

The Role of the Pharmacist in Animal Health Care: Case Study in Ilala District, Dar es Salaam, Tanzania.M. JUSTIN-TEMU^{1*}, K.D. MWAMBETE¹ and T.E. WILLARD²¹*School of Pharmacy, Muhimbili University of Health and Allied Sciences, P.O.Box 65013, Dar es Salaam, Tanzania,*²*Muhimbili National Hospital, P.O. Box 65000, Dar es Salaam, Tanzania.*

In this cross-sectional study, the role of pharmacists in animal health care, particularly in the distribution of veterinary medicines in community pharmacies in Dar es Salaam was investigated. Using a semi-structured questionnaire a total of 260 pharmacists were interviewed. The study revealed that majority of the pharmacists play a very limited role in the dispensing of veterinary pharmaceutical products. Pharmacists and veterinary practitioners should compliment each other for the betterment of animal health care. The study highlighted the necessity for introducing veterinary pharmacy lectures in the pharmacy undergraduate curriculum in Tanzania. It further recommends that the Pharmacy Council and the Tanzanian Ministry of Health and Social Welfare enforce continuing professional development as a precondition for the renewal of practice licences for all practising pharmacists.

Key words: Pharmacist, veterinary medicines, veterinary surgeon.**INTRODUCTION**

Throughout the world, pharmacists play a pivotal role in the provision of health care to both human beings and animals [1]. According to the World Health Organization, pharmacists must be involved whenever potent medicines are supplied by virtue of their training [2]. The Tanzanian Food and Drug Authority (TFDA) regulates both human and veterinary medicines [3].

Various studies have reported problems hindering the pharmacist's contribution to the use of veterinary pharmaceutical products (VPPs). It has been reported that pharmacists and veterinarians are engaged in squabbles over territorial prerogatives with neither profession understanding or respecting the other's role and service. This has undermined the advantage of a close working relationship [4-6]. Surveys conducted in Africa and elsewhere have shown that pharmacists are not well equipped with knowledge on veterinary medicines. However, it has been noted that pharmacists need to play a

key role in the use and dispensing of veterinary medicines for the betterment of animal health [7-9].

In Tanzania, little is known about the role that pharmacists play in animal health care despite the economic importance of wildlife and livestock production in the country. Community pharmacies nevertheless continue to be the outlet of choice for all pharmaceutical products, including VPPs, especially when drugs are not available in public veterinary health facilities. However, few pharmacists stock VPPs. Therefore, there is a need to identify the role played by the pharmacist in the use of such products.

MATERIALS AND METHODS**Study design**

A cross-sectional descriptive study was conducted in Ilala district in Dar es Salaam region involving 260 registered retail pharmacies between January and April 2006.

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Data collection and analysis

Data was collected by face to face interviews with the aid of semi-structured questionnaires consisting of open and closed-ended questions. Before the interviews, informed consent from each interviewee was sought. Information collected included the pharmacist's demographic data, whether VPPs were stocked and knowledge of VPPs on a five point Lickert scale ranging from very poor to very good. Interviewees were asked to state any five "key" VPPs they stocked plus their indications, their awareness of prescription and over the counter dispensing of VPPs and their handling of clients seeking treatment for their animals. The pharmacists' self-assessment of competence in handling VPPs and views on whether pharmacists should dispense such products were also collected during the study.

The data collected was edited on a daily basis and analyzed using Epi Info™ 6, 2002 software (CDC, Atlanta, Georgia).

RESULTS

A total of 260 pharmacists were involved in the study with 100 % response. Seventy six percent of respondents were Bachelor of Pharmacy graduates of Muhimbili University of Health and Allied Sciences while the rest were overseas graduates. The respondents' median working experience was 8 years (range 1-39).

Only 15 % of the pharmacists interviewed stocked and dispensed VPPs at the time of the survey. Of these, 90 % dispensed both prescription and non-prescription VPPs while the rest dispensed only prescription products. The respondents mentioned problems encountered in stocking and dispensing VPPs as a small profit margin (27 %), erratic demand and supply (27 %), short expiry (10 %) and inadequate competence in handling these products (36 %).

When the prescribed medicines were not in stock, 59 % of the pharmacists who stocked VPPs referred the clients to veterinary surgeons.

About 28 % gave alternative medicines while 13 % provided no service at all. Of the 39 pharmacists who stocked VPPs, 35 (90 %) consulted veterinary surgeons whenever faced with problems in the dispensing of these products. The veterinary surgeons were willing to assist whenever consulted. The study also revealed that veterinary surgeons had private pharmacies in their clinics.

A majority of the pharmacists reported that they acquired their knowledge of VPPs through informal sources such as consulting veterinary surgeons and fellow pharmacists, self instruction from books or the internet, short training courses and conferences/symposia/workshops as well as from sales representatives. Only 23 respondents trained outside the country reported that they acquired that knowledge during undergraduate training. Majority of respondents (77 %) felt that it was important to introduce specialized training on VPPs at undergraduate level or as continuing professional development. About 20 % of the pharmacists interviewed reported having attended specialized training in veterinary pharmacy after graduation. Out of those stocking and dispensing VPPs, 79 % reported an improvement in veterinary pharmacy competence after attending such specialized training.

DISCUSSION

The small percentage of pharmacists (15 %) who stocked and dispensed VPPs indicated that a majority of pharmacists particularly those trained in Tanzania had inadequate knowledge on veterinary pharmacy. The low stocking rate of VPPs could also be associated with low demand and small profit margins. Low demand for these products may in turn be attributed to lack of awareness among customers that pharmacies stocked these medicines. Another setback was that some veterinary surgeons maintained private pharmacies in their clinics thus reducing the flow of clients to retail pharmacies.

About 59 % of the interviewees who stocked and dispensed VPPs referred the customers to veterinary surgeons when the prescribed drugs

were out of stock. This shows that pharmacists stock limited VPPs and have a reduced role in their distribution. The TFDA is the regulatory body for both human and veterinary medicines which are under the custody of pharmacists. There is, therefore, a compelling need for the introduction of aspects of veterinary medicine in the pharmacy curriculum to make retail pharmacists more knowledgeable and eventually improve availability of VPPs. The limited knowledge of pharmacists in the handling of VPPs concurs with reports by Nelson [4], Monie *et al.* [9] as well as Scalley and Forney [10] regarding the low competence of pharmacists in Colorado, USA, in the field of veterinary pharmacy. As suggested by Karriker and Wiebe [8], there is a need to revise and remodel veterinary and pharmacy education to bridge the existing gap between these two vital professions. Besides, there is a need for practicing pharmacists to undergo short specialized courses on VPPs.

CONCLUSION

The study findings show that most of the interviewed pharmacists were not involved in the supply and provision of veterinary medicines on account of limited competence in the veterinary medicine field. As a consequence, pharmacists play a minor role in the use and dispensing of VPPs. This study shows that in order for pharmacists to be effective members of the veterinary health care system, collaboration between the two professions should be encouraged. It is imperative to introduce veterinary pharmacology in the Bachelor of Pharmacy curriculum as well as incorporate veterinary pharmacy into continuing professional education for practicing pharmacists.

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