

The Perception of Pharmacists and Physicians about Generic Drugs on Drug Price Lists in Trinidad

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ABSTRACT

Objective: To determine the perception and concerns physicians and pharmacists have about generic drugs on three annual drug price lists in Trinidad.

Method: Windows® Excel 2007 and Minitab® version 17 examined the price lists and a self-administered questionnaire was used to perform a non-randomized, cross-sectional study with a convenient sampling of physicians and pharmacists after obtaining written consent.

Results: Physicians (78.6%) and pharmacists (87.1%) agreed and strongly agreed respectively that there are medical conditions for which brand name drugs are preferred including cardiovascular conditions and diabetes; which were comprised in the five major medication categories on the national drug price lists. Overall, physicians and pharmacists showed a 'Good' to 'Excellent' perception of generic drugs but had some safety and efficacy concerns. Lack of reporting of adverse drug reactions and quality issues by health professionals was also observed.

Conclusion: Education and communication among patients, physicians and pharmacists can improve the perception of generic drugs; hence, increase confidence in prescribing, dispensing and patient management.

Keywords: Drug list, generic drugs, perception of pharmacists and physicians, Trinidad.

INTRODUCTION

The World Health Organization's (WHO's) Essential Medicines List helped develop national drug lists that addressed major health needs of a country's population and provided WHO's recommendations of safe, effective, affordable and good quality medicines (1–4). Drug lists guide prescribing patterns, address morbidity and mortality diseases, assist in medication consumption, manage drug acquisition and distribution, and make necessary medicines available and accessible to those who require them (1–3). However, some physicians indicated that a drug list restricts their practising (3).

In Trinidad and Tobago, as in Jamaica, there is no Essential Medicines list, however, the national drug list contains drugs classified as Vital, Essential and Necessary (VEN) for public sector use, commonly referred to as the 'VEN' list (4, 5). The annual drug price lists consist of items from the VEN list tendered for a

particular year with the inclusion of manufacturer, brand name and distributor (6–8). Generic drugs are defined as being similar to their brand name counterparts in dosage form, performance, route of administration, strength, quality, safety and indicated use (9).

Trinidad and Tobago and other countries have included multi-source/generic drugs on their national drug list because these decrease the price to patients or government; therefore, increase medicine access (10–14). The Ministry of Health of Trinidad and Tobago has guaranteed that the medicines provided to its population are safe, efficacious and of superior quality (15, 16). Nevertheless, Trinbagonian physicians have indicated that the generic drugs used in the public health sector are not as effective as the brand name drugs (17).

Perception refers to the process of receiving data, analysing it and then producing a response (18). Researchers have identified various factors that may

influence perception including prior experience, emotions, culture and knowledge (19). The perception of generic drugs can affect the prescribing behaviour of physicians; the ordering and procuring of generic drugs by the pharmacists and the adherence of patients to their medications (12, 20, 21).

MATERIALS AND METHODS

National drug lists investigation

Annual national drug price lists for 2008–2011 were obtained from the internet and the respective hardcopy booklets for the relevant years (6–8). The items were entered in Windows® Excel 2007; recoded and descriptive analyses were performed on the data using Minitab® version 17. Internet searches were used to confirm data including that of manufacturers and drugs.

Survey

Design and collection tool

A non-randomized, cross-sectional study was performed from June to August 2010. Research done by Kersnik and Peklar (2006), Shrank *et al* (2011), Sharrad *et al* (2011), Chong *et al* (2010), Chua *et al* (2010) and others were used to develop the self-administered questionnaires (12, 20–25). Open-ended questions, Likert scales and Visual Analog scales (VAS) were applied to acquire the necessary data. Visual Analog scale ranged from 0, which represented 'Poor', to 10, which represented 'Excellent'. The question items aimed to obtain data on variables such as cost; efficacy and safety of generic drugs; support of switching from a brand name drug to a generic or generic to generic; if generic drugs are the same as brand name ones; knowledge, understanding and views of generic drugs and communication of healthcare professionals and patients. Some items of the questionnaire were combined to create specific categories such as cost, safety and total perception and these combinations were referred to as domains (groups of questions). The domains and the single item for perception utilized the quartile method which divided the responses into four groups—Poor, Fair, Good and Excellent.

The questionnaires were pre-piloted among supervisors and colleagues and they were then piloted prior to the beginning of the study. Face validity ensured that the questions measured what it was supposed to measure, therefore, certifying the collection of meaningful data.

Sampling method

The North Central Regional Health Authority (NCRHA) and institutions in Trinidad were conveniently selected from the five Regional Health Authorities (RHAs) in Trinidad and Tobago. The list of the health institutions within the NCRHA was obtained from the Trinidad and Tobago, Ministry of Health website and three health centres and five district hospitals were chosen (26, 27). Participants included both genders, all ethnic/racial composition, at least 18 years of age, willing to give written informed consent and employed at the various health institutions.

Statistical analysis

Data entry was done *via* the computer using Microsoft Office Excel® 2007 then transferred into Minitab® version 17 and Statistical Package for Social Sciences (SPSS®), versions 11 and/or 12, for data analysis incorporating a coding scheme.

Reliability analysis was performed to verify the internal consistency of each item within the different domains and Cronbach's alpha coefficients were calculated in SPSS 11 and/or 12. A reliability coefficient of 0.8 and more was necessary to confirm the reliability of a domain while those that did not meet the requirement were considered as individual items in the analyses. Additionally, some of the questions were asked in a different part of the questionnaire so as to confirm the reliability of the items. Various analyses were achieved including descriptive statistics, correlations and ordinal logistic regression.

Ethical approval

The research was approved by the Ethics Committee of The University of the West Indies. Respect for persons included a written informed consent from the physicians and pharmacists and confidentiality was maintained. In addition, permission was granted from NCRHA and the selected health institutions prior to the initiation of the study.

RESULTS

Thirty-one pharmacists and 70 physicians participated in the study and most were of East Indian ethnicity from each group. Pharmacists were predominantly females (77.4%) of 31–40 years (38.7%) while physicians were chiefly males (51.4%) of 21–30 years. Pharmacists (40%) and physicians (53.0%) mainly had 5 years or

less working experience and 63.3% of the pharmacists and 54.0% of the physicians worked in the public health sector for this same period.

About 64% of the physicians compared to 48.4% of the pharmacists agreed that generic drugs can be used for all chronic diseases. Both physicians (78.6%) and pharmacists (87.1%) agreed that there are medical conditions for which brand name drugs are preferred such as cardiovascular conditions, diabetes mellitus, infections and cancer. The main classes of medications on the drug price lists were the central nervous system (293/1473), anti-infectives/antibiotics (226/1473), cancer (177/1473) and cardiovascular (139/1473). The major routes of administration on the national drug price lists were the oral (50.94%) and parenteral (31.50%) while the rectal route (0.54%) was the least.

Most pharmacists (67.7%) and physicians (42.4%) estimated the percentage of generic medicines stocked at their pharmacies as 76%–100% and 51%–75%, respectively. Approximately 54% of pharmaceuticals on the drug price lists were generic formulations. Pharmacists (27/31) and physicians (65/70) believed that India was the main country from which most generic drugs originated while the second choice was Canada for pharmacists (51.6%) and South America for physicians (14.3%). The five main countries that manufactured the pharmaceuticals on the drug price lists were India (395/1499), the United States of America (266/1499), the United Kingdom (172/1499), Switzerland (110/1499) and Canada (85/1499).

Physicians rated their general understanding of generic drugs as predominantly ‘Good’ (33/70); whereas most pharmacists rated their understanding as ‘Very Good’ (12/31).

Doctors (51.4%) and pharmacists (41.9%) agreed that they were comfortable prescribing/dispensing generic drugs from the Trinidad and Tobago drug listings. Prior experience influenced prescribing/dispensing behaviour while 87.1% of pharmacists and 51.4% of physicians were concerned about the difference in colour, shape, size, taste and packaging of generic medicines.

Pharmacists (38.7%) showed a ‘Poor’ perception about generic drugs in the Cost domain, in respect to value and price, as opposed to the physicians (34.8%) who demonstrated a ‘Good’ perception.

Physicians (39.4%; 37.3%) and pharmacists (50.0%; 38.7%) demonstrated an ‘Excellent’ and ‘Good’ perception for the safety and efficacy domains respectively.

Doctors (80%, 51.5%) and pharmacists (67.7%, 48.4%) agreed that pharmacist should only substitute a

brand name drug with a generic one with doctor’s and patient’s consents correspondingly.

On a VAS, the most responses were of the score 5 (20.6%) followed by 6 (19.6%). This single perception item showed a mean score of 5.58, median and mode scores of 6 and 5 respectively, and standard deviation of 2.0. Physicians (20/70) and pharmacists (14/31) mainly showed an ‘Excellent’ perception of generic drugs in the single item. However, for the perception domain pharmacists (10/29) had an ‘Excellent’ perception while physicians (20/62) had a ‘Good’ perception of generic drugs.

Physicians (23.7%) and pharmacists (26.45%) made recommendations to diminish poor perception of which education was the most popular. Most physicians (37.1%) and pharmacists (45.2%) indicated that they sometimes communicate with their patients regarding generic drugs. More physicians (44.3%) declared that doctors/dentists should be the chief educators for patients about generic drugs whereas pharmacists (67.7%) stated that it should be the pharmacists.

Pharmacists (35.5%) and physicians (21.4%) stated that they seldom report any complaints of generic drugs; in contrast to 29% of pharmacists and 64.3% of physicians who have never made a report.

DISCUSSION

The medicines referred to by the participants, in our study, were those on the annual national drug price lists. The pharmacists and physicians shared comparable perception of generic drugs but highlighted specific concerns about efficacy, safety and difference in the physical appearance of generic medicines compared to their counterparts.

Management of medication safety and efficacy includes reporting adverse effects and quality issues, however, our study demonstrated poor reporting by physicians and pharmacists (28, 29). Our study observed other factors that influenced the perception of generic drugs which were also seen in studies from New Zealand and Malaysia (13, 20). However, where cost can affect some countries, in Trinidad and Tobago, various medications to patients in the public sector are supplied gratis by the government (10, 11).

Our study stated that education within the health-care system would improve perception and each group stated that they were the main person to educate patients about generic drugs (13, 20). Studies in Iraq and South Africa showed that patients were more likely to agree to generic substitution if it was suggested by a physician

as opposed to a pharmacist (22, 25). Nevertheless, the study from Iraq and other studies stated that education of generic drugs should be from both physicians and pharmacists (13, 20, 25). Furthermore, a Malaysian study indicated that communication between pharmacists and physicians can better the perception of generic drugs and their partnership can improve the quality of generic drugs (20, 28).

Physicians and pharmacists stated that there are some medical conditions where generic drugs should be restricted. Other researchers have encountered similar concerns and have identified certain diseases such as cardiovascular conditions and epilepsy (30, 31).

Limitations of the study included a small sample size and convenient sampling. A larger study comprising all the RHAs and private sector will obtain enough data to represent the pharmacists and physicians of the Republic of Trinidad and Tobago.

CONCLUSION

The single item and domain perception of generic drugs were mainly ‘Excellent’ for pharmacists and physicians but they had concerns about safety and efficacy. However, a safety and efficacy mechanism of reporting adverse drug reactions and quality matters was not performed sufficiently by the healthcare professionals. Education and communication can provide valuable information for physicians and pharmacists; thus, address their apprehension of generic drugs and ensure medicines on the national drug price lists are safe and effective for patients.

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AUTHOR’S NOTE

AR Villarroel Stuart conceived paper; performed study design; conducted data collection, analysis and interpretation; and wrote, revised and approved final version of the manuscript. The author declares no conflict of interest.

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