Tropical Journal of Pharmaceutical Research August 2010; 9 (4): 409-415
© Pharmacotherapy Group,
Faculty of Pharmacy, University of Benin,
Benin City, 300001 Nigeria.

All rights reserved.

Available online at http://www.tjpr.org

Research Article

Knowledge, Perception and Attitude of Community Pharmacists towards Generic Medicines in Karachi, Pakistan: A Qualitative Insight

Shazia Q Jamshed[1*], Mohamed AA Hassali[1], Mohamed IM Ibrahim[1], Asrul A Shafie[1] and Zaheer Babar[2]

[1]Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, 11800, Penang, Malaysia, [2]Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand.

Abstract

***Purpose**: In an era of escalating healthcare costs and ageing population, there is a need for cost-effective measures. This study was aimed to investigate the knowledge, perception and attitude of community pharmacists towards generic medicines.*
***Methods**: A qualitative methodology was adopted. Snowball sampling technique was used to identify eight community pharmacists. Semi-structured interviews were conducted with the pharmacists until the point of saturation was obtained. The interviews, which were audio-taped and transcribed verbatim, were evaluated by thematic content analysis and further verified by other authors' analyses.*
***Results**: Thematic content analysis identified three major themes: knowledge of generic medicines, perception towards generic medicines, and attitude towards generic medicines. All the pharmacists showed good understanding and positive perception towards generic medicines. Mixed responses were observed regarding dispensing of locally manufactured medicines. Low cost was cited as the major determinant in dispensing locally manufactured generics.*
***Conclusion**: The current study showed good knowledge and perception towards generic medicines among community pharmacists in Karachi, Pakistan. It also highlighted mixed attitudes towards generic medicine dispensing. A 24-hour mandatory presence of professionally qualified pharmacists in community pharmacies can boost the confidence of doctors in pharmacists and enhance generic substitution.*

***Keywords:** Community pharmacist, Generic Medicine, Pakistan, Qualitative methodology*

Received: 16 January 2010 *Revised accepted: 9 June 2010*

Corresponding author:* ***E-mail: pharmacist1992@live.com;* ***Tel:** 0060-174706392*

INTRODUCTION

Access and affordability

Medicines play a pivotal role in the process of human development as their rational utilization can decrease morbidity and mortality as well as improve quality of life [1]. Despite this awareness, there seems to be inequitable access to medicines globally. WHO estimates that one-third of the world population lacks access to essential medicines and more than 50 % of the population of developing countries in Asia and Africa lack access to basic essential medicines [2]. Access to medicines is characterized by many factors such as affordable prices, rational utilization, sustainable financing and reliable supply system, but the most crucial element which restricts access to medicines is drug pricing [3]. Thus, to increase access to medicines, affordable price is one of the measures to counteract the global medicine gap. The issue of access and affordability is thus addressed by using generic medicines as a cost containment strategy globally.

Definition and classification of generic medicines

A "generic" medicine is a multisource pharmaceutical product which is meant to be interchangeable with the comparator product (also known as proprietary, brand or innovator product [4]. Interchangeable pharmaceutical products are considered to be therapeutically equivalent to an innovator product, i.e., when administered in the same dosage form and by the same route, they will produce the same desired effects exhibiting the same safety profile as innovator or brand product [4]. Included in the definition of generic products are those marketed under a brand name, known as branded generics [4]. Generic medicine can also mean a product marketed under the drug's non-proprietary approved name, or it can mean a product marketed under a different brand (proprietary) name. It is sometimes used to mean any product from a company other than the innovator (research-based) manufacturer [5].

It is imperative to gain wider health professionals' support for the quality utilization of generic medicines [6]. In this context, an understanding of the perception and attitude of different stakeholders towards generic medicines is a prerequisite to encourage the use of generic medicines. Pharmacists constitute a core loop in the healthcare chain and sometimes the first point of contact with the patient. They are in a position to improve the use of cost-saving generic medicines through generic medicine dispensing.

Previous studies have highlighted the role of community and hospital pharmacists in generic medicine dispensing and substitution. A study conducted in four states of Malaysia showed that branded drugs are widely prescribed for chronic conditions but that generic dispensing was a common trend among community pharmacists [7]. In another study in Malaysia more than 90 % of community pharmacists agreed that pharmacists should possess rights of substitution [8] while in a qualitative study conducted in Basrah, Iraq, private hospital pharmacists were positive towards the use of generic medicines [9].

In Pakistan, pharmacy practice is evolving [10] and a strong culture in social pharmacy and pharmaceutical policy research will be supportive to clinical pharmacy practice [11]. Therefore, the current study is aimed to investigate the knowledge, perception, and attitude of community pharmacists towards generic medicines in Pakistan. To the best of our knowledge, this study is the first to evaluate the understanding and views of, as well as attitudes of community pharmacists towards generic medicine dispensing and substitution.

METHODS

Study design

This exploratory study adopted a qualitative approach to investigate the issues. Specifically, community pharmacists' perception and attitude towards generic medicines were assessed. The study protocol was approved by the Ministry of Health, Government of Pakistan.

Participants

The study participants were pharmacists in community settings. The sampling frame comprised of professionally qualified pharmacists practising in community pharmacies located near the doctors' clinics. As a result of working in close proximity with the doctors' clinics the community pharmacists received a high influx of patients.

Sample size and sampling technique

Eight community pharmacists took part in the study. Nonprobability sampling strategy, i.e., snowball sampling was adopted. Snowball sampling is the best way to locate respondents with certain attributes or characteristics and is instrumental in difficult to reach populations [12]. In snowball sampling, the first respondent is identified by the researcher and the first is asked to suggest more research participants. In this way, the research sample evolves in a similar fashion a snowball enlarges while rolling down a hill.

Study tool

A semi-structured interview guide was used as the study tool. The interview guide was developed after extensive literature search. The pre-testing of the interview guide was then performed with four practising pharmacists. Semi-structured one-to-one interviews were conducted since they are the most practical and convenient way for a busy professional group and thematic saturation is considered to be a cut-off point to stop sampling subjects [13]. Eight respondents via snowball sampling technique were recruited from community pharmacies in Karachi, Pakistan. Data collection should be stopped at a point when no new themes emerge [13]. The interviews were conducted from March 2008 to May 2008 at the practice settings of the participants. Prompting was also performed during the interviews to develop more thorough understanding of the issues. The interviews were tape-recorded and transcribed verbatim. The contents of the transcript were verified by each respondent. Lastly, the principal researcher analyzed the transcripts for the emergence of themes which were verified later by other authors.

RESULTS

All the respondents were male and had Bachelor of Pharmacy qualification. Half of the respondents were owners of a pharmacy while the other half were junior pharmacist employees of pharmacies. Detailed demographics of the respondents are shown in Table 1.

Table 1: Demographic characteristics of community pharmacists

Code*	Age (yr)	Year of graduation	Owner/ Employee	No. of daily prescriptions
CP 1	29	2004	Employee	50
CP 2	28	2004	Employee	50
CP 3	28	2004	Employee	50
CP 4	26	2006	Employee	50
CP 5	35	2000	Owner	100
CP 6	33	2000	Owner	100
CP 7	35	2002	Owner	75
CP 8	36	2003	Owner	75

**CP = Pharmacist*

The main themes and sub-themes that emerged were appropriate knowledge of generic medicines, positive perception towards generic medicines, mixed attitude towards generic medicines and positive attitude to generic substitution.

Theme 1: Knowledge of generic medicines

When the community pharmacists were asked about their understanding of generic medicines, all the eight respondents interpreted the term 'generic medicine' correctly and gave an explanation with examples.

Appropriate knowledge of generic medicines

"When the patent is expired for the originator and even in a country which is not complying with IPR branded generics are there in the market. Thus generic medicine is a confusing term. It can be confused with original chemical name, as it can also be perceived as International Non proprietary name or it can be thought as a molecule made by the local company after the expiry of the patent and not the research molecule"
(CP 6)

"Generic is a drug which lost its patent and is available for the market. Any local manufacturer can make the product. In Pakistan market, the locally manufactured generic medicines are available easily and in large quantities" (CP8)

Theme 2: Perception towards generic medicines

In terms of safety and efficacy, all the respondents showed positive perception towards generic medicines. Out of eight respondents, five of them showed confidence pertaining to their safety while the rest three were sure about their efficacy.

Positive perception towards generic medicines

Safety

"I think generic alternatives are as safe as multinational brands. In fact our perception and intuition for less costly medicines are always suspicious but I think locally manufactured medicines pass through set standard procedures during manufacturing.
In our pharmacy we have 80 % stock of local manufacturers of all therapeutic categories except for antiepileptics but our customers never came back to us with any adverse effect". (CP 2)

Efficacy

"I think locally manufactured medicines are as effective as any brand medicines. I attend to around 90-100 customers every day and as they are regular customers they came back to us often. None of them reported any adverse event or either no response from the medicine. I dispense over the counter (OTC) and sometimes even antibiotics for their fever and flu-like symptoms" (CP 6).

Theme 3: Attitude towards generic medicines

Mixed responses were observed regarding dispensing of locally manufactured medicines. Five of them stated cost as the major determinant to dispense locally manufactured generic medicines while the rest three were not disposed to dispensing generic medicines as they considered them unsafe. All the respondents favored generic substitution.

Positive attitude towards generic medicines and generic substitution

Cost

"For me cost is the deciding factor to dispense locally manufactured generic medicines to my patient/client. My pharmacy is in lower-middle class area of the city and there are four doctors' clinics around my pharmacy. I generally dispense and counsel 100 patients a day. Whatever medicine is written on prescription I first ask my customer whether he or she would be able to afford…… Generally my clients ask for low-cost alternatives. I dispense to them the cheapest generic alternatives. I consider my

experience and intuition a stimulus in dispensing the cheapest generic alternative" (CP 5)

"I have 90 % stock of local manufacturers, and apart from giving higher rebates to pharmacy owners, the local manufacturers are making low cost medicines…… easily affordable by masses of our country" (CP 7)

Generic substitution

"You know pharmacists are the experts in medicines. Contrary to what is written on prescription sometimes, I offer and substitute low cost alternatives. We as pharmacists have more knowledge than any other healthcare professional about medicines and I think there is no harm in substitution" (CP 1)

Negative attitude towards generic medicine use

Safety

"I do not have any complaint about the effective response of generic medicines. I always consider that generic medicines give the same response as brand name medicines and dispense generic medicines also……, but my clients reported more and rapid side effects with locally manufactured medicines than multinational products. One of my customers reported dizziness for days when I changed the brand of her methylcobol injection. When I switched her to old brand product there was no complaint. This is only one example. More than 5 years of experience in dispensing of medicines I have numerous other cases which make me unsure of the safety of generic products" (CP 2).

DISCUSSION

Community pharmacists are considered to be major contributors in improving public health by giving extensive advice on medicine use to ensure safe and responsible self-care, promote medication adherence as well as encourage healthy life-styles through appropriate health education strategies [14]. In Pakistan, the role of professionally qualified community pharmacists is not different from other countries in South East Asia. According to the report of the Health System Review Mission Pakistan [15], there are more than 8000 pharmacists in Pakistan but only 10% of them are engaged in community pharmacy practice. Similarly, a cross-sectional survey of the quality of pharmacies in Pakistan reported nominal presence of professionally qualified pharmacists [16]. This underutilization of professionally qualified pharmacists in community settings in Pakistan may be attributed to their perceived status as 'less respectable healthcare professional' in the eyes of the public when compared to pharmacists employed in hospital, industrial and academic settings [17]. This probably has discouraged professionally qualified pharmacists from serving in a community setting. Moreover, the reluctance of female pharmacists to serve in community settings may be partly responsible for the shortage of qualified pharmacists in community pharmacy practice in Pakistan. The demographic characteristics of the current study lends some support to this assertion. It is also buttressed by a previous study by Butt et al [16] in which there were only three female pharmacist respondents.

In the present study, community pharmacists showed good understanding of generic medicines and did not confuse 'generic medicine' with generic name or non-proprietary name. Thus, appropriate understanding of generic medicines by community pharmacists can result in major cost-savings as they can be instrumental in controlling pharmaceutical expenditure when given the freedom to engage in generic and therapeutic substitution [18]. With regard to perception of generic medicines, none of the respondents cited negative concerns for generic medicines which is in itself a promising finding. This is in accordance with a previous study by Hassali et al in which

pharmacists viewed generic medicines safe and effective in the treatment of most pathological conditions [19].

On the other hand, our study highlighted mixed attitudes towards dispensing of generic medicines. The issue of safety of generic medicines was cited as a major hindrance which made community pharmacists wary of dispensing generic medicine except in some special situations such as poor socio-economic conditions of the patient. Adequate information on bioequivalence and the safety and toxicity profile of generic medicines may generate more confidence in community pharmacists and hence advance the use of generic medicines. Interestingly, all the respondents showed favorable attitude towards generic substitution. Generic substitution is an ongoing phenomenon in community pharmacy practice in Pakistan. Although generic substitution is not permissible by law, it seems that pharmacists and probably unqualified drug sellers are side-tracking doctors' prescriptions in this regard without doctors' consent [20]. The current National Essential Drug List (NEDL) in Pakistan only includes proprietary products that are too expensive for the vast majority of the population [21]. The production of a new NEDLcomprising of low-priced generics has been delayed due to political instability [21].

As highlighted by Mendis et al [22], the effective use of generic medicines should be promoted by instituting compulsory generic substitution as well as allowing higher mark-up for generic products. Consequently, political will is required to implement a generic medicine policy.

Limitations

The paucity of funding restricted the study to one city in Pakistan. Due to the qualitative nature of the study and the small sample size, the findings cannot be extrapolated further to the whole country. A more thorough exploration of views and opinions with a larger sample size is suggested and this can be achieved by conducting a quantitative study.

CONCLUSION

The current study showed good knowledge and perception towards generic medicines among community pharmacists in Karachi, Pakistan. It also highlighted mixed attitudes towards generic medicine dispensing. A 24-hour mandatory presence of professionally qualified pharmacists in community pharmacies can boost the confidence of doctors in pharmacists and enhance generic substitution. Financial incentive to the community pharmacist for preferentially selling generic medicines can attract more pharmacists to seek employment in community pharmacies as well as to open their own community pharmacies.

ACKNOWLEDGEMENT

The principal author would like to thank a community pharmacist, Usman Suleman, and his team members at Nigehban Compounding Pharmacy for their support for the execution of this project. The principal author's gratitude also goes to Universiti Sains Malaysia for funding this project.

REFERENCES

1. *Cohen-Kohler JC. The Morally Uncomfortable Global Drug Gap. Nature 2007; 82: 610-614.*
2. *World Health Organization WHO Medicines Strategy: Countries at the Core, 2004—2007. WHO/EDM/2004, 2004 [cited 2010 March 24]. Available from: http://www.who.int/medicines/strategy/strategy 2004_2007.shtmlS.*
3. *Health Action International (HAI) Asia Pacific. Position Paper on Access to Medicine 2004; 1-9.*
4. *World Health Organization. Globalization, Trade and Health, 2004 [cited 2010 March 24]. Available from: http://www.who.int/trade/glossary/story034/en/index.html.*
5. *Birkett DJ. Generics Equal or not? Aus Presc 2003; 26: 85-87.*
6. *Jamshed S, Babar ZUD, Ibrahim MIM, Hassali MAA. Generic medicines as a way to improve access and affordability: a proposed framework for Pakistan. J Clin Diag Res 2009; 3: 1596-1600.*

7. Babar ZUD, Awaisu A. Evaluating community pharmacists' perceptions and practices on generic medicines: A pilot study from Peninsular Malaysia. J Generic Med., 2008; 5:315-330
8. Chong CP, Hassali MAA, Bahari MB, Shafie AA. Evaluating community pharmacists' perceptions of future generic substitution policy implementation: A national survey from Malaysia. Health Pol., 2010; 94(1):68-75
9. Sharrad AK, Hassali MAA, Shafie AA. Generic medicines: Perceptions of Pharmacists in Basrah, Iraq. HealthMed. 2010; 4(1): 38-44
10. Ghayur MN. Pharmacy education in developing countries: need for a change. Am J Pharm Educ., 2008; 72(4):94
11. Babar ZUD, Jamshed S. Social pharmacy strengthening clinical pharmacy: why pharmaceutical policy research is needed in Pakistan? Pharm World Sci., 2008; 30(5): 617-619.
12. Bloch A. Methodological challenges for national and multi-sited comparative survey research. J Refug Stud., 2007; 20: 230-247
13. Burnard P, Gill P, Stewart K, Treasure E, Chadwick B. Analysing and presenting qualitative data. Br Dent J., 2008; 204: 429-432
14. Jones C, Armstrong M, King M, Pruce D. How Pharmacy can help public health. The Pharm J 2004; 272: 672-674.
15. Report of the Health System Review Mission – Pakistan, 2007 [cited 2010 March 24]. Available from: http://gis.emro.who.int/HealthSystemObservatory/PDF/HealthSystemReviewMissionReports/Pak%20HSD%20Mission%20Report%20Draft%20Ver%201%200%20March%2030%202007.pdf
16. Butt ZA, Gilani AH, Nanan D, Sheikh AL, White F. Quality of pharmacies in Pakistan: A cross-sectional survey Int J Qual Health Care 2005; 17(4): 307-413.
17. Jamshed S, Palaian S, Ibrahim MIM. Perception of the community pharmacists in Pakistan towards patient counseling. Ind J Pharm Pract., (In press)
18. Mossialos E, Walley T, Mrazek M. Regulating pharmaceuticals in Europe: an overview, striving for efficiency, equity, and quality. London: Open University Press; 2004.
19. Hassali MAA, Kong DCM, Stewart K. Perceptions of Community Pharmacists in Melbourne, Australia J Pharm Finance Econ Pol 2004;14(3): 27 – 45.
20. Jamshed S. Observation at a Medical Store in Karachi, Pakistan. J Pak Med Assoc 2009; 59(12): 865.
21. Pakistan Pharmaceutical and Healthcare Report Q2 2010. BMI Industry Report and Forecast Series Business Monitor International
22. Mendis S, Fukino K, Cameron A, Laing R, Filipe Jr A , Khatib O, Leowski J, Ewen M. The availability and affordability of selected essential medicines for chronic diseases in six low- and middle-income countries. Bull World Health Org, 2007; 85: 279–287