

The attitudes of veterinarians at two continuous education seminars in Nigeria towards pain and its management in animals

DR. NJOKU UCHECHUKWU NJOKU*,

Department of Veterinary Surgery and Theriogenology,
Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria.
njucan@yahoo.co.uk

DR. JOSEPH O. OMAMEGBE

Department of Veterinary Surgery,
University of Abuja,
Abuja, Nigeria.
jomamegbe@yahoo.com

DR. EBERE OBIAGERI ODIRICHUKWU,

Department of Veterinary Surgery and Theriogenology,
Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria.
ebyfelix33@gmail.com

DR. ROCK ODIMMA UKAHA,

Department of Veterinary Surgery and Theriogenology,
Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria.
ukarock1@yahoo.com

DR. KELECHI THERESA JEREMIAH,

Department of Veterinary Surgery and Theriogenology,
Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria.
jeremiahkelechi@gmail.com

Abstract- Veterinarians attending two continuous professional education seminars (CPES) in Nigeria were randomly surveyed about their attitudes towards pain and its management in animals. About 90% of respondents to the survey claim that they assess animal patients for pain. The most common drugs used for pain management by respondents were glucocorticoids (80.0%) and non-steroidal anti-inflammatory drugs (NSAIDs) (78.5%). However, it is not certain if these anti-inflammatory drugs are used primarily for the control of pain per-se or for other conditions thought to be responsive to them. About twenty two percent of respondents who treated against pain indicated that they used opioids, while about 18.0% of them used ketamine or xylazine in the management of pain in animals. The result of this survey clearly points to the need to sensitise veterinarians, para-veterinary personnel and the general public in Nigeria and other developing economies about the importance of pain identification and management in ill, traumatised or operated animals.

Index Terms— Attitude, Veterinarians, Pain, Nigeria, Identification, Management.

I. INTRODUCTION

The assessment and management of pain in animals under veterinary care is now considered mandatory in most countries and by some professional veterinary associations for admittance of applicants as members or diplomats. This is because it has been shown that pain affects sick and healthy animals in several important but negative ways while its relief is very beneficial in the recovery process from diseases, trauma and surgery. (Anil *et al*, 2005). Probably the most convincing proof of the value of peri-operative pain management, is the reduction of post operative morbidity and mortality in premature babies operated for patent ductus arteriosus under muscle relaxation (pancuronium) and oxygen supplementation alone from 27% to 0.00% by the inclusion of some opioid analgesic (Chamberlain, 1991; Anad and Hickey, 1992). Un- or under - managed pain has been shown to cause hypertension, obligate diabetes mellitus, catabolism, immune-suppression, slow recovery from surgery, bacterial sepsis, bacterial

translocation and severe life-threatening complications (Epstein, 2009). The so-called minor procedures like tail docking, castration and the like in animals cause considerable pain which can distract animals from routine self-care and production (Faulkner and Weary, 2000; Anil *et al.*, 2002). Therefore, pain is thought to be intolerable in animals under veterinary care.

In spite of this recognition, the attitudes of human medical and veterinary clinicians to the issues of pain in their patients have generally been adjudged grossly inadequate. This has been attributed to negligence and some knowledge deficits of all health-care providers of the various aspects of the pain syndrome and its management (Hellyer, 2001; Burdsberg, 2005; Carroll, 2007; Flecknell, 2008). In fact before 1980, there were serious doubts within the medical and veterinary communities, as to whether human infants, neonates, premature babies, animals and savages felt pain (Chamberlain, 1991).

Although the attitudes of veterinarians towards pain and its management in animals have improved in terms of the type of conditions treated, the drug types and the modalities of therapy used in most developed economies since the last thirty years, it still remains generally low (20.0% to 65.0% of all operated cases) in small animals and certainly less in farm animals. (Dahoo and Dahoo, 1996a; Dahoo and Dahoo, 1996b; Hewson, *et al.*; 2005; Epstein, 2009).

Unfortunately, the situation may be worse among veterinarians in developing or under-developed economies. For instance, it is only recently that a few veterinary faculties in Africa started giving any formal instructions to their undergraduate students on any aspect of pain in animals. Also pain as a concept was first discussed at any veterinary forum in Nigeria in 2010 in papers presented by (Remi-Adewunmi and Gyang, 2010; Ukwani and Omamegbe, 2010; Omamegbe and Ukwani, 2010).

It is not known how many veterinarians in Nigeria assess their animal patients for the presence of pain or use analgesics. The type of analgesics they use, how they use them and for what type of conditions they treat or manage animals for pain are also not known. This preliminary survey was therefore conducted to find out some basic information about some of these fundamental aspects of pain and its management in animals among veterinarians who attended the annual continuous education seminars at two venues in Nigeria in 2010.

II. MATERIALS AND METHOD

Four hundred and thirty three (433) veterinarians present at the 2010 CPE seminars organised by the Veterinary Council of Nigeria (VCN) at two venues were surveyed by a questionnaire (appendix 1) to find out how many of them identify pain and use analgesics in their animal patients. The questionnaire was served by hand on every veterinarian that was present at one of the sessions at each of the seminar venues. The completed questionnaires were subsequently collected at the end of that same session.

Appendix I QUESTIONNAIRE

Dear Colleague

Please kindly complete this brief questionnaire and return to the reception desk. Thanks for your time and may you have a joyous conference time

Please encircle your choice

1. Do you routinely assess your patients for the presence of pain? Yes No
2. If yes, how often do you assess n your patients for pain? Always often Rarely
3. Do you use analgesics in your patients? Yes No
4. If yes, how often do you use analgesics in your patients? Always often rarely
5. What types of analgesics do you use for pain management?

Local anaesthetics opioids glucocorticoids NSAIDs
Ketamine zylazine others

6. Please specify the drug(s) (in the list below) which you have used for pain control or treatment

A Opioids

Morphine Pethidine
Codeine Oxymorphone
Hydromorphone Buprenorphine
Butorphanol Fentanyl patch

Alfentanyl patch

Remifentanyl patch

Any other (please specify)

B Glucocorticoids

Prednisolone Dexamethasone
Betamethasone Cortisone
Triamsinolone

Any others (specify)

C Non steroidal anti-inflammatory drugs (NSAIDs)

Aspirin Acetaminophen

(paracetamol)

Indomethacine
Feldene (Peroxycam)
Meloxicam
Phenylbutazolidone
Flunixin
Diclofenac
Caprofen
Volteral
Any others (please specify)

D Others

Ketamine

Xylazine

Local anaesthetics

The answers to the questionnaire were analysed by simple percentages and the results were compared with figures obtained from similar surveys in other countries.

III. RESULTS

A total of two hundred and seventy one questionnaires were returned from the CPE seminars. This represented a 62.6% return rate. Of these, two hundred and seventeen were completed while fifty four were returned uncompleted. The number of completed questionnaires constituted 50.1% of the number served on the surveyed population. The analysis below

is based on the 217 questionnaires that were returned completed.

Unfortunately not every respondent answered all the questions in the different options of the questionnaire. Given the nature of the questionnaire, some respondents turned in more than one entry for certain options of the questionnaires. This resulted in what would seem to be higher numbers than the surveyed population for some options.

One hundred and ninety four out of the 217 (89.4%) respondents who completed the questionnaire indicated that they assessed their patients for pain while 23 (10.6%) did not. (fig. 1). Of this 194 pain assessors, 53 (27.3%) did so always, 126 (65.0%) frequently and 15 (7.7%) rarely (fig 2). Although 194 respondents assessed their patients for pain, 200 respondents 107.7% claimed that they treated their patients for pain -32 (16.4%) always, 136 (74.9%) often and 32 (8.7%) rarely. The commonest drugs used in the management of pain by respondents who treated for pain were the anti-inflammatory drugs - gluco-corticosteroids 160/200 (80.0%) and NSAIDs 157/200 (78.5%). Local anaesthetics were used by 100/200 (50.0%), opioids by 44/200 (22.0%) (Fig.3). The N-Methyl-D-Aspartate non competitive antagonist - Ketamine and the alpha adrenergic agonist xylazine were both used by 36 out of 200 respondents (18%) who treated against pain. One respondent asserted that opioids and glucocorticoids were not applicable for the management of pain while several respondents who claimed that they used some drug groups failed to indicate specific drugs they used in the respective group and verse versa.

The frequencies at which specific analgesics in each drug-group were used are shown in tables I, II and III below.

FIG 1
Assessment of pain among veterinarians by percentage of respondents

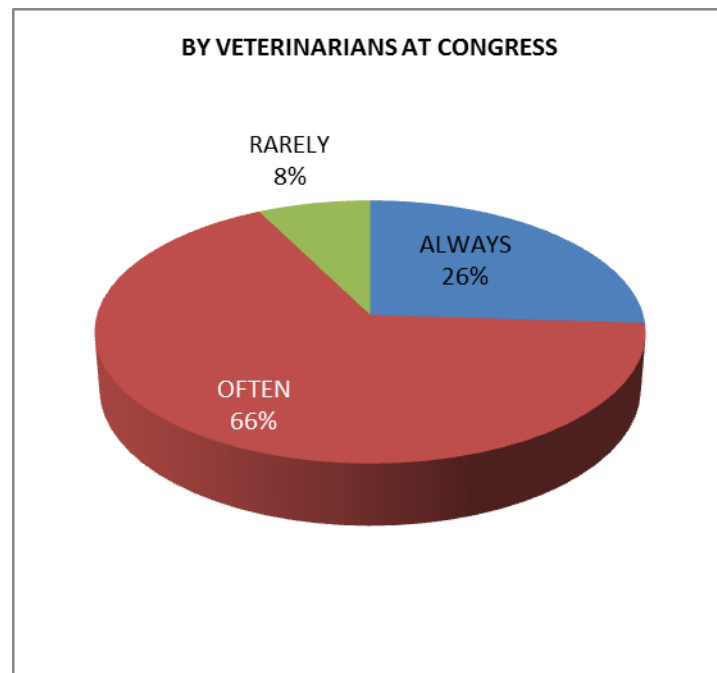
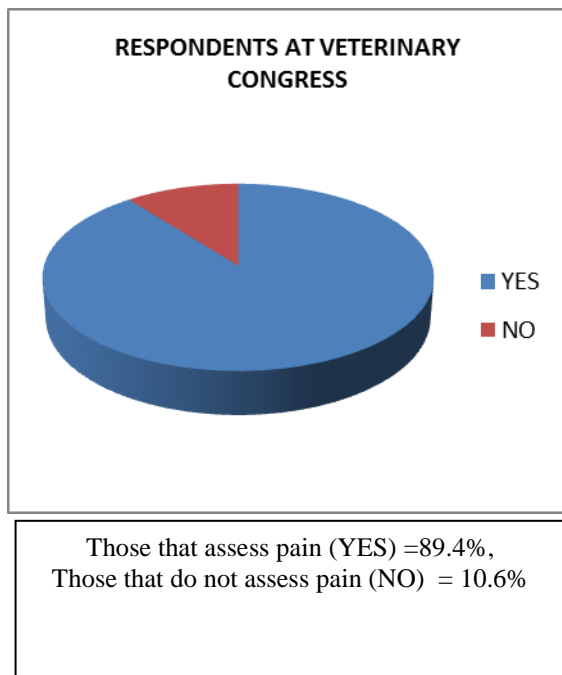


FIG. 3.
Frequency of use of specific analgesics among 200 congress respondents

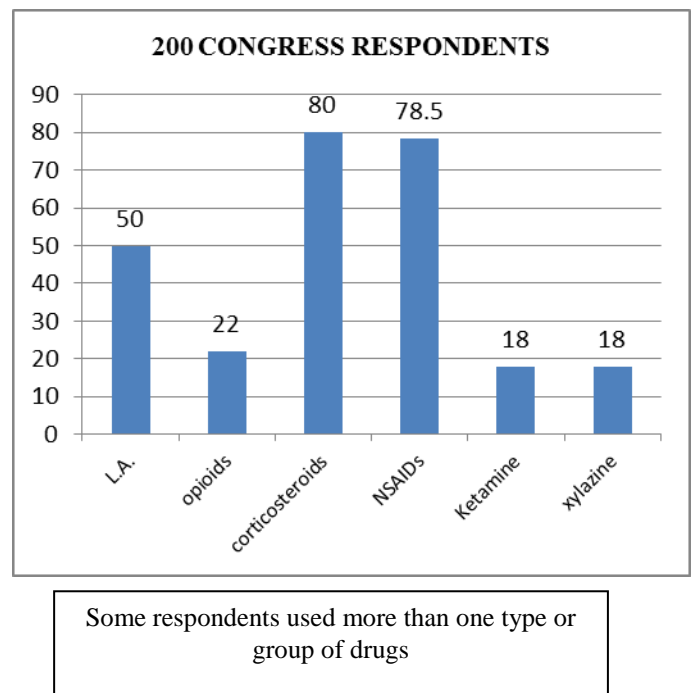


TABLE I.
Frequency at which the different gluco-corticoids (GCCs) were used by 160 respondents

Sn	Type of GCC	Number of users	% of GCC users
1	dexamethasone	146.0	91.75
2	Prednisolone	46	28.75
3	Cortisone	18	11.25
4	betamethasone	11	6.88
5	Triamsinolone	1	0.63

TABLE 2:
Frequency at which of Non-steroidal anti-inflammatory drugs (NSAIDs) were used by 159 respondents

S n	Type NSAID used	Number of uses	% of total NSAID users
1	Feldene (piroxicam)	100	62.89
2	Diclofenac	69	43.40
3	Acetaminophene	60	37.74
4	Phenylbutazolidone	53	33.33
5	Aspirin	22	13.84
6	Indomethacin	8	5.03
7	Analgin	6	3.77
8	Meloxicam	1	0.63

Table 3:
Frequency at which opioids were used by 44 respondents

S n	Type of opioid used	Number of opioid users	% of total opioid users
1	Codeine	14	31.82
2	Pethidine	13	29.55
3	Morphine	8	18.18
4	Butorphanol	8	18.18
5	Buprenorphine	7	15.91
6	Hydromorphone	3	6.81
7	Oxymorphone	1	2.27
8	Fentanyl patches	1	2.27

IV. DISCUSSION

The total number of surveyed veterinarians in this study is obviously low. It represented only a small percentage of the number of registered veterinarians in Nigeria going by the 2010 veterinary register. It however, revealed some interesting and useful indicators.

The numbers of respondents that indicated that they assessed and treated animal patients for pain in this survey appear unusually high when compared with figures from other similar surveys. For instance only about 20 – 65% in the surveys by Dahoo and Dahoo, (1996a & b) and Hewson, *et al*; (2005) used analgesics even after very painful surgical procedures. The explanation for this peculiar finding is not clear. It may be suggested that though there may not have been

a formal training on pain and pain management (Hellyer, 2001), these veterinarians may have acquired some knowledge on analgesia and pain modulation through other informal means. It should be noted that the survey was made among scholars in a continuing professional education seminar. The result is in line with the findings of Remi-adewunmi and Gyang (2010) which stated that all the 23 veterinarians and 20 physicians in Nigeria interviewed about their attitudes to pain were reported to assess and treat their patient for pain.

That most respondents used more than one analgesic may suggest that such respondents practised bi- tri- or the highly recommended multi-modal mode of pain management. They may also have indeed used different groups of analgesic on individual patients at different times. The use of the multi-modal mode of drug therapy for pain is highly recommended because of its efficacy in all identified cases of pain in animals (Hammond *et al*, 2008).

like opioids, they are readily available, cheap and reasonably efficacious for the management of pain of inflammatory origin (Mbugua *et al*; 1989; Nolan and Reid, 1993; Mathews, 2000; Lemke, 2002). However, the newer more efficient anti-inflammatory drugs like firocoxib and deracoxib etc were not used at all probably because they are not available in the local drug markets or the respondents are not familiar with them. An important factor which may have limited the use of some specific analgesics like the opioids in animals is their relative non-availability or in-accessibility to veterinarians.

From this survey, the attitude of veterinary health-care providers in Nigeria on issues about pain and its management in animals can be adjudged to be adequate, though it needs to be improved. This can be done by ensuring that veterinary colleges in the country include pain and its management in animals in their curricula, by ensuring that animals under their care are routinely treated against pain when present, by ensuring that pain and pain management are included in the curricular of all veterinary schools, by ensuring that topics on pain appear more regularly in veterinary publications and by ensuring that pain is regularly discussed in veterinary and public forums.

REFERENCES

- [1] Anil, L; Anil, S. S. and Deen, J. (2005). Pain detection and amelioration in Animals on the Farm. *Journ. Applied Anim. Welfare.* 8: 261- 278.
- [2] Anad, K. J. and Hickey, P. R. (1992). Halothane-morphine compared with high-dose sufentanil for anaesthesia and postoperative analgesia in neonatal cardiac surgery. *N. Engl. J. Med.* 326: 1-9.
- [3] Budsberg, S. C. (2005). Pain management. In: *Textbook of Internal Veterinary Medicine.* 6th Ed. Ettinger, S. J. and Feldman, E. C. (Eds). Elsevier/Saunders, Louis, Missouri: 22-24.
- [4] Carroll, G. L. (2007). Treatment of peri-operative pain. In: *Textbook of Small Animal Surgery* 3rd ed. Fossum, T. W. (Eds). Elsevier/Saunders, St. Louis, Missouri: 93-102.
- [5] Chamberlain, D. B. (1991). Babies don't feel pain: A century of denial in medicine. Paper presented at the second international symposium on circumcision, San Francisco, California.
- [6] Dahoo, S. E. and Dahoo, I. R. (1996a). Post operative use of analgesics in dogs and cats by Canadian Veterinarians. *Can. Vet. J.* 37: 545-551.

- [7] Dahoo, S. E. and Dahoo, I. R. (!996b). Factors influencing the use of post-operative analgesics in dogs and cats by Canadian Veterinarians. *Can. Vet. J.* 37: 552-556.
- [8] Epstein, M. E. (2009). Application of pain management advancements in primary care. mark.epstein@totalbondvets.com
- [9] Faulner, P. M. and Weary, J. (2000). Reducing pain after dehorning in dairy cattle. *Journ. Dairy Sci.* 83: 2037 – 2041.
- [10] Flecknell, P. (2008). Analgesia from a veterinary perspective. *British Journ. Anaesth.* 101: 121-124.
- [11] Hammond, R; Christie, M and Nicholson, A. (2008). Opioid analgesia. In: *Small Animal Clinical Pharmacology*, 2nd Eds. Maddisson, J. E; Page, S.W. and Church, D. B. (Eds). Saunders / Elsevier, London. 309 – 329.
- [12] Hellyer, P. W. (2001). Contradictions characterize pain management in companion animals. *Amer. Vet. Med. Assoc. Anim. Welfare Forum – Pain Management*.
- [13] Hewson, C. J; Dahoo, I. R. and Lemke, K. A. (2005). Peri-operative analgesic use by Canadian Veterinarians: A national survey. *Proceedings of the 30th World Congress of the World Small Animal Veterinary Association, Mexico*.
- [14] Lemke, K. A; Runyon, C. L. and Honey, B. S. (2002). Effect of pre-operative administration of ketoprofen on anaesthetic requirements and signs of post-operative pain in dogs undergoing elective ovario-hysterectomy. *J. Amer. Vet. Med. Assoc.* 322: 1268-1275.
- [15] Mathews, K. W. (2000). Pain assessment and general approach to management. *Vet. Clin. North Amer. Small Anim. Pract.* 30: 729- 752.
- [16] Mbugua, S. W; Skolund, L. A and Lokken, P. (1989). Effects of phenylbutazolidone and indometacin on post-operative course following experimental orthopaedic surgery in dogs. *Vet. Scandinavia.* 30: 27-35.
- [17] Nolan, A. and Reid, J. (1993). Comparison of the post-operative analgesic and sedative effects of carprofen and papaveretum in the dog. *Vet. Rec.* 133: 240 – 242.
- [18] Omamegbe, J. O. and Ukwani, I. A. (2010). Management of pain in small animals. Paper presented at the 42nd congress of the Nigerian Veterinary Medical Association, Makurdi, Nigeria.
- [19] Remi-Adewunmi, B. D and Gyang, E. O. (2010). Development of pain recognition and management protocol for veterinary practice. Paper presented at the 42nd Congress of the Nigerian Veterinary Medical Association, Makurdi, Nigeria, 2010.