



AVAILABILITY OF VETERINARY PHARMACEUTICALS AND THE ROLE OF PHARMACISTS IN HEALTH-CARE DELIVERY SERVICES TO ANIMAL PATIENTS IN PLATEAU STATE

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ABSTRACT

The purpose of this survey was to gain insight on the availability of veterinary pharmaceuticals in pharmacies in Northern Nigeria using Plateau as a case study and to assess the current role of pharmacists in the healthcare delivery system of animal patients. Questionnaires were used to study the availability of veterinary medicines in pharmacy shops and to also understand the current professional involvement of community pharmacists in ensuring that veterinary medicines are of optimum benefit to animals and animal owners. It was found that community pharmacies rarely sell or distribute veterinary pharmaceuticals and the expertise of the pharmacists was not utilized in the healthcare delivery of animal patients due to ignorance and naivety. None of the pharmacies and the pharmacists interviewed had plans to get involved in this vital aspect of healthcare delivery service in the near future. The involvement of the appropriately trained expert on drugs would be of immense benefit to the healthcare delivery system and pharmacists are best suited for this by their training. Pharmacist could collaborate with the veterinarians in order to develop a safe, effective and complete plan for animals. The work suggested that the involvement of a pharmacist at the point of supply increased the possibility of animal owners understanding the proper use(s) and handling of these drugs and pharmacists' input may help prevent unwise, incorrect or indiscriminate use of medicines in animals.

Keywords: Availability, Veterinary, Pharmaceuticals, Pharmacists, and role assessment

INTRODUCTION

Drugs and drug products are special because their usage relies on a chain of implicit trust that they are safe, efficacious and have therapeutic benefits to the patients (both animal and man). However, if inappropriately produced or handled they can cause much harm (Sharp, 2000). Pharmacists have been trained to understand the principles and processes of drug formulation, stability, distribution and storage and other quality issues for optimum benefits (Sonnedecker, 1975). The involvement and interest of pharmacists in healthcare delivery service to humans is well

documented and is seen in their employment in hospitals and by the volume of knowledge shared in literature (Ogaji *et al.*, 1992 Fakeye, 2001; Doodoo and Hayib, 2002; Olurinola, 2002; Suleiman and Tayo, 2004). The role of pharmacist as the expert on drugs in healthcare delivery to the animal patients is key to the success of the animal healthcare delivery system. This study was undertaken to understand the current involvement of pharmacists in healthcare delivery in animal patients. The initial focus was on the community pharmacies and pharmacists on the Plateau, Northern Central Nigeria because of predominance of livestock.

MATERIALS AND METHOD

Questionnaire was used to generate data for this study. The feedback forms were administered to registered pharmacy shops in Jos metropolis, which accommodate a larger proportion the registered shops in Plateau State. A registered pharmacy shop was that whose name has been entered into the annual register of the Pharmacist Council of Nigeria on filling the appropriate forms and paying the prescribed fees. The aim of the feedback form was to capture the business profile of at least 75% of such shops, the management, type and sources of veterinary drugs in the pharmacy shops. The survey was structured in such a way as to obtain information on the experience of the pharmacy professional, the level of involvement of the superintendent pharmacist on veterinary drugs, knowledge of drug needs of animals and the importance of professional expertise in the healthcare delivery for animal patients. The data collated was analyzed and discussed.

RESULTS

Table 1 shows the summary of the information gathered from the pharmacies on their involving in healthcare delivery service to animal patients and veterinarians. Forty-six (46) representing 77% of the sixty (60) questionnaires administered to pharmacies in Jos metropolis were completed and returned and the total questionnaire administered was estimated to be 75% of the registered pharmacies in the metropolis for the year at the time of the survey. The participating pharmacies were

established over 5 years before the study was conducted. Pharmacists owned or were principal owners of over 82.6% of the pharmacies surveyed. One pharmacy (2.2%) stocked veterinary drugs in the last 24 months while the remaining 45 (97.8%) did not. None of the 45 pharmacies is considering stocking veterinary drugs or offering veterinary services in the next six months. Animal owners and veterinary doctors do not get their animal drugs needs from pharmacies and they do not consult pharmacists for animal drug related problems. Table 2 shows the outcome of the interview with pharmacists who superintendent shops that received the questionnaire in the metropolis. Pharmacists have mixed reactions to participating in the healthcare delivery of animal patients. None of the respondents had animal dedicated pharmacy and none of the pharmacists had plans to be involved in veterinary drug services delivery in the next six months. Fear of low patronage (88.9%), lack of information (8.9%), ignorance (84%) and other reasons (10.4%) kept the pharmacists away from venturing into veterinary pharmacy practice.

Over 20% of the pharmacists were not sure if their training was adequate to handle animal patients healthcare services. All the respondents submitted that further information and enlightenment might help them take a better look at this aspect of pharmacy practice. About 93% of the respondents submitted that participation in the healthcare delivery to animal patients might enrich their practice even though they are not considering the option.

Table 1: Summary of responses on involvement of pharmacies in Veterinary Pharmaceuticals

S/N	Description	No of responses	percent (%)
1.	Number of questionnaire administered	60	
2.	Number of questionnaire returned	46	76.7
3.	Pharmacies own by pharmacists	38	82.6
4.	Pharmacies not stocking veterinary drugs	45	97.8
5.	Pharmacies that stock veterinary drugs	1	2.2
6.	Pharmacies that veterinarians consult	nil	0.0
7.	Pharmacies that animal owners consult	nil	0.0
8.	Provision of vet services in next 6 months	0.0	0.0

Table 2: Responses from pharmacists in Jos, Nigeria on Involvement in Veterinary Services

S/N	Description	No of Responses		
		Yes	No	No response
1.	Dispensed veterinary drugs	0	45	0
2.	Consulted by veterinarians	0	45	0
3.	Had worked in a veterinary hospital	0	45	0
4.	Would work in a veterinary hospital	2	41	2
5.	Training is adequate for vet. Services	35	6	4
6.	Lack information on vet pharmacy	4	41	0
7.	Need more information	38	5	2
8.	Fear low patronage	40	2	3
9.	See high business prospect	15	15	15
10.	High job satisfaction	5	30	10
11.	Pharmacist involvement may improve services	42	1	2
12.	Pharmacist involvement not necessary	6	39	0
13.	Leave the practice to veterinarian	0	45	0

DISCUSSION

Pharmacists have been recognized as the expert on drugs (NDP, 2005) and playing

this role, particularly in veterinary healthcare services would be of immense benefit to all

stakeholders on animal health. Pharmacist's feeling of inadequacy in the ability to handle veterinary related pharmaceutical services may stem from what Ngwuluka et al (2008) described as deficiency in the curriculum of pharmacy schools. Their work showed that

pharmacy school curriculum neglected or did not emphasize on pertinent areas like physiological, pathological, and pharmacological peculiarities in animals as they do to human physiology and anatomy. As Long (2000) puts it 'a high job satisfaction awaits pharmacists who can impart to pet owner proper dosing information and precautions but must realize that they have " the ability to provide accurate, dependable, and appropriate counseling concerning drug use in animals, but should acknowledge that they are the drug expert and not the animal expert, so as to enhance their prestige in the eyes of both the owner and the veterinarian (Long, 2000) Veterinary resources can help make pharmacists more confident in meeting the legal requirements of prescription counseling to animal owners.

It has been reported that 6.14% of the drugs registered in Nigeria between 1999 and 2003 were veterinary products and the registration of veterinary drugs ranked fourth (after vitamins and minerals, analgesic, and antibacterial) out of 32 drug categories in 1999 and occupied the eightieth position in the registration of 38 drug categories between 1999 and 2003(Ogaji, 2007) This may be indicative of a substantial use of veterinary drugs in Nigeria and underscore the necessity for the appropriately trained professional in the management and use of veterinary medicines. The pharmacist has an

ethical duty to ensure he is competent to provide such advice. The pharmacist would therefore be expected to acquire additional knowledge. In many cases this would not require formal training, but would be a process of self-education.

Due to long period of negligence, the need to ensure consistent competency amongst pharmacists handling and dispensing veterinary medicines becomes imperative. The inclusion of veterinary pharmacy in the curriculum of the West African Postgraduate College of Pharmacists (WAPF, 1992) demonstrated prescience, and opens window of opportunity to the pharmacist. In addition the PCN has introduced veterinary pharmacy as an elective in the on-going Continuing Mandatory Professional Development Modules (PCN, 2005), which would further fortify the pharmacist for this role. The need for schools of pharmacy to urgently review her educational curriculum to meet with the current challenges in this direction cannot be over emphasized.

It is high time the Pharmacist Council of Nigeria, the Pharmaceutical Society of Nigeria and the Veterinary Medical Council of Nigeria as well the Nigeria Veterinary Medical Association work together for better use of veterinary pharmaceuticals as practiced in developed countries like America and Britain ([www.noah,2007](http://www.noah.gov.ng); Kelli, 1989). Human and animal health may continue to be in danger if appropriately qualified personnel do not handle these pharmaceuticals. An immediate gain in stocking of veterinary pharmaceuticals is some financial reward but has a long term rewards to the practitioners and the community at large. Owners of pharmacies may do well to begin to extend their services to animal.

CONCLUSION

A survey of veterinary pharmaceuticals and the role of pharmacists in pharmaceutical

related services to animals and animal owners were carried out. The result showed that the pharmacists do not currently handle veterinary pharmaceuticals. Most use. Pharmacist should use the pharmaceutical knowledge to make a difference to both human and animal patients. The pharmacist has an ethical duty to ensure he is competent to provide such advice to help prevent unwise, incorrect or indiscriminate use of medicines in animals. There is a need for collaboration with the veterinarians in order to develop a safe, effective and complete plan for handling and use of veterinary drugs.

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Appendix 1

**VETERINARY AND AGRICULTURAL
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pharmacists are ignorant of their role in use of veterinary drugs to ensure safe and rational distribution, storage, dispensing and

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Questionnaire on the availability of veterinary pharmaceuticals and pharmaceutical services in Plateau State

Dear respondents,

This questionnaire is one of the efforts of the above research group to understand the current level of provision of veterinary pharmaceutical

services on the Plateau. It is an academic work that the outcome has the potential of being a helpful tool to stakeholders and government in the improvement animal healthcare delivery system. Any information you give shall be treated as confidential.

Thanks for your contribution

Yours truly,

I. Ogaji

A. Information on the pharmacy store

1. Name of the pharmacy (optional)-----

2. Year of establishment of the pharmacy-----

3. Year of the incorporation of the pharmacy with CAC-----

4. Staff strength of the pharmacy-----
Approximate annual turn over of the pharmacy--
~~N~~-----

5. Has the pharmacy stocked veterinary medicines in the last 24 months? **Yes / No.** (Tick as appropriate)

6. If 'yes' to question 5 above, does the pharmacy have a dedicated section to animal products? Yes/ No.

7. Who usually come to buy the veterinary drugs in your shop? (a) Animal owners (b) veterinarians (c) Government officers (d) others

8. Were such requests made verbally or through prescriptions? (a) Prescriptions (b) verbally

9. How often do you receive such request? (a.) Daily (b). 1-3 prescriptions per week (c). Once weekly (d). Others (specify, please)----

10. Kindly list some of the veterinary products in your shop.

<i>Brand Name</i>	<i>Generic name</i>	<i>Manufacturer</i>
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-----	-----	-----
-----	-----	-----
-----	-----	-----
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11. If your answer to question 5 is No, which of these explain why you are not stocking veterinary drugs? (a). There are no demands (b) I am not familiar with veterinary medicine business (c). The drugs are not available (d). Lack of interest (e) low profit margin(f) -----

12. Does your pharmacy have plans to be involved in the supply of veterinary drugs and services in the next six months? (a) Yes (b) No (c) I do not know

B. Information on the superintendent pharmacist and his/her practice

1. Name (optional)---, Year of graduation---

2. Year first joined the pharmacy stores
Services -----

3. Length of service in the community
Pharmacy practice-----

4. Length of service in: (a) industry----- (b). Hospital (c). Academic---- (d) others (specify) -----

5. Have you ever-dispensed veterinary pharmaceuticals to veterinarians / animal owners since graduation? Yes / No.

6. If yes to the above question, how often?

7. Do you have specific veterinarians that seek drug related information from you? Yes / No.

8. Do veterinarians/animals owner that consult you give feedback? Yes / No

9. What is the range of services you render to veterinarian/animal owner?

(a) Extemporaneous preparations (b) drug information (c) adverse reactions (d) sourcing (e) dosage form (f) others (please specify)-----

10. If your answer to question 5 above is No, are you currently competent to offer veterinary pharmaceutical services, if

there is opportunity? Yes / No.

11. Was your training in the school of Pharmacy adequate for you to offer veterinary pharmacy? Yes / No.

12. If your training was not enough do you know of places that you can acquire the requisite training? (a) Yes (b). No (c). I am not interested

13. Is there need for pharmacists to offer drug related services in veterinary hospital? (a) Yes (b) No (c) I do not know (d) she / he should be concerned with drugs to human patients only.

14. With whom do you think animal owners would prefer to discuss their animal drug-related problems? (a). Veterinarian (b). Owners of veterinary shops (c). Pharmacists (d). Others (specify) -----

15. Is there adequate information as to how pharmacists get involved in provision of drug related services to veterinarians/animal owner? (a). Yes (b). No (c) I do not know

16. If pharmacists are not involved in animal healthcare delivery services, animal health and the effect on the human community will (a) remain the same (b) improve (c) deteriorate (d) I do not know.

17. If pharmacists are involved in animal healthcare delivery services, animal health and the effect on the human community will (a) remain the same (b) improve (c) deteriorate (d) I do not know

18. Would you like to work in Veterinary Teaching hospital or any veterinary hospital? (a). Yes (b) No

19. Would you like to own animal dedicated pharmacy in future? (a) Yes (b). No.

20. In your opinion are veterinarians aware you could provide services that may improve healthcare delivery to animal patients? (a) Yes (b) No (c) I do not know

21. In your opinion would the veterinarians welcome your participation in animal drug related healthcare delivery services? (a) Yes (b) No (c). I do not know

22. What in your opinion is the prospect of a career veterinary pharmacist? (a) High (b) low (c) moderate (d) bleak

23. What in your opinion is the business prospect of veterinary dedicated pharmacy? (a) High (b) low (c) moderate (d) bleak

24. Was pharmacy your first choice course in the university? (a) Yes (b) No

Thank you