structured interviews were conducted with pharmacists until we reached saturation of themes.<sup>20,21</sup> The interview guide was developed following an extensive review of the literature on similar studies conducted elsewhere. Pharmacists were approached personally by the researcher at their private pharmacy hospital. Ten pharmacists consented to be interviewed. The interviews focused on the following issues: generic medicine dispensing preferences, knowledge about and confidence in the generic medication, and patients' ac-

ceptance of generic prescriptions. Follow-up questions were used when necessary to get a more in-depth explanation and to draw out more complete ideas from the participants. They were given freedom to express additional views on the subject at the end of the interview time.<sup>22</sup>

All interviews were conducted at a place suitable for the participants: eight at their private pharmacy and two in hospital pharmacy in Basrah province. Interviews took an average of 20-30 minutes. They were conducted by the investigator in his native language (Arabic). Interviews were documented and transcribed verbatim by qualified transcribers. Transcripts were confirmed by the researcher, corrections (if needed) were made before copies of the transcripts were sent to the respective physicians for their endorsement. The researcher manually analysed all of the transcripts line-by-line for relevant content and themes.<sup>23,24</sup> Ten interviews were required to achieve saturation of the themes, and no new themes emerged in the last three interviews.

**Results**

**Characteristics of participants**

Ten pharmacists were interviewed. Eight of them worked in urban areas, and the other two were in rural settings. Demographic characteristics are summarised in Table 1.

*Table 1. Pharmacists' demographic characteristics (n=10)*

Descriptions	n
Gender:	
Male	7
Female	3
Degree obtained from:	
Baghdad University	8
Mosul University	2
Work place	
College of pharmacy (lecturer)	2
Government hospital	5
Private pharmacy	3
Experience in Basrah:	
More than 10 years	7
Less than 10 years	3

All the interviews were conducted at the pharmacists' workplaces (two in hospital pharmacies and the others at the pharmacists' private pharmacies).

## Themes

Five major themes emerged when the interview content was reviewed: generic medication substitution practices, knowledge of and confidence with generic prescriptions, quality and safety of generic drugs, pharmacist's roles in educating patients regarding generic substitutions and strategies to improve their use of generic medications. The themes are presented below.

### Theme 1

#### Generic Medicines substitution practices

Nearly, all the pharmacists interviewed have recommended generic medications to consumers.

*"Normally, we dispense generic medicines, unless the patient requests to have of innovative medicine" (p01)*

*"I recommend the generic and innovative medicines and leave the choice to the patient" (p03)*

Interestingly, the relatively inexpensive cost of generic medications leads pharmacists and patients to choose generic over innovative drugs.

*"Medicine price is one of the important factors that makes the patient favour the generic medicine. For example, the price of Zantac® (Ranitidine 150 mg) is ID15000 (US\$=12.5) for sixty tablets, while the price of Histac is ID 2000 (US\$ 1.6)" (p10)*

*"I recommend generic medicine because it is cheap for the patient and more profitable to the pharmacy" (p07)*

A patient's income status affects the pharmacists' recommendations.

*"Patients with low income request a cheaper medicine; therefore offering generic medicine will help patients to buy such medicines" (p06).*

Another factor which encourages pharmacists to dispense generic medications is the availability of generic medicines in drug stores. Innovative drugs are more difficult to obtain.

*"The availability of generic medicines in drug stores constantly encourages the pharmacist to recommend them to the patients, in contrast to the innovator medicines, which are difficult to obtain continuously" (p02)*

Though most pharmacists recommend generic medications, certain circumstances make them reluctant to use the generic over the innovative drug. When the physician does not want generic medicines, pharmacists respect the physicians' recommendations. Furthermore, the nature of the disease affects pharmacists' willingness to use the generic form of a drug.

*"The doctor does not agree to switch medicines is one of the factors that prevent me from offering generic medicines to the patients" (p01)*

*"If the patient was satisfied and stabilized with the innovator medicine, I don't offer generic medicines, especially in the cases of chronic disease" (p05)*

In Iraq, patients' trust in their physicians' choice of innovative medicine was seen as a barrier to offering generic medicines.

*"Some patients are convinced with what the physician prescribes to them, so I don't offer generic medicine to these patients" (p 03).*

Confusion is one barrier that prevents pharmacists from recommending generic medications. This is especially pertinent with respect to elderly patients and patients treated with multiple medications.

*"I don't offer generic medicine to the elderly people who use innovative medicine and they are comfortable with it, or to those who take more than one type of medicine to avoid getting them confused" (p04).*

*"I do not offer generic medicines to any refill prescription because I am afraid of confusing the patient" (p09).*

Some pharmacists have realised that many patients, especially from those from rural areas, do not believe that generic medications are effective.

*“Actually, in my pharmacy I don't recommend generic medicine to patients (especially those patients from rural areas) who do not believe in the effect of generic medicines” (p03).*

## **Theme 2**

### **Knowledge about generic medication**

Pharmacists were questioned about the bioequivalence criteria required by the WHO and/or FDA, KIMADIA and DNQCL in Iraq, for approval of a generic medication. We found that the pharmacists have little or no knowledge about the bioequivalence requirements.

*“I don't have any idea” (p02).*

*“I do not care about these things, I depend on the DNQC” (p01).*

## **Theme 3**

### **Quality and safety of generic medicines**

Pharmacists were asked about their belief in therapeutic equivalence when comparing a brand-name (innovative) medication with generic medicine. Generally, the pharmacists expressed their belief that quality of a particular generic medication depends on the reputation of the company that produced it. In addition, all of the pharmacists included in this study reported a lot of confidence in the laboratory control program in Iraq (DNQCL).

*“I have great confidence in the generic medicines which come from European origin as well as the medicines that are being tested by the DNQCL” (p09.)*

## **Theme 4**

### **Patient education by pharmacists regarding generic medicines**

One of the most important responsibilities of the pharmacist is to educate patients about proper use of their medications. All of the pharmacists interviewed in this study agreed that educating patients about generic medicines may reduce misunderstandings about brand substitution when using generic drugs.

*“Answering the patients' questions, if any is the most important duties of the pharmacist, also giving the patients all the information on the medicine leads to reduce the risk of the misuse of medications and confusion due to different brands of medications” (p07).*

## **Theme 5**

### **Strategies to improve generic medicine utility**

All of the pharmacists commented on the need for a law to regulate the substitution of generic medicines.

*“Legislating a law to regulate generic medicines substitution made by the pharmacist leads to increase the use of generic medicine by the patients and helps them to save money. This is because the price different between innovative and generic medicine” (p08).*

Furthermore, some pharmacists noted the usefulness of a drug guide that would contain a list of the generic equivalent of commonly-used innovative drugs. This guide could be used to guide brand substitutions in Iraq.

*“A drug guide containing all the innovative medicine and the medicines which are equivalent leads to regulate the generic medicine substitution. This will convince the physician to follow the proposed guide” (p10).*

Some pharmacists suggested that the use of the scientific name or “INN” in prescription writing by Iraqi physicians would increase the use of ge-

neric medicine. In addition, this would decrease patient confusion caused by name variations between brand-name and generic forms of a medication.

*“Many names of branded medicines confuse the patients, physicians and pharmacist and thus, the use of scientific names is the best” (p06).*

Currently, the Iraqi market is inundated with counterfeit medicines, which patients often confuse with generic medications. Decreasing the availability of counterfeit medication, by increasing oversight of pharmaceutical production, would help to prevent this Confusion.

*“The large numbers of the counterfeit medicines adversely affect the use of generic medicine and these counterfeit medicines are considered by most patients as generic medicines, and this is not true” (p03).*

## Discussion

Generic substitutions positively impact medication usage by making necessary prescriptions more affordable. Pharmacists play an important role in educating patients about generic medicines. This exploratory study of Iraqi pharmacists' perceptions about the use of generic medication highlights factors that interfere with utilising generic medicines in Iraq. Some of these issues include bio- and therapeutic equivalence, substitution practices, confusion due to the usage of different generic brands, and product labelling.

There is not currently any law in Iraq which regulates generic substitution. This decision is currently dictated by two main factors: the relationship between the pharmacist and physician and the relationship between the pharmacist and patient. In general, all of the pharmacists interviewed were willing to recommend generic medicines because generics are lower in price than their brand equivalents and supplier consistency enables pharmacists to feel secure that they are recommending a quality replacement. This supports previous studies published by Segal, Sanborn, and Hassali all of which highlighted the influence of price and sup-

plier consistency in pharmacists' decisions whether to recommend a generic substitution.<sup>25-27</sup> (Segal et al, 1989; Sanborn and White,1993;Hassali et al,2005).

Patients' reluctance to deviate from what their physicians have prescribed for them, and the reluctance of some physicians to recommend generic substitutions are two of the main barriers to the widespread usage of generic medicine.<sup>28,29</sup>(Mott and Cline,2000;Ludin,2000). In addition, previous studies have reported that many physicians are unwilling to recommend generic medications to avoid confusing their patients, especially elderly patients, those with chronic diseases, or those on multiple medications.<sup>27</sup> (Hassali et al.,2005) . These were the main pharmacist-reported patient concerns regarding medication substitution.

All of the pharmacists interviewed agreed that generic medications obtained from European or reputable Arab companies are bio and therapeutic equivalents of the innovative medicines. However, there are a lot of counterfeit medicines in the Iraqi market, which makes it very difficult to distinguish legitimate medications from counterfeit drugs. Ultimately, this may negatively affect the usage of generic medicines in Iraq.

When counselled by a pharmacist, patients are generally amenable to using generic medicine. Most Iraqi patients hold the baseless belief that generic medications are less effective than innovative medicines because generic versions are less expensive. Patients should be educated by their pharmacist about the equivalence of generic medicines to innovative medicines to prevent such misunderstandings. For example, an American study reports that only 35% of patients over 65 years of age believe that the quality of generic medicines does not equal that of innovative medicines.<sup>30</sup> (Rosendahl,1994).

Some of the pharmacists involved in this study suggested that using the scientific name (INN) for medications may increase the usage of generic medicine. This aligns with previous studies by Lagarce and Segal, which reported that pharmacists are more likely to dispense generic medicines for patients with a low income or when the physician writes the prescription using INN.<sup>25,31</sup> (Segal et al.,1989; Lagarace et al., 2005) to this end, the WHO International Non-proprietary Names

(INN) Committee works to develop generic names that will be accepted worldwide.<sup>32</sup>(WHO,2003) Similar results have been reported in the United Kingdom.<sup>33</sup>(Pharmacopia,2003).

Discussions between physicians and pharmacists regarding the availability of generic medications in pharmacies can increase prescriptions for generic medicines. A study by Knowlton and Knapp found out that pharmacists' interference led to a 6% increase in prescriptions for generic medicines.<sup>34</sup>(Knolton and Knapp,1994). Institution of a law to regulate generic substitutions in Iraq would likely increase the use of generic medications. In addition, a medicine guide containing innovative drugs and their therapeutically equivalent generics would facilitate generic substitution by both physicians and pharmacists.

### Study limitation

One of the limitation of qualitative methods is that the results cannot be extrapolated to the wider population.<sup>35</sup> (Creswell et al.,2004). This study was conducted in Basrah city in Iraq and the findings may not apply to Pharmacists living in other province in Iraq. We were unable to include pharmacists from other province due to limited funding.

### Conclusion

In general, the pharmacists interviewed in this study were positively inclined towards generic substitution because it gives the pharmacist an expanded role in the education and healthcare of the patient. The pharmacists felt that this process could change the negative predisposition that patients have toward pharmacists as businessmen or dispensers of drugs. This study shows the perceptions of ten pharmacists about the use of generic medicines. An understanding of these perceptions will be important to policy makers when they strategies to improve the utilisation of generic medicines in Iraq. In addition, an extra effort should be taken by regulatory and professional bodies to educate pharmacists on bioequivalence requirements, which currently cause confusion among Iraqi pharmacists.

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