

# Sokoto Journal of Veterinary Sciences: 2008-2016-A Bibliometric Analysis

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## Abstract

**Purpose:** This study was carried out to determine and analyzed the total number of articles published and their categories in the Sokoto Journal of Veterinary Sciences from 2008-2016; the number of authors that contributed to the journal; their institutional affiliation, geographical locations and collaborative efforts in research. It also analyzed the number of citations and citation patterns of authors in the Journal.

**Methodology :** A bibliometric research design was used to carry out the research and was guided by ten objectives. A purposive sample of sixteen (16) year period (2008-2016) was chosen for convenience (17 issues of 8 volumes). Data was generated through a painstaking study of every article published in these issues to obtain information about its author(s), his institution, geographical locations, his collaborative efforts, citation and citation pattern. The data collected was described and analyzed in appropriate figures and tables for discussion.

**Findings:** Findings of the study revealed that from 2008 -2016, a total of (221 articles) were published by the journal and these were contributed by (961) authors. (98.9%) of the articles were published through collaborative while (1.1%) were by singled-authors. The highest numbers of contributors (82%) were from the Universities while the highest contributing Veterinary School (24.6%) was The UsmanuDanfodiyo University Veterinary School, Sokoto. Total citations made in the journal were (4,464)with different information materials while the highest information material cited were journal articles (70.6%)

**IMPLICATIONS:** There is the need for a consistent and sustained production of the journal and the need to accommodate researches other than empirical studies. There is also the need for more singled-authored articles in the journal

**Value/Originality:** This type of study would be of great assistance to Librarians especially, acquisition librarians in the area of journal subscription for their libraries as it tends to showcase the consistency of journal production and currency of the articles in such journals

**Keywords:** Bibliometrics, Citation analysis, Bibliography, journal of Veterinary Medicine, Nigeria

**Paper type:** Bibliometrics/ Citation analysis

## Introduction

Journals play a very important role in the evaluation of research output because they are the most commonly used avenues for disseminating research findings. Specifically, journals provide information that is critical for conducting research and evaluation of authors, authors' institutional affiliation, country affiliation of authors, year of publication, etc. (Onyancha, 2009).

The importance of journals especially, local journals in our libraries and information centers cannot be over emphasized because of their research contents, currency and up-to-datedness. There is also a noticeable proliferation of these

local journals in our universities and other higher institutions of learning some due largely to the desperate needs of some academics to get "published" and avoid being "perished". Thus, majority of them disappear soon after one or two issues. This according to Omotayo (2008:128), "made them have limited circulation as only few copies are printed". In most cases however, as opined by Aliyu and AbdurRahman (2016) these journals have problems of consistency in their production, quality in the articles they published, spread of authors who contributes to the journals nationally and sustainability. This has, therefore, compelled librarians especially, in institutions of higher learning to pay closer attention to their quality and consistency. This prompted the

attempt to evaluate the source journal (SJVS)

This is sometimes achieved, through Bibliometric studies which give detailed information about authorship patterns, bibliographic forms of citations, chronological distribution, core journals and journal impact factor. Reporting from different published works, Kasa (2015), argued that there are as many reasons for evaluating journals as there are different groups of people interested in information production, storage, dissemination and use. The findings from such studies will provide interesting and useful facts to researchers, authors, editors, librarians.

Bibliometric is a branch of information science that study productivity of information resources using quantitative methods or techniques. The term was coined by Pritchard (1969) and defined it as “the application of mathematical and statistical methods to books and other media of communication”. Furthermore, Okon et al (2015), described it as a type of research method in library and information science that utilizes quantitative analysis and statistics to describe pattern of publication within a given field or body of literature. The aim of Bibliometric analysis is to reveal the extent of research output, publications activities, preference and nature of literature produced (Kasa, 2015).

Bibliometric study on a single journal is a promising area of research in the field of library and information science because when data are collected from a single journal title covering a particular period of time and vividly analyzed from different directions, it will reveal a lot about authorship patterns, bibliographic forms of citation, articles and sometimes publication half-life. Similarly, according to Huang et al (2006:75) “Bibliometric data have been used to describe and evaluate countries, universities, research institutes, journals, specific research topics and specific disciplines”. A pioneering work on Bibliometric study of a single subject according to Thanuskodi (2010:1), was the statistical analysis of the literature of comparative anatomy from 1543-1860 carried out by counting of book and journal titles on the subject and grouping them by countries of origin and periods.

The specific objectives of the study are to analyze:

along these parameters.

1. The total number of articles published by the journal within the study period;
2. The distribution of articles by categories;
3. The total number authors that published in the journal;
4. The distribution of authors by Institutional affiliations;
5. The distribution of authors by Veterinary schools in Nigeria;
6. The distribution of authors by Location in and outside Nigeria;
7. The total number of citations made by the authors in the published articles; and
8. The citation pattern of authors in the published articles.

### **Journal’s Background**

The Sokoto Journal of Veterinary Sciences (SJVS) publishes research articles related to veterinary sciences, including livestock health and production, disease of wild life and fish, preventive veterinary medicine and zoo noses among others. They are regularly published as full length articles, case reports, review articles and educational papers. The journal is published tri-annually (i.e. three issues: April, August and December) and sponsored by the Faculty of Veterinary Medicine, Usmanu Danfodiyo University, Sokoto, Nigeria.

The objectives of the journal is to among others, promote the Veterinary profession and facilitate the cross fertilization of ideas in various areas of livestock production and health. It is abstracted and indexed by Agora, African Journals Online (AJOL), Current Agriculture Abstract (CAB) Agro forestry Abstract etc, Directory of Open Access Journal (DOAJ), Index Copernicus, Index Scholar, Index Veterinarian etc. Other detailed information about the journal can be obtained from the journal website ([www.sokovetjournal.net](http://www.sokovetjournal.net) or [sokovetjournal@udusok.edu.ng](mailto:sokovetjournal@udusok.edu.ng))

### **Review of Related Literature**

Wood and Park (2013) in their study on publication activities of academic librarians in Tennessee revealed that Tennessee Librarian-a peer review professional journal were the most cited forms of communication among the library and information scientists, and that the source journal was the most cited publication 47(35%). Anilkumar (2013), in his analysis of publication pattern of scientists of Physical Research

Laboratory in India revealed the various details of the trends of publication of this journal. Sam (2008), made a Bibliometric study of Ghana library journal and reported that from 2000-2008, 618 items were cited by authors in the journal out of which journal articles accounted for 44.5%, followed by books 32.5%.

Ashaki and Ani (2010) undertook a Bibliometric study of 4,798 citations appended to 400 articles in five volumes of the Indian journal of Pure and Applied Mathematics from 2003-2007. They found that the most cited documents were articles from research journals and that foreign authors contributed more than Indian authors. Thanuskodi (2010), in his Bibliometric analysis of Library Philosophy and Practice (2005-2009), revealed that a total of 82 articles were published by the journal within the period of the study, and that library and information science was the most written subject with 37 (14.86%) articles. Furthermore, journals were the most cited forms of documents with 1,028 (53.03%). Abiolu (2012), studied on family planning journal-a bibliometric analysis and indicated that scholarly journals still remained the prominent and certified means of sharing research findings by academics.

In Nigeria, many Librarians have carried out researches using this technique. The pioneer was Aiyepoku (1973) followed by others. Olanlokun (1990) examined ten (10) issues of the Nigerian Libraries and found that most of the contributors to the journal were from Western Nigeria, and majority of them were men who accounted for over 80% of the contributors. Okon et al (2015) in his study of academic staff in selected universities in Nigeria revealed that most librarians preferred to publish in peer review journals. In the same vein, Abioulu (2013) opined that most academics preferred to publish in journals because according to him journals still remained the prominent and certified means of sharing research findings and for ascertaining new ideas. Similarly, Fasae (2012) in his citation analysis of theses and dissertations submitted to the Department of Agricultural Economics, Federal University of Technology, Akure, revealed that a total of 4,227 citations were generated from 68 theses and dissertations, and

that nearly one third of the citations made were from journal articles (34.97%), followed by those from books (25.15%). He attributed this to the fact that journal contains more current issues and qualitative research works than books.

From the literature reviewed, it is apparent that Bibliometric studies on single journal can take many forms and patterns to generate very useful information that can be used by librarians and other information providers in the decision-making processes especially, in the act of selecting high quality journal title for the purpose of building relevant collection for their libraries. The review has also shown some gaps in Bibliometric studies on Veterinary Medicine literature which this study seeks to bridge.

### Methodology

The research design for this study is survey method using Bibliometric technique. The design was chosen because according to Ifidon (2007:27), "it serves as an analytical tool for studying the stratum of knowledge. The journal was chosen as a single source journal for Bibliometric study because it is the only prominent journal on veterinary sciences in the North Western Nigeria which publishes peer-review articles of empirical research pertaining to the practice of veterinary profession. The target population for this study is the entire volumes published by the Sokoto Journal of Veterinary Sciences from inception (1999) to date (2016) totaling seventeen (17) years i.e. 17 volumes of thirty (30) issues. However, a purposive sample of eight-year period (2008-2016) was taken out of the seventeen (17) year period of the journal's existence even though there was no production in the year 2009. For convenience, only major forms of bibliographic materials comprising books, journals, proceedings (conferences/seminars/workshops), theses, documents and web resources were considered for identification. The rest, were classified as "others" and counted as such. The data collected were then sorted and arranged in tables for analysis and interpretations, using appropriate simple frequency counts and percentages

**Results**

The results of this study are contained in the figures below:

YEAR	VOLUME	ISSUES	NUMBER OF ARTICLES	%
2008	7	1&2	37	20.6
2010	8	1&2	15	8.3
2011	9	1&2	18	10
2012	10	1&2	18	10
2013	11	1&2	21	11.6
2014	12	1&2	30	16.6
2015	13	1,2 &3	30	16.6
2016	14	1,2 &3	11	6.1
TOTAL	8	17	180	100

Fig 1: Number of Articles Published in the Journal

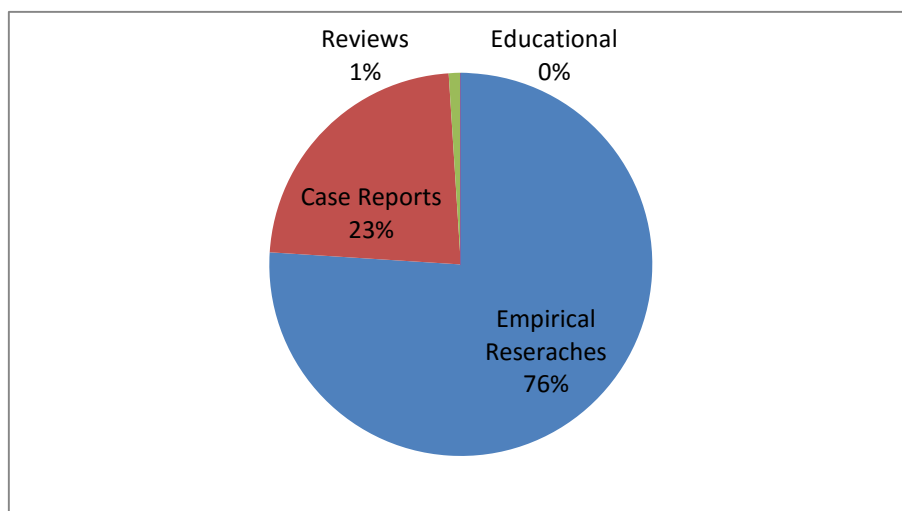
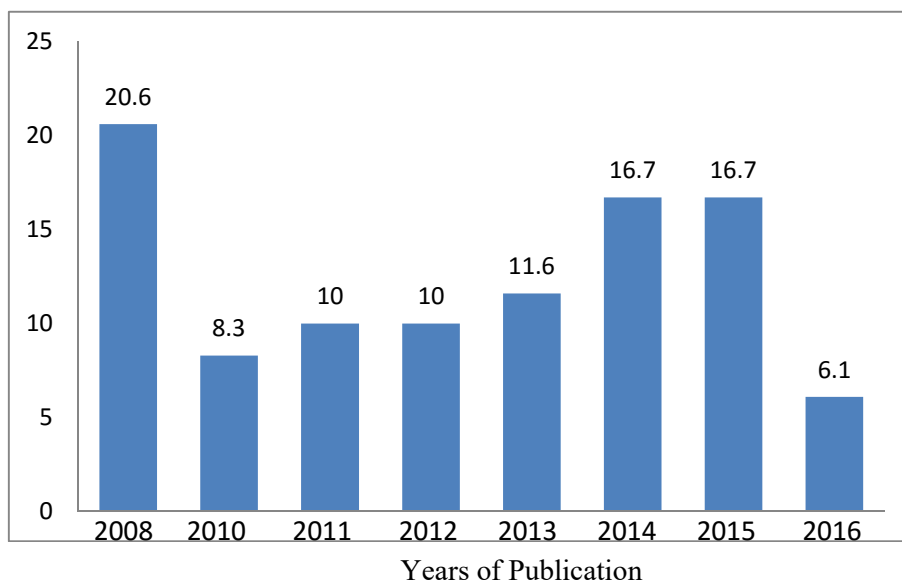


Figure 2: Number of Articles Published by Category

Fig. 2 describes the distribution of articles by categories. Of the 180 articles published by the journal within the period of study (2008-2016), Empirical researches recorded the highest

number of articles 137(76%), followed by Case reports 41(23%). Reviewed articles had the least number of articles 2(1%). Educational recorded Nil.

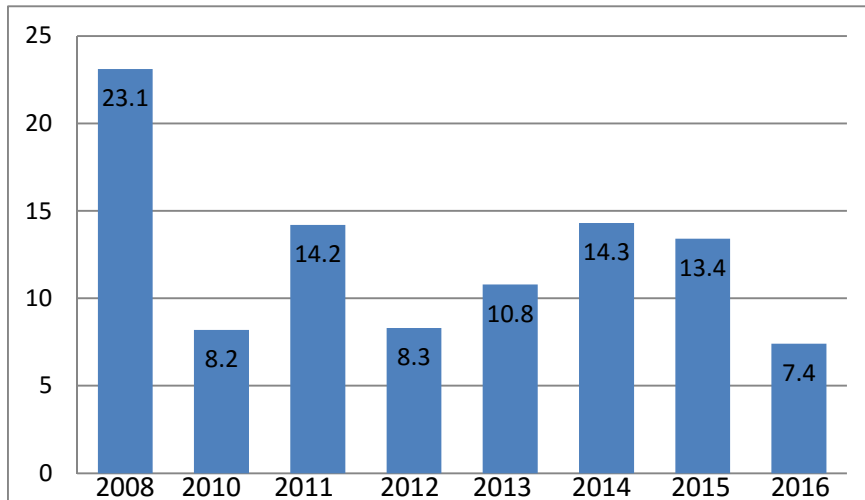


Fig. 3: Number of Authors that Published in the Journal

Fig. 3 Results of the study indicated that 809 authors contributed articles to the journal which were published within the study period. Of this number, the year 2008 recorded the highest

number of authors who contributed to the journal 187 (23.1%) while the year 2016 recorded the least number of authors with 60 (7.4%).

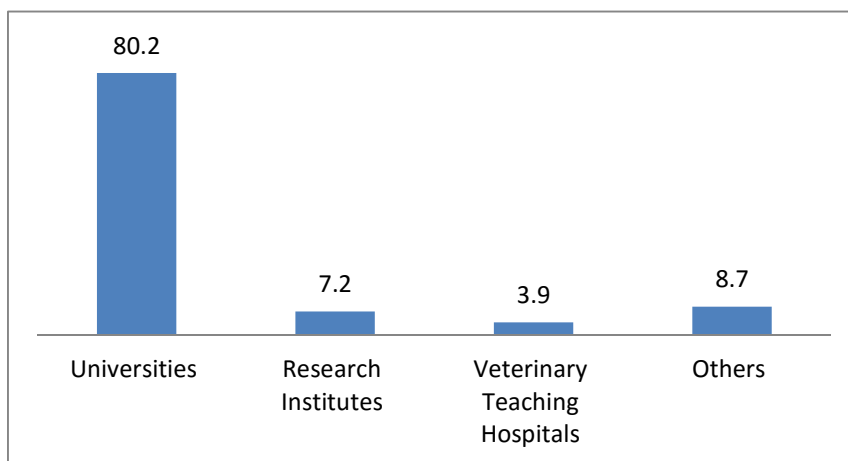


Fig. 4: Distribution of Authors by Institutional Affiliations

Of the number of 808 authors in fig 4, 649 (80.2%) being the highest number of authors, were from the Universities. The least, 32 (3.9%), were from the Veterinary Teaching Hospitals. Research institutes recorded 58 (7.2%) of the

total authors. Surprisingly, those from the Ministries, private practitioners etc who are described as “others” in this study recorded as much as 70 (8.7%).

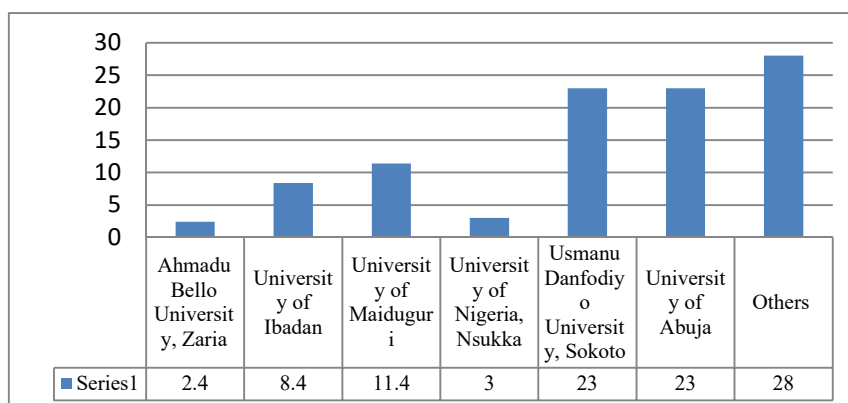


Fig. 5: Distribution of Authors by Veterinary Schools in Nigeria

Because the journal is basically Veterinary Medicine-based, fig. five (5) depicts a fair representation of all the recognized Veterinary Schools in Nigeria. The highest in terms of contribution of articles to the journal within the study period were Sokoto and Abuja Schools with 190 (23%) each. They are followed by Maiduguri with 93(11.4%) and then Ibadan with 68(8.4%) and Nsukka with 23 (3%) respectively. Zaria was the least with 20(2.4%) authors.

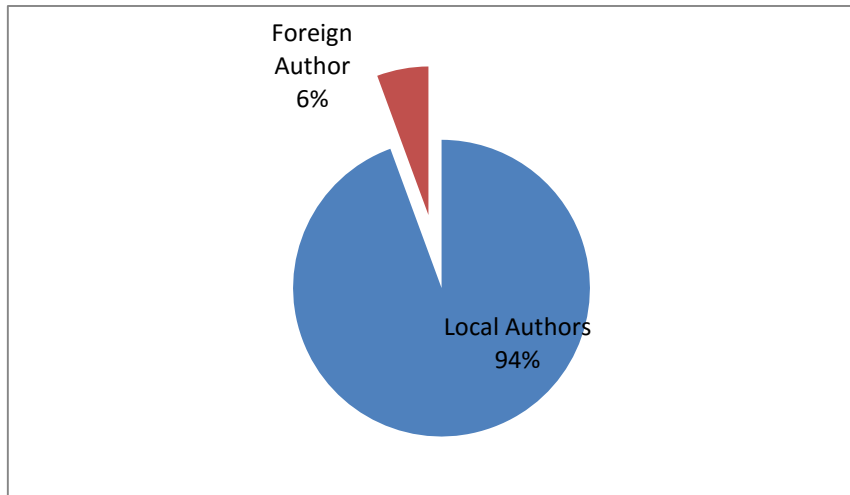


Figure 6: Distribution of Authors by Their Locations (local or foreign)

Fig. 6 shows the distribution of authors that published in the journal within the study period by their geographical locations(in or outside

Nigeria). Of the 809 authors, 764 (94.4%) are local authors (Nigerians) while 45 (5.6%), the least are Foreign (Outside Nigeria).

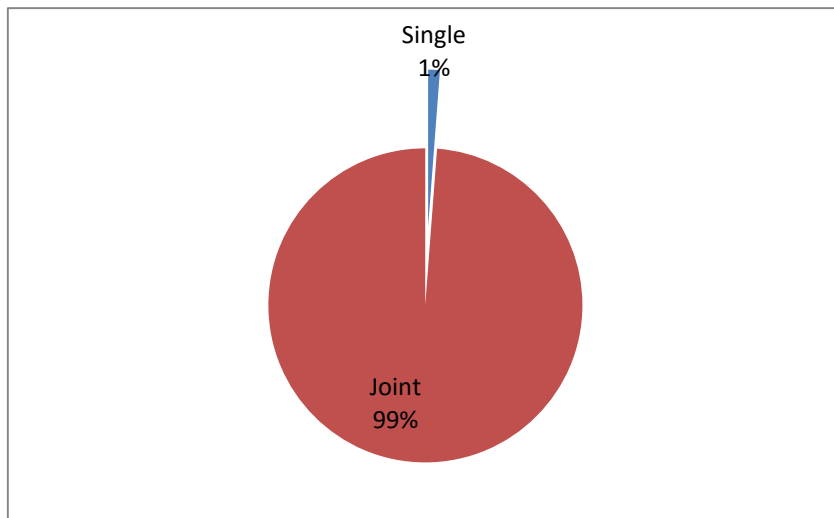


Figure 7: The Extent of Collaboration among Authors

Fig. 7 shows the extent of collaboration among authors. Over 99% of the 180 articles published within the study period were collaborative works

of ranging from two (2) authors to about nine (9) authors per article. Articles by single authors were only 10 (1%).

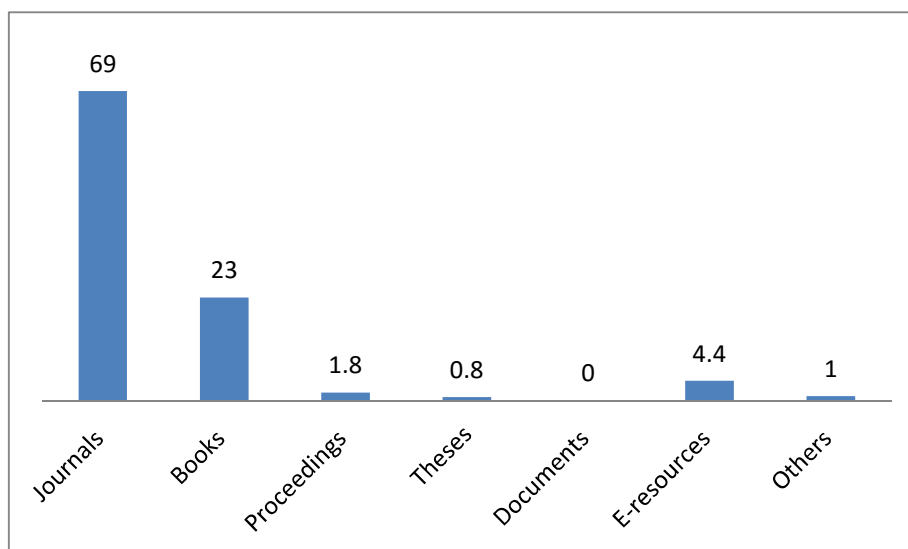


Figure 8: Number of Citations (Bibliographic forms of materials cited) in the Journal

Fig.8. shows the number of materials cited in the published articles by their forms. A total of 3,698 citations were made within the study period. These citations consisted of journals, books,

proceedings, theses/dissertations, documents e-resources and others (pamphlets, leaflets memoirs etc).

Table 1: Distribution of Citations by Forms of Materials and Year

Bibliographic Forms	2008	2010	2011	2012	2013	2014	2015	2016	Total	(%)
Journals	319	168	218	223	337	556	528	200	2,549	69%
Books	162	60	83	66	118	117	162	69	837	23%
Proceedings	40	2	6	3	2	7	4	6	70	1.8%
Theses	10	4	6	3		2	2	2	29	0.8%
Documents	-	-	-	-	-	-	-	-	-	0%
E- resources	21	10	12	26	30	21	34	10	164	4.4%
Others	24	2	3	6	6	4	4	-	49	1%
<b>Total</b>	<b>576</b>	<b>246</b>	<b>328</b>	<b>327</b>	<b>493</b>	<b>707</b>	<b>734</b>	<b>287</b>	<b>3,698</b>	<b>100</b>

Yearly distribution of bibliographic materials cited in the works shows that journal articles were the most cited materials with 2,549(69%). This is followed by books with 837(23%) and e-resources with 164(4.4%). The least form of material cited were Theses/Dissertations with 29 (0.8%) citations. The table further showed that the 2015 edition of the journal had the highest number of citations 734 followed by the 2014 edition with 704 citations. The least was the 2010 edition with 246 citations

**Discussion**

The analysis of the data from the study indicated that there were 180 articles published in 8 volumes of 17 issues from 2008 to 2016. Of the total number of articles published by the journal within these periods, empirical research articles accounted for the highest (20.6%) category of articles published. This trend is consistent with most of the Sciences and Medical Sciences Journals as revealed by Abioulu, (2013) and

Swain (2011). Furthermore, it is very common among Natural Science Journals to see more of empirical research articles being published because of their scanty nature of reporting research results by Natural scientists than the Social science researchers.(Swan, 2011)

The pattern of citations by format is relatively constant over the study period as most authors preferred journal articles (68.9%), followed by books (22.6%) in their citations. This result is in agreement with those of Sam (2008), Abioulu (2013), Aliyu and Yusuf (2016) and Kasa (2015), who all reported similar results in their studies. A similar distribution pattern was also found in a study of Veterinary Sciences literature by Grawley-Low (2006) even though the study was only for a 3- year period, books and other bibliographic forms of materials were found to have no citation at all. This is also not surprising because by their nature, journals tend to convey more current research findings than books, proceedings and others (Abioulu, 2013).

Furthermore, natural scientists tends to consult more of research results published in journals than books which they consider not current as journals and, does not provide information on the latest development in the area of their research interest.

The use of e-resources was fairly significant, as it accounted for only (4.4%). This finding is similar to that of Jacobs (2006) and Sam (2008) where they reported the non-utilization of e-resources inspite of the abundant resources on the net. This is really very surprising from Veterinary Scientists especially, in this era of information technology -driven society because by their nature, natural scientists tends to go for the most current information material in their information searching activities hence the need to consult web resources as these resources are the best sources in terms of currency.

A total of 809 authors were found to have published in the journal within the study period. Of this number, the year 2008 edition had the highest number of authors (23.1%) that contributed to the journal. that published within the study period. By institutional affiliations, Universities had the highest (80.2%) contributors. These findings are in agreement with that of Sam (2008). This is not surprising because it is consistent with the “publish or perish” syndrome associated with academics. Apart from this, it could be because universities are centers of teaching, learning, research and community services hence the high rate of publications of all kinds and manners emanating from there because they need to publish the results of researches carried out or conducted in the universities.

From the analysis, there was a high level of collaboration among the authors. Over 99.% of the articles were of joint authorship. This finding corroborates that of Okon et al (2014) and Aliyu and Yusuf (2016). The result was a reflection of the fact that most scientists and medical practitioners always work in a team (Team-work), hence the high collaboration in their researches. However, collaboration between local and foreign authors was very minimal as observed by Sam(2008) in his study of Ghana Library Journal. This may be due to the fact either the journal is not visible globally to other veterinary scientists or that there is less contact and collaboration in the areas of teaching and research between Veterinary Scientists and their counter parts from the other side of the globe.

## Conclusion

This study has established that Bibliometric study on a single journal can effectively be used by librarians and other information providers or managers to evaluate journals they may be thinking of subscribing. The results of such researches can vividly tell about the quality of journals articles published, the reputation of their authors and the consistency in its publication

## Recommendations

Based on the findings of this study, the following recommendations are made.

1. Sokoto Journal of Veterinary Sciences (SJVS) should try to maintain its consistency in the publication as revealed by the study. This is proper because sciences, and by inference medical sciences, is a borderless and transnational activity.
2. By their nature, science journals tend to publish more of empirical research results at the detriment of other researches. It is therefore, recommended that SJVS should consider accommodating articles other than empirical researches for publication such as reviews, educational researches among others.
3. Collaboration between local and foreign authors should be encouraged by the journal.

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