
**THE RELATIVE STATUS AND FOCUS OF VETERINARY SURGERY
RESEARCH IN NIGERIA -AN ANALYSIS USING NIGERIAN
VETERINARY JOURNAL PUBLICATIONS**

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ABSTRACT

Surgery as a specialty area in veterinary medicine is performed in animals by qualified veterinarians. Difficult and complicated surgery cases in animals often require the skills of veterinarians whose area of specialty is Veterinary Surgery. This paper is an attempt to analyze the status and research focus in Veterinary Surgery vis-a-vis publications in the Nigerian Veterinary Journal (NVJ) from 2009 to 2018. Out of a total of 335 papers published in the NVJ during the study period, 43 (12.84%) were on Veterinary surgery. There was an increase in surgery publications from 1 (0.30%) in 2009 to a peak of 10 (2.99%) in 2011. The number fluctuated over the following years and settled to a low value of 1 (0.30%) in 2018. In terms of sub-specialties, soft tissue surgery sub-specialty accounted for majority (53.49%, n=23) of the publications, followed respectively by Anaesthesiology (20.93%, n=9), Orthopaedics (13.95%, n=6) and Diagnostic imaging (11.63%, n=5). Case reports accounted for the highest percentage (48.84%, n=21) of Veterinary Surgery publications followed by experimental studies (32.56 %, n=14). Most case reports were on companion (52.38 %; n=11) and food (33.33%, n=7) animals, while all experimental studies were animal-modeled. Also, 62.79% (n=27) of published Veterinary Surgery researches were collaborative researches while 37.21% (n=14) were not collaborative. From this study, it is quite obvious that although researches in Veterinary Surgery appear to be stable, there is need for more researches in this area of Veterinary Medicine specialty to further improve clinical outcomes and the quality of animal health care.

Keywords: Focus, Status, Analysis, Research, Publications, Veterinary Surgery, Nigeria.

INTRODUCTION

Veterinary Surgery is a specialty area in veterinary medicine that is evolving with diverse researches being carried out seeking specifically to correct structural anomalies in animals in a bid to improve the

quality of life of the animals. As in other sciences, research remains the bedrock for the development of surgery [1] while regular practice establishes a routine. Surgery is rapidly advancing, with regular emergence of innovative techniques and continual refinement of existing ones [2]. Rapid technological advances have been made globally in diagnostic imaging, laboratory testing and surgical techniques [3]. These researches advance clinical knowledge and procedures and enhance quality evidence-based veterinary practice, and are essential for improving clinical outcomes and quality of patient care [3,4]. The ready adoption of surgical options in field practice can be viewed as a measure of the degree of advancement in the area.

The *Nigerian Veterinary Journal (NVJ)*, hosted by the Nigerian Veterinary Medical Association (NVMA), is an open access journal dedicated to the communication, discussion and dissemination of all aspects of veterinary research. The journal's focus is in advancing veterinary medicine in Nigeria and other parts of the world, with the aim of enhancing livestock economy globally. Since its maiden edition in 1971, so many researches cutting across the diverse disciplines of veterinary medicine have been published. The archives of this popular journal provide a reliable platform to evaluate the development and highlight the advancements in Veterinary surgery as a specialty of veterinary medicine in Nigeria. This work is a meta-analysis of the published Veterinary Surgery research works in the Nigerian Veterinary Journal between 2009 and 2018.

MATERIALS AND METHODS

Nigeria is located in the west coast of Africa, and lies between latitudes 4°16' and 13°53' north and longitudes 2°40' and 14°41' east. It occupies a land area of 923,768 square kilometers [5].

All the 335 researches in Veterinary Surgery published in the NVJ between 2009 and 2018 were analyzed. Information such as the distribution of surgery publications relative to other specialties in veterinary medicine, the pattern of surgical researches over the study period, the distribution of these research papers published according to subspecialties in veterinary surgery in Nigeria, the distribution of surgery researches into cases, species of animals reported in field practice, experimental studies to animal-modeled and non-animal-modeled surgical techniques, and collaborative research works based on authorship in veterinary surgery research publications from Nigerian Higher Institutions, were analyzed using descriptive statistics (Frequency and Percentages). The results obtained were presented as bar charts and bar graphs.

RESULTS

Figure 1 showed the percentage distribution of surgery publications relative to other specialties as published in the *NVJ*. Out of the 335 publications within the period under review, 12.84% (n=43) were surgery papers.

The distribution of Surgery research publications over the years under review (Fig. 2) showed an increase from 2009 (0.30%, n=1) to a peak of 10 ((2.99%,) in 2011, fluctuating during the latter years before settling to another low value of 1 (0.30%) in 2018.

The sub-specialty focus in Veterinary Surgery researches in Nigeria (Fig. 3) showed that the most (53.49%, n=23) of the surgery researches focused on soft tissue surgery sub-specialty, while the remaining 9 (20.93%), 6 (13.95%) and 5 (11.63%) were on Anaesthesiology, Orthopaedics and Diagnostic imaging respectively.

Case reports as shown in Fig. 4 represented the highest percentage (48.84%, n=21) of the surgery publications followed by experimental studies (32.56%, n=14). Surveys were the least study type of reports published in the *NVJ*.

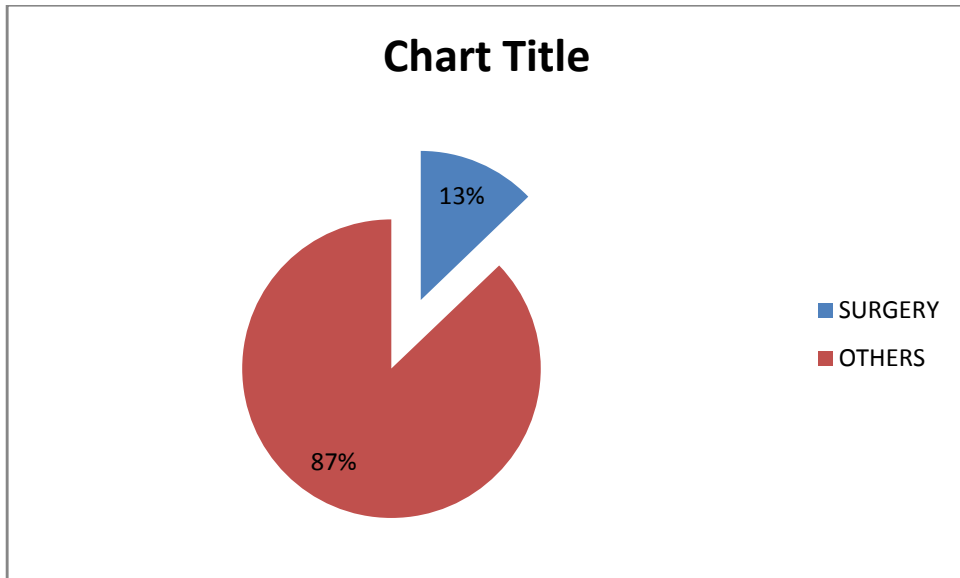


Fig. 1: Percentage distribution of surgery publications relative to other specialties in Nigeria (n=335).

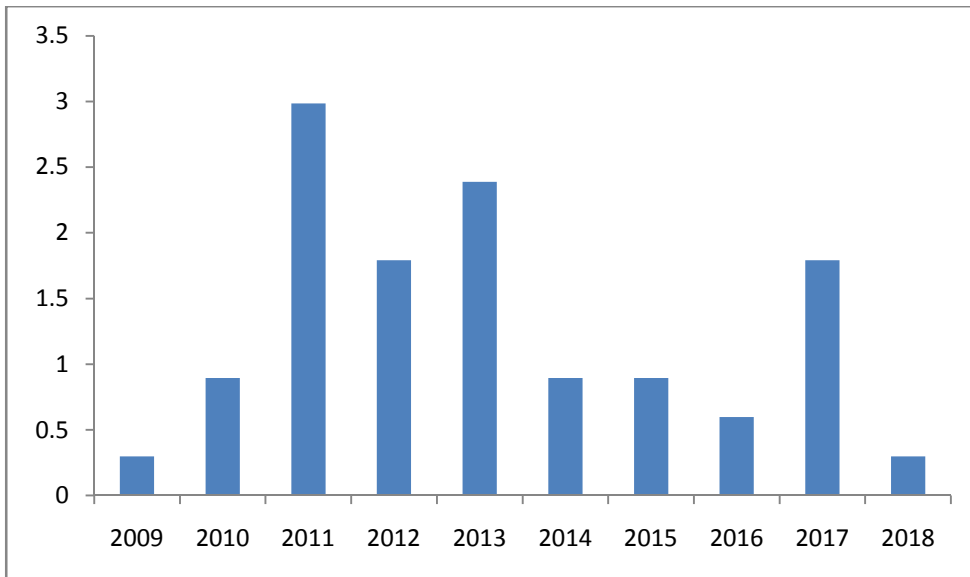


Fig. 2: Percentage distribution pattern of Surgical researches over the study period (n=335).

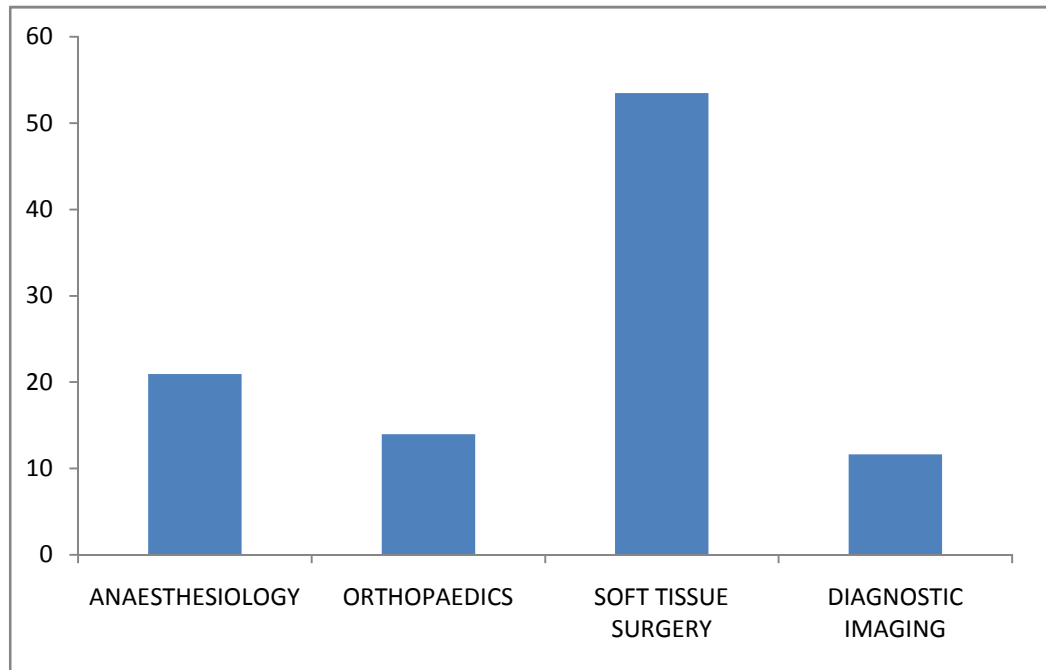


Fig. 3: Percentage distribution of papers published according to subspecialties in Veterinary surgery in Nigeria (n=43).

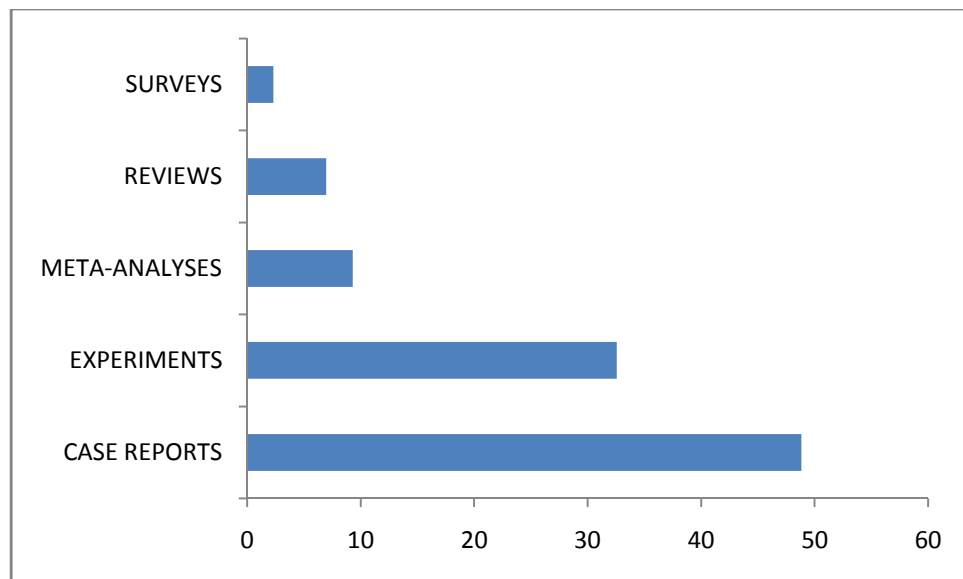


Fig. 4: Percentage distribution of surgery researches to cases (n=43).

Majority of the case reports (Fig. 5) were on companion animals (52.38 %; n=11), while 33.33% (n=7), 9.52% (n=2) and 4.76% (n=1) were on food animals, wildlife and sports animals respectively.

The result of the percentage distribution of experimental studies to animal-modelled and non-animal-modelled techniques (Fig. 6) showed that all the experimental studies (100%, n=14) were animal-modelled.

From the results that categorised collaborative research works using authors' affiliations to Nigerian Higher institutions (Fig. 7), 27 (62.79%) were collaborative whereas 16 (37.21%) were not collaborative. Of the collaborative researches, 13 (48.15%) and 3 (11.11%) were respectively interdisciplinary and interinstitutional collaborations only, while 11 (25.58%) were both interdisciplinary and interinstitutional collaborations.

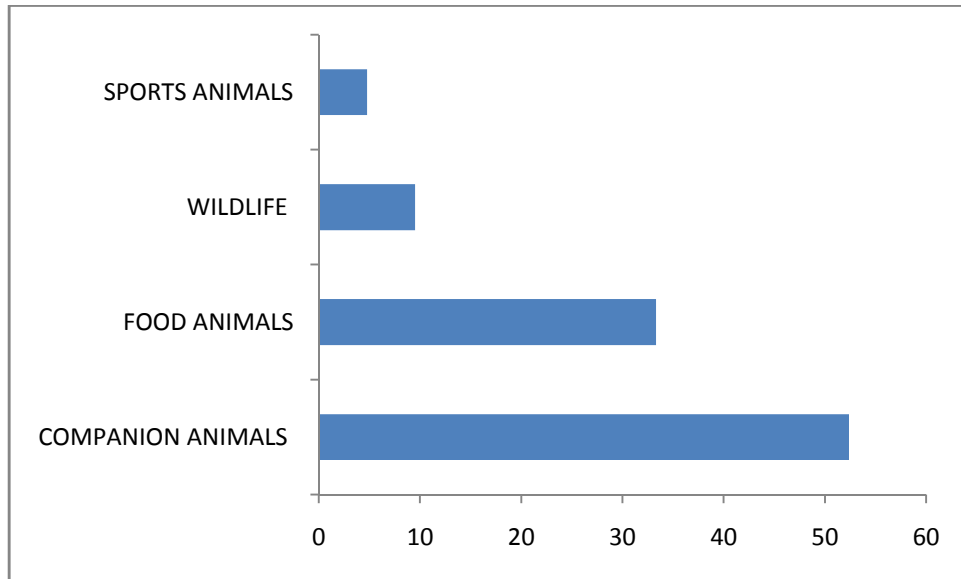


Fig. 5: Percentage distribution of animal species to cases (n=21).

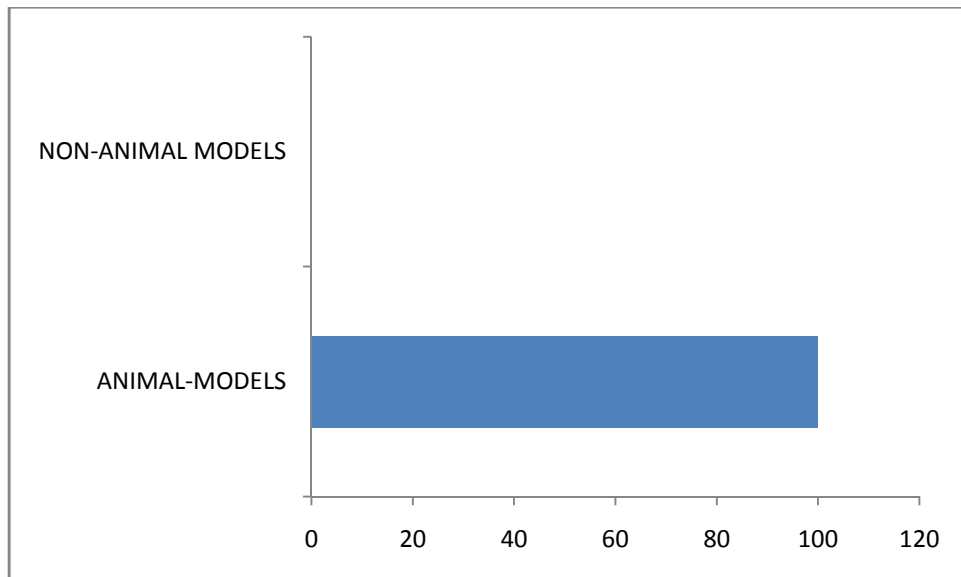


Fig. 6: Percentage distribution of experimental studies to animal-modelled and non-animal-modelled techniques (n=14).

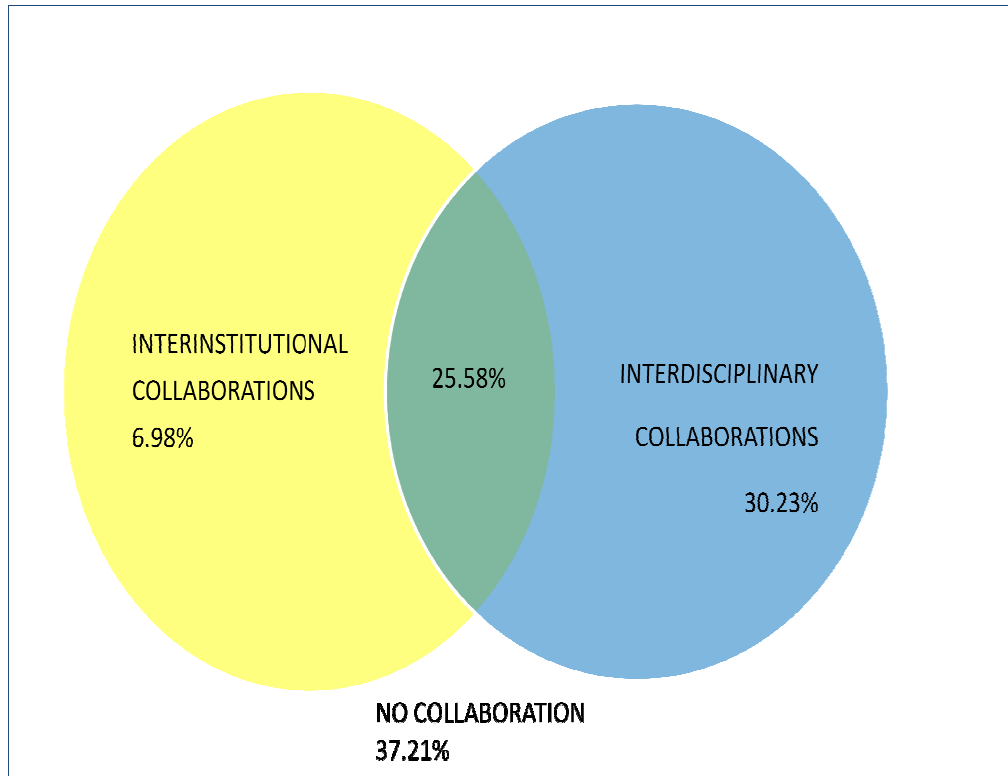


Fig. 7: Percentage distribution of collaborative research works based on authorship in Veterinary surgery in Nigerian Institutions (n=43).

DISCUSSION

This study evaluated the relative status and focus of veterinary surgery research in Nigeria using articles published in the *NVJ* between 2009 and 2018. The *NVJ* publications covered an array of disciplines in Veterinary and allied sciences with veterinary Surgery publications accounting for nearly one seventh of the publications (12.84%) (Fig. 1). It is evident that research discipline of Veterinary Surgery has comparatively developed over the last 10 years. Although there were inconsistencies in the number of surgery publications over the years, the results of the distribution pattern showed a generally strong input between 2011 and 2013. This may not be unconnected to the coming into fore of more veterinary surgery departments following the establishment of more Veterinary programmes in Nigerian Universities and Colleges of Agriculture. The decline in later years, with a slight spike in 2017 could be due to the emergence of other numerous journals (both online and institutional based) during the period which may have given authors alternative publication platforms.

That soft tissue surgery publications had a greater representation may not be unexpected since experiments and field practice in this subspecialty has greater number of research specialists in the field, is less expensive and perhaps more convenient in terms of acquisition of equipments and establishment of facilities for such works. This was followed by Anaesthesiology subspecialty which again is understandable since hardly any surgery can be performed without one form of chemical restraint or anaesthesia. However, the dearth of research publications in areas of diagnostic imaging and orthopaedics may not be unconnected with fewer number of personnel in these sub-specialties and the lack of political will by institutions administrators in purchasing expensive equipments as needed facilities to develop these subspecialty areas. Diagnostic imaging is a key to minimally invasive procedures which is the trending focus in surgery [6].

Case reports had the highest percentage (48.84%, n=21) distribution of surgery publications (Fig. 4). This highlights the field application of veterinary surgical procedures and is another indicator of advances and development made in this discipline.

There were more case reports on companion and food animals probably as a result of ready availability of these animals and the wider acceptability across the different socio-cultural groups in Nigeria. This is in agreement with the previous retrospective studies [7,8] which suggested that more surgeries were carried out in these categories of animals. The low percentage distribution of case reports in sports animals and wildlife could be a reflection of relatively minimal advances made in these animals' category of veterinary surgical practice, and probably calls for more attention in these areas.

All the experimental researches were animal modelled. Animal models remain relevant in biomedical researches and surgical training in developing countries as against the developed nations where funding and support are given in favour of non-animal model techniques [9]. These non-animal model techniques including synthetic models, cadaver models and computer simulations are often unavailable in developing countries including Nigeria [9].

The result of the distribution of Inter-institutional and inter-disciplinary collaborative research works in Veterinary surgery publications in Nigeria is a good sign as collaborations bring about better development and advances in any field of study.

CONCLUSIONS

This study has shown that most of the publications in veterinary surgery in Nigeria were case studies and were predominantly on companion and food animals. The experimental researches in the discipline are still totally animal-modelled, with the main focus being on soft tissue surgery sub-specialty followed by anaesthesiology. More effort is required to develop the other sub-specialties in veterinary surgery. The strong collaboration in this discipline is quite encouraging and should be sustained for the advancement of research in veterinary surgery. Although researches in veterinary surgery accounted for nearly one seventh of the publications during the study period, the decline in the number of publication towards the end of the study period is noteworthy and may be an indication for the need for increased effort to boost research in Veterinary Surgery discipline.

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