Improving access of veterinarians to drug information – the role of librarians

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Abstract:
Keeping up with drug information in veterinary medicine has not been as widely described in scientific and professional journals, as this was the case with human medicine. This article outlines the most widely used information sources about veterinary drugs. This work aims to find out if there is any influence of new information and communication technologies on how veterinarians access scientific information, and what is the role of veterinary and medical libraries when the veterinarians search for information about veterinary drugs, while it also brings out the need for education of this group of information users for the use of new information sources. Introduction of concepts of evidence-based medicine into clinical practice, which can also be applied to veterinary medicine, has emphasized the need of medical practitioners to be able to search and evaluate medical literature, and new opportunities for medical librarians to help them.
The survey covers a representative group of veterinary practitioners in Slovenia. Those are veterinarians who prescribe and/or use veterinary drugs and need the latest independent scientific information about the existing and new drugs, and therapeutic approaches to treatment. Specific situation regarding field work of large percentage of veterinarians is included in the survey and the new possibilities of information provision for this group of users are being indicated. Veterinary librarians should employ new information technologies and new approaches to better serve their users in new ways of acquiring information.

Introduction

One of the most important and productive fields of progress in medicine and veterinary medicine in 20th century has been the development of new drugs. Most of the human and veterinary drugs we know today have been developed during the last few decades. At the same time an information revolution has produced an information explosion in all segments of life. There have been several reasons for the information explosion, among them the thriving of the research activities and the emergence of new information technologies. Consequently, to be able to follow current developments in veterinary and also human pharmacology and transfer them to practice, veterinary practitioners require more information skills than ever before.

Sources of veterinary drug information

There have been many studies performed on how professionals deal with satisfying their information needs in various environments. In human medicine several studies were published on physicians' use of information sources, some of them also on use of sources of drug information (McGettigan, 2001). Williams and Hensel (1991) reviewed most relevant reports on physicians' sources of pharmaceutical information published since 1952 and analysed them to find out that the sources and importance of information on drugs changed over time. They classified pharmaceutical information sources as commercial (direct mail, journal advertising, detailing, sampling) and non-commercial (journal articles, colleagues, pharmacists, conventions, meetings,

hospitals), alternatively as personal (detailing, sampling, colleagues, pharmacists, conventions, meetings, hospitals) and non-personal (direct mail, journal advertising, journal articles). Studies in use of information in veterinary medicine are limited, though (Chikonzo and Aina, 2001; Pelzer N.L., 1991; Bawden D., 1996). We could find no separate study on veterinary practitioners' use of drug information. In a survey of UK veterinary practitioners' information seeking behaviour Wales (2000) found that conventional journals, textbooks, conferences, promotional literature and company representatives were main drug information sources they used, and that "a greater proportion of the respondents used the Internet for veterinary information, than used a veterinary library". In their study, Drake and Woods (1978) found that sales representatives were the most frequently used sources of new information about drugs. Journals ranked second and were followed by advertisements.
Following are the main sources of veterinary drug information:

- drug indexes and compendia,
- textbooks and monographs,
- journals,
- conferences/meetings, continuing education,
- databases (Medline, CAB Abstracts, Biological Abstracts, Agricola, VetDoc),
- the Internet sources - especially those presented by professional and trade organisations and drug regulatory agencies,
- colleagues, experts,
- pharmaceutical representatives,
- drug promotional literature.

In our study we focused on use of information on drugs by veterinary practitioners, and the possible role of librarians and other information intermediaries in this process.

Evidence-based medicine in veterinary clinical practice – an opportunity for librarians

The concept of evidence-based medicine (EBM) has been defined as "an approach to solving patient problems and providing better clinical care through the use of scientific evidence available in the medical literature. Evidence-based medicine is accomplished by systematically searching the medical literature for applicable studies, critically evaluating the selected study or studies, and determining the applicability evidence to the patient or patients (Polzin DJ, 2000)." In the process of searching and evaluation information there are several areas where the expertise of librarians can be of great value to the health practitioners. Locating and appraising health information and assessing its applicability to current practice is a valuable but time-consuming activity. Librarians may be involved in training clinicians in evidence-based practice searching techniques or perform literature searches needed for busy clinicians who wish to use evidence to make clinical decisions. Librarians must identify ways to bring relevant information to clinicians in a timely and organised fashion (Rader, 2000). Clinicians confirmed some known barriers to evidence-based practice (Haynes, 1998). These barriers included lack of awareness about the process of evidence-based practice, a lack of computer skills, and a lack of online searching skills, and a lack of knowledge about sources of research evidence. These barriers can represent opportunities for librarians. EBM extends librarians' role beyond identification of the literature to involvement in practicing and teaching quality filtering, and critical appraisal of literature. Traditionally responsible for only the first part of this information process, librarians need to develop new skills in understanding how clinical research is done, reported and indexed. They need to develop and keep their search skills strong and learn new skills in their increasing role as

teachers and trainers to help clinicians identify citations and ways to find them for clinical use as evidence-based practice spreads (McKibbon, 1998; Scherrer, 1999).
As in human medicine the need for scientific evidence is also important in veterinary medicine. Evidence is "information collected and evaluated in a scientific manner" (Shaw, 2001). The quality of information is graded, based on the probability that the study will generate reliable conclusions and recommendations, from systematic reviews of randomised, blinded, placebo-controlled clinical trials to clinical reports and experts opinions. Unfortunately, in veterinary medicine high quality evidence is scarce because of shortage of funding and well trained clinical researchers. However, veterinary medical professionals should find ways to enhance "the quality and quantity of the evidence used daily" in their practices (Keene, 2000). The role of librarians in this process can be considerable.

Methodology
In Slovenia there are over 1,200 veterinarians, and about 1000 are actively engaged in their profession. The Faculty of Veterinary Medicine in Ljubljana is the only veterinary university-level school in Slovenia. It has its own Veterinary Medical Library providing mostly for the information needs of students and the Faculty teaching and research staff. There are about 360 active veterinary practitioners in Slovenia employed in veterinary practice (FVE report 1999). They were our target group as they use and prescribe veterinary drugs and regularly need information about safe use of these drugs. A survey in the form of a questionnaire was sent to a sample of 75 veterinary practitioners from different types of practices and different regions in Slovenia, 35 were returned. The first part of the questionnaire consisted of questions on respondents' demographic data, in the second part there were questions on use of different sources of information about veterinary drugs and in the third part there were questions on the use of computers, the Internet and professional information services. The statistical analysis was performed by SPSS software for Windows.

Demographic data about the respondents
Basic demographic and professional data about the respondents were collected like age, gender, level of veterinary education completed, years of employment in veterinary practice, type of practice, number of practitioners in their practice, and the region where they worked.
Among the respondents there were significantly more males (77.1%) than females (22.9%). As many as 68.6% of the respondents were less than 40 years old and 14.3% had at least Masters Degree in veterinary science. Of the responding veterinarians, 8.6% worked only with companion animals, 14.3% only with farm animals and the rest of them (77.1%) in mixed practices. All regions of Slovenia were represented.

Use of information sources on veterinary drugs
The respondents were asked to estimate how often they usually need information on drugs. Their estimate was high as the largest number of the respondents (40%) declared that they needed the information on drugs almost every day and another 22.9% of them needed the information on a weekly basis. As the main obstacle with their information provision they identified lack of time (60%). Among the most frequently needed information about drugs withdrawal times, dosing and side effects were recognized.
When they were asked which kind of information they preferred, there was no preference between personal or printed sources but many respondents (68.6%) did not like electronic sources. The next question was about the importance, availability and frequency of use of

colleagues, books, professional meetings/conferences, journal articles, pharmaceutical representatives and drug wholesalers as information sources. From their replies it can be seen that they valued mostly the information they received from their colleagues, then from professional meetings, books, the pharmaceutical representatives and journal articles. Differences were small, though. The main sources of information on new veterinary drugs were mostly the pharmaceutical representatives and the pharmaceutical manufacturer's instructions in the package insert.

In a survey of UK veterinary practitioners, Wales (2000) also found that conventional journals, textbooks, conferences, promotional literature and company representatives were main drug information sources they used. Journals were perhaps less important for Slovenian veterinary practitioners as there are only few veterinary journals available in Slovenian language. Veterinary practices are small so they can not afford several expensive foreign journals subscriptions. They are mostly in rural areas, based away from the veterinary library and do not have easy access to its printed sources. With the help of new information technologies libraries should provide more convenient access to veterinary journals especially as journals are important as evidence-based sources of high-quality information. They should also select those journals and other sources with the highest quality of scientific evidence available.

Use of information technology and electronic information sources

Questionnaire respondents were asked about their use of computers and the Internet. Most of them (80%) said they used personal computers and of those, more than half (65.7%) used the computer both at home and at work. Majority of those who used computers also used the Internet at work (77.1%), and at home (45.7%).

Most of the respondents (87.9%) found that it would be very to fairly important for them to have access to a Slovenian portal for veterinary medicine. They replied that electronic exchange of opinions in the form of newsgroups, listserv-s or forums among the veterinarians in Slovenia would be useful. Only 25.8% or 31.1% of responding veterinarians never used any Slovenian or foreign veterinary Internet pages, respectively.

As many as 43.8% of the respondents never used any bibliographic databases (e.g. Medline) via the Internet but 28.5% used them at least occasionally. Among the information sources they often used, journals (81.3%) came first with books (78.8%) close behind, and only with 37.9% and 36.7% came databases on CD-ROMs and the Internet, respectively. When asked where they learned searching and evaluating information most of them replied that they learned how to do it by themselves. Some learned it also at the university (42.9%) and few at lower levels of education. Only 5.7% of the respondents declared that they learned it at the library. They obviously perceived a strong need to learn more about using electronic information sources as all the responding veterinary practitioners replied that they wished to learn it. This can be seen as a great opportunity for librarians to offer courses in information searching as well as evaluation of literature which is important for the introduction of evidence-based approach to clinical decision making.

A national portal for veterinary information is what most of the respondents in our survey wished for. Clearly they expect that a portal would be the most convenient way to access veterinary information they need. In Slovenia, there has been a very positive experience with Jupsline, an independent national medical portal available to physicians and allied health professionals free of charge (http://www.jupsline.net). Jupsline is funded by sponsors, mainly pharmaceutical companies. The sponsors get the advertising rights but advertisements are clearly separated from the professional information coming from non-commercial, scientific sources. Veterinary

practitioners could greatly benefit from a similar solution for veterinary medicine supported perhaps by veterinary professional associations and helped by the resources of Veterinary Library.

In the published research and in the results of our survey, libraries and information professionals are seldom even mentioned to have a role in information provision to veterinary practitioners. In veterinary and library literature we can find that the main veterinary information centres and libraries in most countries reside in veterinary schools. They provide mostly for the information needs of students, faculty teaching and researchers. Wales (2000) notes that veterinary practitioners work "alone or as part of a small team, often based in rural areas, far away from veterinary information services that are, by and large, intended (and funded) to support first and foremost the veterinary research undertaken by government or academic vets".

Unlike physicians, most veterinarians did not have daily interaction in a professional setting, such as clinic or hospital, where information can be exchanged easily. Veterinarians practicing outside larger cities did not have access to comprehensive medical libraries and trained information specialists. The situation has changed since the introduction of new information and communication technologies, most with the arrival and expansion of the Internet. The computer revolution has introduced dramatic new developments, which have had a significant impact on the availability of information for veterinarians. Electronic resources could play an obvious role in reducing the information isolation of many veterinary practices (Pelzer, 1998).

Their busy schedule alone, makes it very difficult to consult any information source during their work, while one of the main features of the veterinarians practising in mixed and large animal practice, is fieldwork. For them it would be of utmost importance to be able to get the information they need for their clinical decision-making at the point of their work. The one solution, already used widely by clinicians in human medicine, is the use of handheld devices. Up to 40% of all US physicians are using some form of a personal digital assistant (PDA). PDAs are being used as an extension of desktop and laptop computers for clinicians (Mendhelson T., 2001). In South Australia the Royal Adelaide Hospital/Institute of Medical and Veterinary Science Library has started a project the aim of which is to introduce PDAs into the clinical setting. One of the first resources to be developed for the use with PDAs would be the Australian Medicines Handbook. The new service is to be used also by physicians, as a wireless, when they are away from network connections (Peterson M.F., 2001).

Conclusions

Veterinary librarians should employ new information technologies and new approaches to better serve their users in new ways of acquiring information. Barriers like isolation of veterinary practices and small size of the practices can be overcome by introduction of high-quality easy-to-use Internet-based resources. Libraries should organise their services so that they bring their information resources closer to the busy veterinary practitioners. They should acquire new skills and learn how to organise information for presentation in the Internet portals or by handheld devices. Additional drive for veterinary medical librarians in their efforts is the introduction of evidence-base practice. Librarians can teach veterinary practitioners to search and critically evaluate information thus helping in the process of their continuing education.

In the veterinary information world there is a lot of opportunities for those who will be able to seize new possibilities presented by new information and communication technologies to provide relevant information for veterinary practitioners in the most convenient way.

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