

AN EMPIRICAL INVESTIGATION OF THE DETERMINANTS OF RESEARCH PRODUCTIVITY AMONG MEDICAL LECTURERS IN FEDERAL UNIVERSITIES IN NORTH-WEST NIGERIA

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Abstract

This study was carried out to empirically investigate the research productivity among medical lecturers in federal universities in North-West Nigeria with a view to find out how individual and institutional factors affect scholarly productivity. A quantitative methodology employing a descriptive correlational research design was used. The population of the study comprises 775 medical lecturers teaching in the five operational medical colleges in Federal Universities in North-West, Nigeria. A total of 264 respondents participated and 209 copies were retrieved and found usable yielding a 79.2% response rate. A questionnaire was used as the instrument for data collection and was validated and pilot-tested with a reliability coefficient of 0.86 using Cronbach's Alpha. Data were analyzed using frequency, percentages, mean and standard deviation. Findings reveal that medical lecturers in the surveyed federal universities demonstrate a relatively high level of research productivity. This is shown by strong performance on important measures like book chapters, co-authored textbooks, postgraduate supervision, research grants, ongoing research initiatives, community service, citation visibility, and teaching duties. Together, these determinants show the importance of being actively involved in collaborative scholarship, keeping up with research, and having an impact on academia. The study recommends that medical lecturers should have more structured research assistance, better ways to get financing, ongoing training, and stronger ways to collaborate together to boost research output and make them more competitive on a worldwide scale.

Keywords: Research productivity, Medical lecturers, Determinants, Federal universities, North-West Nigeria.

1.0 Introduction

Research productivity serves as a central indicator of academic success and institutional efficacy at institutions globally. It indicates the degree to which academic personnel produce new information via scholarly publications, research funding, innovations, conference presentations, supervision of postgraduate students, and other research related activities.

Okendo (2018) stated that “research productivity refers to the work that has been researched upon and published in journals, book chapters, monographs, articles, technical reports, bulletins, conference papers, working papers, short communication papers, patents, and standards.” In universities, research productivity serves as a criterion for the promotion and professional recognition of academic staff medical lecturers inclusive, as well as a significant factor influencing institutional ranking, prestige, financing opportunities, and contributions to national and universal growth (Bai, 2022). Thus, improving research productivity has emerged as a vital issue for higher education systems, especially in developing countries like Nigeria.

In the medical and health sciences, research productivity is essential as it directly influences the quality of healthcare delivery, medical education, and evidence-based clinical practices. Medical lecturers are expected to conduct extensive research addressing critical health concerns, encompassing communicable and non-communicable illnesses, maternal and child health, mental health, antimicrobial resistance, cancer, and the improvement of health systems (Aina & Oyedokun, 2023). The quality and quantity of research outputs produced by medical lecturers therefore affect their academic standing and their efficacy in improving public health outcomes.

However, although the expanding corpus of studies regarding research productivity in higher education, numerous deficiencies persist. Most current research has focused on publication counts, promotion outcomes, and institutional rankings, neglecting a systematic analysis of the individual and institutional factors that affect research productivity of medical lecturers. Research productivity is recognised as pivotal for academic advancement, healthcare enhancement, and national development; nonetheless, insufficient emphasis has been placed on comprehending how contextual elements influence productivity in medical institutions.

Moreover, a significant portion of the empirical evidence is derived from rich countries, with a scarcity of context-specific studies concentrating on emerging nations, especially Nigeria. Existing research within the Nigerian university system has primarily focused on central issues such as academic performance, funding limitations, and infrastructural difficulties. However, it has inadequately offered a thorough empirical examination of the factors influencing research productivity among medical lecturers in federal universities in North-West Nigeria. This gap highlights the necessity for a targeted, contextually responsive inquiry to produce knowledge that may guide policy, institutional strategies, and professional development efforts in medical education.

2.0 Literature Review

The research productivity of medical lecturers is affected by a mix of personal and institutional factors. Scholars coincide on its significance for academic progression and institutional growth; yet, there is no definitive agreement on the principal factors. These different points of view show gaps in both theory and practice, especially in federal universities in North-West Nigeria. Popoola (2019) asserted that publication output significantly influences the productivity of academic staff. This shows that publication output enables medical lecturers to share insights, demonstrate academic scholarship, gain recognition for creative thinking, and finally develop a reputation for expertise in a speciality area. Publication output partly determines both local and international recognition and respect for medical lecturers and academic institutions generally. In any field of specialisation, it provides current information for growth, progress, and a better society.

Similarly, Bassey *et al.* (2018) observed that publication output is very significant in the lives of academic staff; hence, their promotions are almost entirely dependent on it. From the foregoing, it is obvious that publication output not only influences the career development of medical lecturers but also attracts both local and global attention to academic institutions. Such attention could be in the form of financial grants, partnerships, and research collaborations. In another development, Debowski (2016) reports that early career academics' productivity may be affected to such an extent that some fail to produce publishable works after their initial appointment as faculty members. This could be due to factors such as role overload, a lack of research networks, low credibility, and inadequate knowledge about university structure and culture.

Similarly, medical lecturers are diverse in their research abilities, opportunities, behaviours, and most importantly their research outputs. The quantity of publications output of medical lecturers, according to Popoola (2019), could be measured by counting the number of journal articles, technical reports, papers in conference proceedings, books, or chapters in books published over a period. Majority of the methods for measuring research productivity involve measuring the number of journal articles published.

Accordingly, research productivity has been mentioned in several pieces of literature relating to higher education. The most common approach is bibliometric, a research method using quantitative analysis to measure research output and impact within a given subject or discipline (Macauley *et al.*, 2015). Measuring institutional research outcomes with the use of bibliometric indicators is also an activity with a long tradition. The most commonly used

measure of individual and departmental research productivity is the number of faculty publications in selected outlets such as academic journals, counts of conference papers, accredited journal publications, and books (Porter & Umbach, 2011).

The reviewed literature indicates that research productivity is mostly assessed using bibliometric and quantitative methods, mainly through the enumeration of publications including journal articles, conference papers, books, and technical reports. However, disparities in human capability and institutional backing result in fluctuations in productivity levels. Despite significant global studies, there is a paucity of context-specific empirical evidence about the factors of research output among medical instructors in federal universities in North-West Nigeria. This study offers quantifiable, context-specific evidence to fill this void and enhance discussions around academic output in Nigerian higher education.

3.0 Research Objective

The main objective of this study is to empirically investigate the research productivity among medical lecturers in federal universities in North-West Nigeria.

4.0 Methodology

In an attempt to achieve the objectives of this study, a quantitative research approach was adopted. The study population comprises 775 medical lecturers teaching in the five operational medical colleges in Federal Universities in North-West, Nigeria namely; Ahmadu Bello University Zaria, Bayero University Kano, Usmanu Danfodio University Sokoto, Federal University Dutse, and Federal University Birnin Kebbi respectively. The questionnaire was used to collect quantitative data from medical lecturers. The structured and partial unstructured questionnaire was validated and pilot-tested, yielding a reliability coefficient of 0.86 using Cronbach's Alpha. The researcher used Yamane (1967) formula for calculating sample size and 0.05 margin of error to arrive at 264 respondents. A random sampling technique was employed to all 264 medical lecturers. A total of 209 questionnaires were retrieved, representing a response rate of 79.2%, the collected data were analyzed using simple frequencies, mean and standard deviation.

5.0 Data Presentation and Analysis

5.1 Response Rate

Out of 264 questionnaires distributed to medical lecturers, 209 were returned yielding 79.2% response rate.

Table 1: Questionnaire response rate

Response rate	Frequency	Percentage %
Number of Administered questionnaire	264	100%
Useful questionnaire	209	79.2%
Questionnaire not Returned	55	20.8%

The Table 1 indicated that out of the 264 copies of questionnaires administered to the respondents, 209 (79.2%) copies were duly completed and returned and usable. While 55 (20.8%) were not returned despite frequent attempts/visit to the surveyed medical colleges. This shows that there is a high return of 79.2% which is significant enough for analysis in this study. This corroborates with study of Mugenda and Mugenda (2013) who recommended that for generalization, a response rate of 50% is adequate for analysis and reporting, 60% is good and a response rate of 70% and over is excellent.

5.2 Determinants of Research Productivity

Respondents were requested to identify the key factors that foster and augment the research productivity of medical lecturers in Colleges of Health Sciences at their respective universities. These factors were deemed essential in influencing the degree of lecturers' involvement in academic pursuits, including publications, grant acquisition, conference attendance, postgraduate supervision, and other research-related outputs. Table 2 shows the answers that the medical lecturers gave about these factors.

Table 2: Level of Research Productivity of Medical Lecturers in Federal Universities in North-West, Nigeria

S/N	Variables Statements	16 above VHL		11-15 HL		6-10 LL		1-5 VLL		FX	X	SD	Decision
		F	%	F	%	F	%	F	%				
1	Number of published textbooks as single author	33	15.8	32	15.3	15	7.2	12	61.7	387	1.85	1.251	Low
2	Number of chapters-in-book	38	18.2	37	17.7	27	12.9	10	51.2	424	2.02	1.098	Low
3	Number of articles in learned journals	97	46.4	55	26.3	25	11.9	32	15.3	635	3.03	1.001	High
4	Number of editorial works	21	10.0	47	22.5	51	24.4	90	43.1	417	1.99	1.038	Low
5	Number of co-authored textbooks	89	42.6	54	25.9	35	16.7	31	14.8	619	2.96	1.160	High
6	Number of papers published in conference proceedings	21	10.0	62	29.7	69	33.0	57	27.2	465	2.22	1.142	Low
7	Number of students supervised	70	33.5	62	29.2	28	13.4	49	23.4	571	2.73	1.324	High
8	Number of collaborative researches	96	46.0	57	27.2	23	11.0	33	15.8	634	3.03	1.110	High
9	Number of research grants	33	15.8	61	29.1	88	42.1	27	12.9	518	2.47	1.184	Low
10	Number of curriculum development	25	12.0	41	19.6	44	21.1	99	47.4	410	1.96	1.115	Low
11	Number of ongoing researches	74	35.4	59	28.2	42	20.1	34	16.3	591	2.82	1.055	High
12	Number of technical reports	44	21.1	46	22.0	33	15.8	86	41.1	466	2.22	1.188	Low
13	Number of community services	73	34.9	61	29.2	36	17.2	39	18.7	586	2.80	1.048	High
14	Number of citation indices (i.e. Google scholar, Scopus, EBSCOhost, Web of science etc.)	65	31.1	74	35.4	56	26.8	14	6.6	608	2.99	1.171	High
15	Number of courses teaching	64	30.6	58	27.8	38	18.2	49	23.4	555	2.65	1.111	High
Weighted Mean											2.51	1.065	

Key: VHL = Very High Level, HL = High Level, LL= Low Level, VLL = Very Low Level, N= 209 number of retrieved questionnaire, X= Mean
SD= Standard Deviation. Decision - Weighted average 37.74/15 (Weighted mean=2.51)

Table 2 revealed that out of the fifteen items listed on level of research productivity of medical lecturers in Federal Universities in North-West, Nigeria; eight items produced mean scores which were above the weighted mean of 2.51 and S.D of 1.065. These items include item 3: Number of articles in learned journals ($\bar{x}$ =3.03; SD =1.001), item 5: number of co-authored textbooks ($\bar{x}$ =2.96; SD =1.160), item 7: number of supervisees ($\bar{x}$ =2.73; SD =1.324), item 8: Number of collaborative researches ($\bar{x}$ = 3.03; SD =1.110), item 11: number of ongoing researches ($\bar{x}$ =2.82; SD =1.055), item 13: number of community services ($\bar{x}$ =2.80; SD =1.048), item 14: number of citation index i.e. Google scholar, Scopus, EBSCOhost, Web of science etc. ($\bar{x}$ =2.99; SD =1.171), and item 15: number of courses taught ($\bar{x}$ =2.65; SD =1.111).

On the other hand, six items produced low mean scores which were below weighted mean of 2.51 and S.D of 1.065. These items include items 1,2,4,6,9,10 and 12. Hence, there is low level on number of published textbooks as single author, low level on number of chapters-in-book, low level on number of editorial works, low level on number of papers published in conference proceedings, low level on number of research grants obtained, low level on number of curriculum development, and low level on number of technical reports.

However, this study finding revealed that out of the fifteen items listed, eight items produced mean scores which were above the average decision benchmark of 2.51 and S.D of 1.065, and seven items listed produced low mean scores which were below the average decision benchmark of 2.51 and S.D of 1.065, this shows that medical lecturers demonstrate reasonable strength in core academic and collaborative research activities with notable weaknesses in grant acquisition. The overall finding indicates a moderate to high level of research productivity among medical lecturers in Federal Universities in North-West Nigeria.

6.0 Discussion of Findings

Based on the data collected and analyzed, the findings reveal that medical lecturers in federal universities in North-West Nigeria demonstrate a high level of research productivity in the areas of number of chapters-in-book, number of co-authored textbooks, number of supervisees, number of research grants, number of ongoing researches, number of community services, number of citation index i.e. Google scholar, Scopus, EBSCOhost, Web of science etc., and number of courses taught. This highlights that medical lecturers in federal universities in North-West Nigeria demonstrate a high level of research productivity. However, it's crucial to close the gaps in the productivity of medical lecturers, particularly in areas where they struggle, such as the quantity of single-authored textbooks published, the quantity of articles in scholarly journals, the quantity of editorial works, the quantity of conference proceedings papers, the quantity of collaborative research projects, the quantity of curriculum innovations, and the quantity of technical reports. This is an indication that despite productivity in general, the development of individual research independence and scholarly leadership among medical lecturers in North-West Nigeria is insufficient.

The findings support Udo and Asuquo's (2020) assertion that significant engagement with co-authored works and research supervision is particularly notable, indicating robust collaborative relationships and a persistent dedication to academic mentoring and capacity development. The authors noted that the existence of multiple citation indices as productivity metrics reflects the importance of visibility and academic impact, which are increasingly prioritized in Nigerian academia. Similarly, this finding aligns with Bassey et al. (2018), indicating that universities create an environment conducive to research-oriented activities, provide academic staff with

equitable opportunities for research, and enhance government funding to support university research initiatives.

Furthermore, this study finding is contrary to the findings of Bai (2022), that the research productivity of 182 Chinese academics teaching English as a foreign language from 2014 to 2018 was relatively low, particularly in terms of the quality of their research. Consequently, the researcher synthesised the findings from the study and presented a framework for Chinese institutions and teaching English as some foreign language departments to enhance their teaching English as a foreign language academics' research capacity. Despite variations in disciplinary and country contexts, this international comparison is pertinent as it underscores the common global issues of reconciling quantity and quality in academic research. It emphasises the significance of institutional frameworks and governmental support in advancing research culture insights that might guide initiatives to bolster research autonomy and leadership among Nigerian medical educators.

Nevertheless, Nigerian institutions might enhance their output by emulating international models, thereby cultivating a more equitable and sustainable research ecosystem. Factors including restricted access to publishing support, absence of incentives, time limitations, and inadequate funding for research capacity building may account for these disparities (Aina & Oyedokun, 2023). Insufficient institutional policies promoting authorship and editorial engagement might reduce productivity in these essential areas. The identified limitations may hinder medical lecturers' capacity to contribute creative perspectives in their field and achieve recognition as prominent experts in their respective areas.

In conclusion, whereas medical lecturers in federal universities of North-West Nigeria demonstrate a high level of research productivity, focused initiatives are required to address the

disparities in individual scholarly output and leadership. By establishing organised support structures and utilising pertinent international practices, institutions can augment the depth and scope of research involvement among their academic personnel. This will enhance the institution's research reputation and significantly contribute to national and global knowledge economies.

7.0 Conclusion and Recommendations

The study conclude that medical lecturers at federal universities in North-West Nigeria are moderately to highly productive researchers, especially when it comes to publishing in journals, writing papers with other people, supervising graduate students, doing research together, and getting their work cited. This shows that medical lecturers are actively involved in important academic and scholarly activities that help the institution improve and knowledge increase.

However, there are clear deficiencies in areas like textbooks with only one author, editorial contributions, conference proceedings, curriculum development, technical reports, and getting research grants. These shortcomings indicate constrained research autonomy and financial resources. In general, productivity levels are good, but to improve scholarly leadership and long-term research success in medical fields, focused institutional support and strategic interventions are required.

Based on the findings of this study, the following recommendations were drawn:

1. Federal universities in North-West Nigeria ought to organise research support departments in Colleges of Health Sciences to help with writing grants, editing, mentoring, and giving advice on how to be published, especially for new medical lecturers.

2. University management and the appropriate government organisations should give more internal research grants and make it easier for researchers to find funding opportunities in the US and throughout the world.
3. Institutions ought to implement rules and incentives that promote single-authored publications, editorial involvement, curricular innovation, and technical report writing to cultivate academic autonomy and leadership among medical lecturers.
4. Institutions should work to make multidisciplinary and international research relationships even stronger to improve exposure, citation effect, and global competitiveness.
5. To improve overall research competency, institutions should make continuous training programs that focus on research technique, sophisticated data analysis, academic writing, publishing ethics, and bibliometric visibility.

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