



ORIGINAL ARTICLE

Perception and attitude of physicians toward local generic medicines in Saudi Arabia: A questionnaire-based study



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Abstract *Objectives:* The current study aimed to explore the knowledge, perception, and attitude of physicians toward generic medicines in Saudi Arabia.

Background: The local market of generic medicine share in Saudi Arabia is low compared to global and regional statistics. The reason for this low market share and the role of physicians has not previously been investigated. The purpose of this study was to assess health practitioner level of perceived knowledge, opinions and attitudes about local generic medication, and identify factors that influence infrequency of generic prescriptions.

Methods: A random sample of 231 physicians was recruited from two hospitals in Riyadh (one government one private) and 178 (77%) responded. Information on the physicians' perceived knowledge, opinions and attitude toward local generic medication was extracted, analyzed and interpreted. Factors that influence infrequent prescription of local generic drugs were identified.

Results: Among the 178 participants in the physicians' survey, 76% and 47% reported that they are knowledgeable about the terms "generic" and "bioequivalence" respectively, while 44% reported that they are able to explain bioequivalence to their patients. Approximately 52% of physicians reported that local generics should be substituted for brands if suitable for the case,

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and 21.9% reported that they believe SFDA approved local generics are therapeutically equivalent to their brands. Clinical effectiveness was reported by 71.9% of physicians as the most influential factor effecting prescription of brand over local generic medication. The three independent significant predictors for infrequent prescription of local generics among physicians: Government sector employment (OR = 3.74, [95%CI 1.50–9.43]), consultant level (OR = 3.94, [95%CI 1.50–10.31]) and low level of knowledge about local generics (OR = 4.11, [95%CI 1.56–10.84]).

Conclusion: The low market share of local generics medicines attributed to low prescription rates is significantly more among senior-level physicians working in governmental hospitals. Low level of knowledge about generic drugs among physicians was the strongest predictive factor for low prescription. Future bigger studies are needed to confirm these results.

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1. Introduction

The total healthcare budget in Saudi Arabia for 2012 was SAR 86 billion (Gamble, 2011), while the total drug consumption was between SAR 13 and 14 billion. Of this total, 84% was estimated to be primarily imported brand names and only 16% was local generics (Al Shaikh and Chahine, 2011). According to the SFDA, a generic drug product is a pharmaceutical product that is interchangeable with an innovator branded product, and is manufactured and marketed without a license from the innovator company after expiry of the drug's patent and other exclusivity rights. When generic drug products become available they drive down prices of both the innovator drug and its corresponding generics (Bioequivalence Requirements Guidelines, 2005). The Saudi population is expected to reach 30 million in 2015 (Al Shaikh and Chahine, 2011). These demographics have driven overall pharmaceutical expenditure to increase by around 10% from 2010 to 2012 (http://www.pressbox.co.uk/detailed/Business/Generics_to_Scale_High_in_Saudi_Arabian_Pharmaceutical_Market_664609.html, 2011) and is expected to continue putting pressure on the Saudi economy in the future.

Globally, local generics account for more than 65% of the pharmaceutical market share (Shrank et al., 2009; Al Shaikh and Chahine, 2011). In the USA alone, \$ 9 billion (11% of total prescription costs) were saved during the period from 1997 to 2000 through the use of generic drugs (Fischer and Avorn, 2003; Haas et al., 2005). In 2009, 66% of prescriptions in the USA were for generic drugs that contributed to only 13% of total prescription expenditure (Shrank et al., 2009). With over \$100 billion worth of innovator drugs losing their patent protection between 2010 and 2014, it is essential for countries to develop their generic drug manufacturing capabilities to take advantage of this new market (<http://www.reportlinker.com/ci02261/Generic-Drug.html>, 2012). According to the WHO the 2009 total global annual cost of health services was over US\$4 trillion, of which US\$750 billion was the total expenditure on pharmaceuticals (WHO, 2009). According to IMS Health market prognosis, the total global pharmaceutical expenditure was estimated to grow by 4–5% in 2010 and 5–7% in 2011 to reach US\$ 880 billion (www.abpi.org.uk; Moon, 2005). These projections are consistent with the EFPIA statistics which have global pharmaceutical sales in 2011 at US\$ 856 billion (www.efpia.eu, Chidambaram, 2011; Market Analysis, 2012).

A study conducted in the USA in 2005 (Barrett, 2005) showed that 78% of physicians support generic substitution in most cases, with 17% said they would prescribe generic drugs in all cases when they are available. Only 5% of doctors indicated they did not support generic substitution. Ninety percent of physicians surveyed believed they were knowledgeable enough about generic bioequivalence to instruct informed substitution of generics for brands. Sixty-nine percent indicated that therapeutic index influenced their decision to prescribe a brand over a generic, while 75% thought that certain drugs that have a narrow therapeutic index should never be substituted for generics (Barrett, 2005).

A similar study was conducted in Riyadh, Saudi Arabia from May to September 2007 (Alghasham, 2009). Overall 79% of physicians said they supported generic substitution in most cases, while 16% supported it in all cases where a generic is available and only 5% objected to their use entirely. Ninety-six percent said they had enough knowledge about the therapeutic value of generics to prescribe them in confidence. Seventy-two percent of physicians agreed that price difference influenced them to prescribe generics. The study also found that 82% of doctors have perceived confidence in prescribing generic drugs that are approved governmentally approved. However, 35% of doctors who participated in this study indicated that “therapeutic failure” is a serious problem with some generic drugs (Alghasham, 2009).

Theodorou et al. (2009) conducted a survey in 2007 in Greece and Cyprus. Proven clinical effectiveness was found to be the most influential factor for prescribing medication for over 90% of physicians in both Greece and Cyprus. Fifty-one percent of physicians in Greece and 60% of physicians in Cyprus rated the quality of generic drugs compared to brand name drugs to be satisfactory or excellent, while 54% in Greece and 68% in Cyprus rated safety of generic products as satisfactory or excellent. Effectiveness of generic drugs was rated as satisfactory or excellent by 52% of Greek physicians and 62% of the physicians in Cyprus. Overall only 25% of physicians in Greece indicated that they prescribed generic drugs instead of brand name drugs often or very often versus 67% in Cyprus (Theodorou et al., 2009).

In Istanbul, Turkey a survey was conducted (Toklu et al., 2012) among physicians and revealed that around 32% of them believe that generic drugs did not differ from their brand name originals. Eighty-two percent of physicians stated that they were unsure about the bioequivalence of generic drugs

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