

The Quality of Pharmacy Practice Among Dispensers in Private Pharmacies: A Case Study in Dar es Salaam, Tanzania

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The quality of pharmacy practice provided by dispensers in private pharmacies was studied. Parameters used include levels of education of the dispensers, access to health information, knowledge and practice regarding dispensing of drugs to patients, and disposal of expired drugs. A total of 150 dispensers selected from 150 pharmacies participated in the study. Data was collected by interviewing the dispensers through structured questionnaires and observations. Regarding the levels of education of the respondents, the study revealed that 26.7 % had neither pharmaceutical nor medical education and that only 25.3 % of the respondents had regular access to health information. However, results showed that 75 % of all pharmacists interviewed were knowledgeable about good practice regarding dispensing of drugs to patients. Further, the results revealed that 92.7 % of the pharmacies had their drugs arranged on the shelves according to pharmacological classification. Results on assessment of knowledge about disposing of expired drugs showed 66.7% of the respondents were not knowledgeable. It is concluded that, there is a need for training of dispensers on good pharmacy practice through continuing education in order to achieve quality pharmaceutical services in private pharmacies.

Key words: Pharmacy practice, dispensers, pharmaceutical services, private pharmacies.

INTRODUCTION

Quality of pharmaceutical services in health delivery systems has been receiving serious attention worldwide [1]. Earlier approaches of assessing the quality of pharmaceutical services in a standardized and objective way were very difficult to formulate until the World Health Organization (WHO) Action Programme on Essential Drugs (APED) developed a manual entitled "How to investigate drug use in health facilities" [2]. The indicators developed can be used to assess potential problems in drug use and to prioritize and focus subsequent efforts to correct these problems [3]. More efforts to establish a basis for national pharmacy quality standards have been made. For example, through the Tokyo Declaration (1993) with its definition of Good Pharmacy Practice and WHO in its document "Good Pharmacy Practice in Community and Hospital Pharmacy Settings" have addressed this issue since 1996 [4]. Further to the efforts through the Tokyo Declaration, in 1998 the International Pharmaceutical Federation

(FIP) developed a document titled "Good Pharmacy Practice (GPP) In Developing Countries: Recommendations for Step-wise Implementation" [5]. The specific indicators of good pharmacy practice in developing countries include the levels of training of pharmacy workers, issues on standards of dispensing, instructions to patients, health information, legislation and policy issues. The concept of GPP was introduced globally with the intention of measuring pharmacy professional quality. Good pharmacy practice caters for the welfare of patients by pharmacists, supply of medication products of assured quality, promotion of rational prescribing and use of drugs, and appropriate information and advice for the patients together with monitoring the effects of drug use. As a normal practice all over the world, pharmacists and other pharmacy workers in the private pharmacies have been constantly faced by dual roles, a professional and a business role. Acting rationally as "businessmen" they would maximize the sale of costly and effective drugs but also dispense less effective drugs that generate high profits [6]. In Tanzania pharmaceutical services

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are mainly provided by private pharmacies as a result of trade liberalization that took place during the period of economic reforms in the country towards the end of the last decade [7]. However, little has been done to assess the quality of pharmaceutical services in private pharmacies in Tanzania. Thus the aim of this study is to assess the quality of pharmaceutical services provided by dispensers in private pharmacies located in Dar es Salaam region.

MATERIALS AND METHODS

Operational terms: In this study, a dispenser refers to a pharmacy worker that was involved in the process of attending and/or dispensing drugs to customers in the pharmacies visited. Research assistants refer to the assistants that were involved in data collection and were final year students at the Faculty of Pharmacy, University of Dar es Salaam.

Study area: The study was carried out in private pharmacies in the three districts of Dar es Salaam region namely Ilala, Kinondoni and Temeke. Dar es Salaam was chosen due to its large number of private pharmacies and easy transport network for the research assistants.

Study population: The research assistants interviewed only one dispenser who was randomly picked among dispensers appearing at the counter in each of 150 private pharmacies.

Data collection: The data were collected between September 2001 and February 2002 through semi-structured and structured questionnaires and observations. The questionnaires consisted of open and close-ended questions. Before the interviews, informed consent from each interviewee was sought. Filling of the questionnaires was done in the presence of the research assistant. The questions required all respondents to indicate their levels of education. All respondents with pharmaceutical education were required to indicate whether they had knowledge on good pharmacy practice and to mention few requirements regarding good dispensing practice. Some questions sought information on how dispensers dispose of expired drugs and whether they had access to health information like the Drug Information Bulletin by

the Pharmacy Board of Tanzania, and other scientific journals and/or books. Regarding data collection by observations, one research assistant different from the one who distributed the questionnaires, posed as a client suffering from persistence cough and visited the selected pharmacies without a prescription requesting for some cough mixture. In all the pharmacies visited the researcher observed the following: the arrangement of drugs in the shelves, whether a prescription was requested, and whether verbal instructions on how to use the medicines were given upon issuance of the medicines.

RESULTS AND DISCUSSION

It was found that dispensers of drugs in private pharmacies include pharmaceutical and medical professionals and non-professionals. The professionals were: 12 pharmacists, 35 pharmaceutical technologists, 23 clinical officers and 40 nurses. The non-professionals consisted of 29 holders of A-level certificates and 11 holders of O-level certificates. Dispensers with pharmaceutical training in community pharmacies play an important role in the delivery of quality pharmaceutical services [5]. In this study pharmacists accounted for 8 % while dispensers with neither pharmaceutical nor medical education background made 26.7 % of the total number of the respondents. These findings are similar to what was found in a study in the Lao People's Democratic Republic (PDR) where out of 106 licensed drug sellers, 26 had neither medical nor pharmaceutical training [1]. In pharmacies, pharmacists are supposed to either attend patients directly or be in close supervision of other staff with lower qualifications [8]. This practice has been implemented successfully in developed countries with sufficient numbers of pharmacists. In developing countries the number of pharmacists is less than desirable, hence sometimes persons without formal pharmaceutical training are involved in providing pharmaceutical services. Nevertheless, the roles of pharmacists are now changing from mere dispensers to consultants and care givers in health delivery system especially following the introduction of the antiretroviral drugs in the market [9,10]. In order for a pharmacist to be proactive in this area, access to health information is vital. Table 1 shows that only 38.3 % of dispensers with

pharmaceutical education, 25.4 % with medical education and 10.0 % of dispensers with neither pharmaceutical nor medical education had frequent access to health information.

Table 1: Access to pharmaceutical health information by dispensers

Type of Dispenser	Access to Pharmaceutical Health Information		
	Yes	No	Total
Pharmacists and Pharmaceutical Technologists	18	29	47
Nurses and Clinical Officers	16	47	63
Others	4	36	40
Total	38	112	150

In order to achieve good quality of pharmaceutical services, efforts must be made by governments of developing countries to train more pharmaceutical personnel and ensure continued education through information technology and lifelong learning. In the mean time, such governments should carry out some training interventions among dispensers in pharmacies on good pharmacy practice. Marsh *et al.*, on a program of malaria control in Kenya, carried out a training intervention among shopkeepers on how to sell the antimalarial drug, chloroquine. The results of that intervention led to positive change in home treatment of childhood fevers [11].

In the present study assessment of the knowledge on aspects of pharmacy practice was made among the dispensers with pharmaceutical education only. The results show that all pharmacists were aware of good pharmacy practice and 75 % were knowledgeable about requirements regarding good practice of dispensing of drugs to patients. As for the pharmaceutical technicians, only 50 % were found to be aware of good pharmacy practice while 32 % of them managed to mention specific requirements regarding good practice of dispensing drugs to patients. These observations confirm that it is important that dispensing of pharmaceuticals should be done under the supervision of the pharmacists [8]. However, in this study there was a considerable number of

dispensers without pharmaceutical education. Interview on handling and disposing of expired drugs was conducted among all dispensers as indicated in table 2. About 66.7 % of the dispensers reported throwing the expired drugs into the dustbin and washbasin, 22.0 % reported returning the expired drugs to the suppliers and 11.3 % notifying the Pharmacy Board of Tanzania. These results show lack of knowledge on handling and disposing of expired drugs among majority of dispensers.

Table 2: Handling and disposing of expired drugs by dispensers

	Return to the Supplier	Notify the Pharmacy Board	Dump in the washbasin/ Dustbin
Pharmacists	2	10	0
Pharmaceutical technologist	24	7	4
Non Pharmaceutical dispensers	7	0	96
Total	33	17	100

Results that were obtained by a simulated client were typical of pharmacy practice in most of the developing countries. All pharmacies issued the medication without requesting for a prescription from the client. Nevertheless, all dispensers gave verbal instructions on how to use the medicines. It was noted that in 92.7 % of pharmacies, drugs were arranged according to their pharmacological classifications. In Tanzania as elsewhere in the world a tendency by patients to turn to self-care and the pharmacy prescribing tendencies have prompted the practice of dispensing drugs without prescription written by qualified practitioners (12). Self-medication and pharmacy prescribing in absence of the pharmacists pose a risk of indulging in irrational drug use and hence drug resistance.

CONCLUSION

In this study the cause of inadequate quality of pharmacy practice by dispensers in pharmacies in Dar es Salaam has been established. Majority of dispensers lack sound knowledge on good

pharmacy practice because of their training background. Moreover, the dispensers are not in regular access to health information provided by the regulatory body and other sources. Hence, if quality pharmaceutical services are desirable in private pharmacies, dispensers should participate in continuing education programmes on good pharmacy practice and the regulatory body should enforce this practice.

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