

**Knowledge and Perception of Undergraduate Students about Generic Drugs and Their Attitude towards Generic Substitution in Karachi, Pakistan**Fatima Ramzan Ali<sup>1</sup>, Sheikh Abdul Khaliq<sup>2,\*</sup>, Samana Zehra<sup>1</sup>, Hina A. Khan<sup>1</sup>, Iqbal Azhar<sup>1</sup><sup>1</sup>Department of Pharmacognosy, Faculty of Pharmacy, University of Karachi, Karachi, Pakistan<sup>2</sup>Department of Pharmaceutics, Faculty of Pharmacy, Federal Urdu University, Karachi, Pakistan**\*Corresponding author e-mail:** [sheikh1974@gmail.com](mailto:sheikh1974@gmail.com)**ABSTRACT**

Generic substitution has become a common practice. In Pakistan living standards are below average. Improving knowledge and perception about generic drugs will increase the generic substitution, and it will reduce cost of treatment. The aim of study was to determine the knowledge, perception and attitude of undergraduate students of Pakistan about generic drugs. A questionnaire comprising of questions regarding knowledge and perception about generic drugs and attitude towards generic substitution was distributed to 100 students. Mostly students knew about generic drugs and difference between generic and brand names. Their idea about cost of generic drugs wasn't correct. Mostly students prefer doctor's advice while buying or changing their brand. Students substituting their brand didn't find any difference in efficacy of both drugs. Overall good knowledge and perception about generic drugs was found, and mostly students showed positive attitude towards drug substitution. However, few required additional information.

**Keywords:** Generic drugs, Generic substitution, Pakistan, Undergraduate students.**INTRODUCTION**

Generic drugs are copies of brand-name drugs and are the same as those brand name drugs in dosage form, safety, strength, route of administration, quality, performance characteristics and intended use.<sup>[1]</sup> Generic substitution has become a common practice since the late 1970's.

Because of the increased use of generic alternatives and concerns about the FDA standard for bioequivalence, especially with respect to narrow therapeutic index drugs, the awareness and attitudes of prescribing physicians to generic drugs and generic substitutions are important.<sup>[2]</sup>

According to Das et al., consultants of Karachi prescribed 12.26% drugs by their generic name.<sup>[3]</sup> In another research on prescribing practice of three teaching hospitals of Pakistan, only 23.61% drugs were prescribed by their generic name. This may be largely due to non-availability of the drug in generic

preparation. Further, the prescriber also have reservations about the quality of generic preparations.<sup>[4]</sup> Various studies were performed to determine the knowledge, perception and attitude of physicians, community pharmacists and consumers of Pakistan about generic drugs. There were gaps identified in the knowledge of physicians about generic medicines. Misunderstandings were identified about the safety, efficacy and quality of generic medicines.<sup>[5]</sup> All community pharmacists showed good understanding and positive perception towards generic medicines.<sup>[6]</sup>

The study demonstrated gaps in the knowledge of generic medicines but somewhat, good perception was noted among consumers.<sup>[7]</sup> According to census 1998, the literacy ratio of Pakistan is 43.92; out of it 4.39% have BA/BSc and equivalent degree.<sup>[8]</sup> This group is considered as more educated group of society, and their better knowledge on the subject may improve the healthcare strategies. Taking into account these factors, the study was performed to

determine the knowledge and perception of undergraduate students about generic drugs and their attitude towards generic substitution.

## METHOD

**Sampling Procedure:** The sampling population was undergraduate students of public sector institute, "University of Karachi, Pakistan". The sample size was 100 respondents. We used convenience technique as the sampling method.

**Data Collection and Instrumentation:** Data was collected from October 2012 till November 2012. The data was collected through personally administered questionnaire. The questionnaire was close ended. The questionnaire was formed to gather information about students' demography (gender and age), their knowledge and perception about generic drugs and attitude towards generic substitution. **Data Evaluation:** The data was entered in statistical software (SPSS, version 16). The analysis was performed by descriptive statistics (Crosstab analysis).

## RESULT

A total of 100 students (males 28, female 72) filled the questionnaire having mean age  $21 \pm 2.45$ . Out of 100 respondents 57% knew about generic drugs, 66% were aware of the difference between generic drugs and the brand name, 57% thought that generic drugs are expensive, 31% thought use of generic drug will affect cost of treatment, 66% prefer what doctor prescribes while 34% listen to pharmacist's suggestion, 52% listen to doctor's advice, 36% pharmacist and 12% follow their own choice while changing a brand, 80% think that pharmacist plays an important role in awareness of generic drugs, 55% search same brand on different pharmacies, 18% wait for availability of same brand while 27% take another brand depending on availability, 38% consider drug substitution as an equal alternative to branded drug while 35% needed additional information on it, and 49% have changed their brand on suggestion of health care professional and (n=35; 71%) didn't find any difference while (n=14; 28%) thought generic drugs were less effective. ("Error! Reference source not found." here)

## DISCUSSION

In the current study, most of the students were aware of the generic drugs and difference between generic and brand name. Their idea about cost of generic drugs wasn't correct, as most of them thought that generic drugs are expensive and few students thought that generic substitution will affect the cost of treatment. Most of the students prefer to buy what doctor prescribes and while changing their brand they consult doctor.

This may be due to the fact that pharmacists are not available on retail. According to Butt et al., there are estimated 45,000-50,000 retail and wholesale drug outlets in Pakistan (population 145 million). However, only about 800 individuals per annum graduate as Bachelors of Pharmacy, which translates to these outlets. A majority of drug stores, therefore, have persons with little or no professional training.<sup>[9]</sup> 80% students think that pharmacists play an important role in spreading awareness about usage of generic drugs. As the public awareness about generic drugs is less therefore, mostly people search same brand on different pharmacies or wait for the availability of prescribed brand. If this awareness can be increased by pharmacist, the problem of searching same brand and waiting for it can be avoided.

Since pharmacists are responsible for the dispensing of prescriptions, they can also play an important role in increasing the use of generic medicines.<sup>[10]</sup> A mixed response was observed about drug substitution. Some considered it as an equal alternative to branded drugs while other required additional information on the subject. Few students (27%) thought that different entity is substituted. Out of those students who have substituted their brand on professional's suggestion, majority of them considered that there wasn't any difference between two brands. Jamshed S et al. has proposed various strategies to increase utilization of generic medicine; sensitization of the consumer in relation to the accessibility and satisfactoriness is one of them.<sup>[11]</sup> The awareness of consumers' especially educated consumers will also increase the use of generic drugs hence will affect the cost of treatment.

Table 1: RESPONSE OF STUDENTS ON STATEMENTS

Statements	Positive Response		Negative Response	
	Male	Female	Male	Female
Generic drug is chemical name of drug.	11	46	17	26
Generic is chemical name and brand is the market name of medicine.	18	48	10	24
Generic drugs are less expensive.	15	28	13	44
Generic substitution will affect the cost of treatment.	10	21	18	51
If pharmacist suggests a brand you prefer what doctor prescribes.	19	47	9	25
<b>When changing brand I listen to:</b>				
Doctor	9	43		
Pharmacist	14	22		
My Choice	5	7		
Pharmacist plays an important role in awareness of generic drugs.	20	60	8	12
<b>If you prescribed brand is not available:</b>				
Search same brand on different pharmacies.	10	45		
Wait for the prescribed brands availability.	7	11		
Take another brand.	11	16		
<b>What you think about generic substitution:</b>				
As an equal and alternative to branded drug.	9	29		
As a different entity.	11	16		
Need additional information and support.	8	27		
Have you ever changed you brand on professional's suggestion?	17	32	10	41
<b>If yes then did you find any difference?</b>				
No difference	11	24		
You think generic drug is less effective	6	8		

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