Pilot Study of the Role of Pharmacists in the Use of Veterinary Pharmaceutical Products in Harare and Chitungwiza, Zimbabwe

S. MATEMA[1], P. GAVAZA[*2] AND C. C. MAPONGA[3]

[1]Dr Shepherd Matema, Lecturer, School of Pharmacy, University of Zimbabwe, P O MP 167, Mount Pleasant, Harare, Zimbabwe.
[2]Mr Paul Gavaza, College of Pharmacy, University of Texas at Austin, Room PHR3.209, Austin, TX 78712-0127, USA.
[3]Dr Charles Chiedza Maponga, Lecturer, School of Pharmacy, University of Zimbabwe, P O Box MP 167, Mount Pleasant, Harare, Zimbabwe.

This study was undertaken to investigate the role played by pharmacists in the use of veterinary pharmaceutical products in Harare and Chitungwiza, Zimbabwe. A sample of 32 retail pharmacists participated in the study. Twenty-four pharmacists (75 %) stocked and handled a mean of 2.8 veterinary pharmaceutical products per month and 83 % of them rated their knowledge of use of these products as being poor or little. 66 % of pharmacists did not feel competent handling the products. Sixty two percent of pharmacists had prepared veterinary pharmaceutical products before and 38 % had never done this. Pharmacists' competence in handling veterinary pharmaceutical products was associated with stocking this group of products ($p<0.05$). Pharmacists felt professionally ill-equipped to handle these products and subsequently only stocked a limited range of the products. Pharmacists need to play a more prominent role in the use and dispensing of veterinary pharmaceutical products for the betterment of animal health.

Key words: Veterinary pharmacy, veterinary pharmacy practice, Zimbabwe

INTRODUCTION

Worldwide, pharmacists play a pivotal role in the provision of healthcare not only for humans but also for domestic animals and wildlife. According to the World Health Organization, pharmacists must be involved whenever potent medicines are supplied because of their unique training [1]. The judicious use of today's sophisticated veterinary therapeutic agents requires rational judgment based on professional guidance and expertise [2]. The contribution of pharmacists towards the use of veterinary pharmaceutical products has been hindered by problems in the pharmacy-veterinary medicine relations including squabbles over territorial prerogatives and a lack of respect and understanding of each other's roles and services [2-5].

Despite the importance of wildlife and livestock production in Zimbabwe, very little is known on the role of pharmacists in the use of veterinary pharmaceutical products. The present study was conducted to get an overview of the role being played by pharmacists in animal health care in general and specifically in the use of veterinary pharmaceutical products in Zimbabwe. Such data are imperative, critical and indispensable in efforts towards bridging the operations of the two professions in Zimbabwe for the betterment of animal health.

EXPERIMENTAL

The research design was cross-sectional and descriptive. Five pharmacists were asked to participate in a pre-test to test the questionnaire. Feedback from pre-test participants was used to change the formatting of the questionnaire, clarify the instructions and improve the questionnaire design. In addition, the pre-test served as a training period for the researchers, but the pre-test surveys were not used in the final analysis.

The study population was all the retail pharmacists practicing in Harare and Chitungwiza

* Author to whom the correspondence may be addressed.

as registered by the Medicines Control Authority of Zimbabwe (n=215) [6]. The questionnaire was personally administered by the researchers to the pharmacists on duty at the time of the researcher's presentation. Owing to limitations in resources the researchers targeted only 50 pharmacies (23 %) in Harare and Chitungwiza.

The questionnaire solicited for demographic information of respondents, whether they were stocking veterinary pharmaceutical products or not and their perceived knowledge of these products on a five point Lickert scale from very poor to very good. The questionnaire also captured information on the ranges of veterinary pharmaceutical products pharmacists stocked and whether pharmacists had prepared veterinary pharmaceutical products in the last six months. Pharmacists' own assessment of competence in handling veterinary pharmaceutical products and their views on whether pharmacists should dispense such products were also collected in the survey. The respondents were also asked to list ten 'key' veterinary pharmaceutical products.

Data were analysed using the Epi Info2000 statistical package. A ninety-five percent level of significance was used.

RESULTS

A total of 32 (64 %) pharmacists participated in the study of which the majority were males (62 %). Thirty (94 %) respondents attended the local university, the University of Zimbabwe and graduated with a Bachelor of Pharmacy honours degree, and the other two respondents attended universities outside the country. A majority of the respondents (66 %) were employed in the respective pharmacies and the remainder (34 %) owned the respective pharmacies. The mean working experience of respondents was 8.5 years (range 1-27).

Seventy five percent of pharmacists (24) had veterinary pharmaceutical products stocked at the time of the study. Most of the retail pharmacies (90 %) however stocked a very limited range of veterinary pharmaceutical products comprising mainly of antibiotics, acaricides and de-worming remedies. Majority of pharmacists (94 %) had interest in stocking veterinary pharmaceutical products. None of the pharmacists could list 10 'key' veterinary pharmaceutical products as defined in the study methods when asked to rank their own knowledge on these products. 83 % ranked their knowledge as little or poor.

All pharmacists were asked how they acquired their knowledge of veterinary pharmaceutical products. Only one respondent who studied outside the country reported that he had acquired that knowledge through undergraduate training. The rest acquired it through informal sources such as reading on their own, from books or the Internet, from sales representatives, veterinary doctors and from other pharmacists. Stocking veterinary products was found not to be associated with being aware of veterinary pharmaceutical products and the pharmacists' perceived level of knowledge ($p > 0.05$).

The mean number of veterinary pharmaceutical products handled by pharmacists was 2.8 (SD= 5.7). The maximum number of veterinary pharmaceutical product prescriptions prepared per month by a given pharmacy was 30. Few pharmacists (38 %) had dispensed veterinary pharmaceutical products during the period of six months before the survey. However, almost two-thirds had dispensed the products at some point during their years of practice. Few pharmacists (34 %) felt competent in dispensing veterinary pharmaceutical products.

Most of the pharmacists (81 %) reported having customers coming to their pharmacies to look for veterinary over-the-counter drugs with some indicating that they received up to 10 customers (mainly pet owners and farmers) a day. Most of the customers (69 %) were referred to the veterinarian or sent off empty handed (Table 1). Almost all the participants in this study thought that pharmacists should dispense veterinary pharmaceutical products, with only one pharmacist thinking otherwise.

Forty percent (40 %) of the pharmacists consulted with veterinary surgeons whenever they were faced with a problem or query on issues of veterinary pharmaceuticals.

* Author to whom the correspondence may be addressed.

Table 1. Response to people seeking veterinary pharmaceutical products in pharmacies

Item	Frequency	Percentage
Serve them	13	31
Refer them to veterinary surgeon	14	33
Other (turn them away, refer them to farm)	15	36
Total	**42**	**100**

Majority of the pharmacists (72 %) said there were limitations to the linkages and consultations between pharmacists and veterinary surgeons. The main factors cited included that veterinary surgeons were not readily available, were too busy and were not enthusiastic about working with pharmacists.

DISCUSSION

The large percentage of pharmacists (75 %) who stocked some veterinary pharmaceutical products in their pharmacies shows that pharmacists in Zimbabwe have an interest in stocking this type of product. The stocking of veterinary pharmaceutical products was found not to be associated with being aware of these products and the pharmacists' perceived level of knowledge ($p > 0.05$) but can be explained by the availability of a market for these products with several people coming to the pharmacies looking for them as well as the role played by sales representatives marketing these products. The sale of veterinary pharmaceutical products seems to offer additional business opportunities for pharmacists and there is a desire to utilize this opportunity.

Despite the high interest in veterinary pharmaceutical products, the large percentage of pharmacists who had not dispensed these products in the six months preceding the survey suggests that pharmacists are playing a limited role in the use and dispensing of the products. Pharmacists only stocked a limited range of veterinary pharmaceutical products. As a result, many animals that could be treated with available drugs in the country are denied appropriate treatment; farmers and pet owners do not get the best choice of drugs for their animals and are denied professional advice from pharmacists. This is so given that only pharmacists can, according to Zimbabwean laws, dispense prescription drugs (including veterinary pharmaceutical products) in a pharmacy.

The limited knowledge of the pharmacists on the use and dispensing of veterinary pharmaceutical products appears to explain the large percentage of pharmacists reporting that they felt incompetent to handle these products. This finding is in line with Nelson [3] who reported that while pharmacists are knowledgeable about drugs in general they are not presently as well qualified to serve veterinary needs as they serve human needs. In agreement with Scalley and Forney [7] also many pharmacists had little knowledge about animal diseases and the pharmacokinetics of drugs in animals thus negatively impacting their potential contributions. The study showed that stocking of veterinary pharmaceutical products is associated with the pharmacist's feeling of competence in handling the products ($p < 0.05$).

The pharmacy curriculum at the only pharmacy school in Zimbabwe, University of Zimbabwe, should offer training in veterinary pharmacology to pharmacy students. Short courses and seminars on veterinary pharmaceutical products should be held for practicing pharmacists. This is in line Summer, Kotzan and Entrekin [5] who concluded that in order for pharmacists to be effective as members of the health care team, they must have some understanding about animal and transmissible diseases, drug dosages and treatment.

A number of limitations need to be noted to place the results of this study into proper perspective. First, the sample size of 32 was small and represented a small proportion (15 %) of the pharmacists practicing in the two cities. A more comprehensive study is however required to confirm these findings. Second, the fact that the population characteristics were unknown made it impossible to compare the sample parameters. Third, part of the survey measured the subjects' perceptions for instance whether pharmacists felt competent handling veterinary pharmaceutical products or not. The bias introduced by the subjective nature of perceptions along with the

* Author to whom the correspondence may be addressed.

other sampling issues mentioned above may limit the generalizability of the findings.

CONCLUSION

Most pharmacists are playing a limited role in the use and dispensing of veterinary pharmaceutical products in Zimbabwe. Animal health could improve significantly if both the pharmacist and the veterinarian complemented each other and combined the knowledge and talents that they possess. Results of this study indicate that this can be possible through accelerated training of pharmacists in veterinary pharmacology.

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* Author to whom the correspondence may be addressed.