

## REDEFINING EXCELLENCE IN BIOMEDICAL RESEARCH: THE PLACE OF AIPM IN A 21ST CENTURY NIGERIAN TEACHING HOSPITAL

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### INTRODUCTION

The driving force for biological science is the investigation of biological processes and the causes of disease through careful experimentation, observation, laboratory work, analysis, and testing. Doctors and scientists keep exploring ways to utilise the knowledge from biomedical science to mitigate and cure disease through continuous research work. The impact of these research works is dwarfed without appropriate and well-reviewed publications. Publication of research findings harnesses the productivity of the researchers and enhances the quality of teaching and career development that can influence the production of graduates and specialist doctors alike that can translate acquired knowledge to socioeconomic development. Developed nations such as the United States of America and the United Kingdom continue to utilise the benefits of biomedical sciences and research to build the capacity of their economies and development in all sectors, hence the need for more financial investment and collaboration with research institutions.

Annals of Ibadan Postgraduate Medicine (AIPM) Journal, an arm of the Association of Resident Doctors, University College Hospital Ibadan, is noted for bridging the gap between the activity of biomedical research and publication through its peer-reviewed system and open access journal. The presence of AIPM in 21st Century Nigeria Teaching Hospital has become a reference in excellence in biomedical research. This is defined on the premise of regular production of at least two issues per year of a peer-reviewed medical journal of international standard, featuring high-quality, informative, educative, and current medical and medical-related topics.

Biomedical research entails basic experimental medicine, which encompasses the investigation of biological processes and causes of disease to help the body of knowledge in the prevention and cure of disease conditions with practicable product invention.<sup>1</sup> Through ongoing study, doctors and scientists continue to look for ways to apply the understanding of biological science to prevent and treat illness.<sup>2</sup> The influence of these research projects is negligible in the absence of relevant and deserving publications.<sup>3</sup> The dissemination of research discoveries fosters and maximises research productivity; improves career

development and instruction, which can impact the generation of graduates and specialist doctors who can apply their expertise to socioeconomic advancement as demonstrated in advanced nations.<sup>4,6</sup> Biomedical research is institutional<sup>5</sup>, and the University College Hospital, as an institution, provides the right setting for undergraduate medical students and postgraduate resident doctors to engage in effective biomedical research through its training. The research angle of the training is apparently supported by an arm of the Association of Resident Doctors: Annals of Ibadan Postgraduate Medicine (AIPM) Journal through encouraging the atmosphere for biomedical research, scientific writing, and publication, hence promoting and sustaining the practice of evidence-based medicine among doctors and other biomedical research scientists.<sup>7</sup> It also provides a medium through which today's biomedical research scientists can be adequately equipped to meet the challenges of the 21<sup>st</sup> century.

It is well known that good research has a positive impact on teaching, learning, and the quality of graduates. Excellent research work is incomplete without publishing. The act of research publication is what calls for excellence that births the benefits of biomedical research, namely, increase and preservation of knowledge base in mitigation of diseases, continuous training in the university system, ranking among universities, incitement for research grants, enhancement of job satisfaction, and career progression. Worthy to note is the peculiarity of the Nigeria experience, where though her population is over 200 million, with at least 170 universities and 43 medical schools, poor health indices still abound.<sup>5</sup> The foregoing cannot be entirely separated from poor biomedical scholarship arising from failures associated with inappropriate research publishing.<sup>8</sup>

### Impediments to Excellent Biomedical Research

There is no doubt about the constraining factors such as paucity of funds and apathy towards research as it is experienced in some parts of the world; the sub-Saharan region with Nigeria as a case study.<sup>4,9</sup> This was not always the case, as the University of Ibadan was noted to be 4th among other Commonwealth nations in medical education and research as far back as the 1970s.<sup>5</sup> At the time, the Federal Government of Nigeria

funded very few universities; such institutions were well-equipped, with highly motivated academic staff. The situation changed for the worse during the ensuing decades of military rule (the 1960s to the end of the 1990s).<sup>5</sup>

Notwithstanding the financial impediment associated with the process of research, the creation of AIPM in December 2023 has provided a soft landing for Resident Doctors to effectively carry out their research and publish in her reputable journal. The presence of AIPMed does not only provide residents and scientists an avenue for publication of biomedical research works, but it also makes its contribution to the medical citadel of learning by creating the ecology for cross-ventilation of medical ideas at a highly subsidised rate for its members through its bi-annual publication indexed with PubMed and its attendant advantages.

### **The Place of AIPM**

AIPM has a pivotal role in academic medicine and biomedical science as it provides the platform for Residents, Doctors, and Scientists the opportunity to teach the next generation of doctors, provide up-to-date and comprehensive care to patients, and opportunities for further research.

Beyond carrying out biomedical research, publication of the research works is important. Some benefits accruing to publishing are associated with better ranking among universities globally. Justification for more funding and support for research investigations and a guarantee of subsequent research funding for the sustainability of the institute's mandate and organisational goals. Likewise for career progression and collaboration between institutions.<sup>3,11</sup>

Excellence in biomedical research in the Nigeria teaching hospital is being redefined with the presence of AIPM on the premise of her mission and vision, which entails regular production of at least two issues per year of a peer-reviewed medical journal of international standard, featuring high-quality, informative, educative, and current medical and medical-related topics and issues. AIPM Journal in the future will no doubt become one of the journals with the highest impact factor ranking medical material.<sup>7</sup>

The peer review system in place in AIPM has enabled excellent publication of biomedical papers over the years as it weeds off dubious articles. Additionally, this has led to the reduction in unethical practices, such as corrupt research works such as salami slicing, plagiarism, duplicate publication, fraud, and ghost authors, thereby leading to beneficial outcomes for patients, physicians, and the community at large.<sup>3,10</sup>

### **The Research Impact of AIPMed**

The background of AIPM places it in a position to deal decisively with the problem of visibility of biomedical research as seen in many Nigerian teaching hospitals. Many times scholastic research work does not receive adequate benefits of visibility in the Nigerian medical training setting in that it is not published by a renowned journal like AIPM. Academic research visibility is about where you are publishing and who is citing your work. It is usually measured using the article impact factor and the number of times that citations are made for articles that are published by the journal. AIPM is reputable for its standard as it is indexed with PubMed, and it is an open access journal providing the needed characteristic for visibility of its published articles. Given the foregoing, AIPM provides a better platform among others in meeting with challenges faced by a number of similar journals in the Nigerian setting.

AIPM, as a peer-reviewed journal, has a good mechanism for checking for errors like plagiarism and content clarity for appropriate readership before publishing, hence boosting the visibility of articles for the benefit of the generality of the academic, social, health, and political communities. Citation of biomedical research works published by AIPM is more positioned, given its open access and digital development. The latter provides for better data storage and prevention of plagiarism. The gains of citation are linked to promotion in academics and more possibilities for collaboration with institutions on similar research thoughts and publications.<sup>11</sup> This also gives room for adequate requirements for further research and grant applications. There is hope for collaboration with the university library to have it in her digital space for more coverage.

Another productivity score for AIPM is her open access operation. Open access depicts the process of making scholarly material obtainable to any reader via the Internet at no financial cost.<sup>12</sup> Here there is no legal restriction to accessing articles on the site. The benefits are boundless, as it brings to the fore increased visibility to journals and articles with associated increased impact factors for the journal. Other attendant benefits are more academic promotion and honour, locally and internationally, for the researchers at a speedy rate. An expanded knowledge base for effective disease management as well as the social and economic development of the nation is effected by the free access system. It is important to note that even though open access comes with numerous benefits, it does not come cheap for the publishing journal; hence, there is a need for continual funding to keep it afloat.<sup>12</sup>

## **Influencing Factors for Research Productivity and Publication**

Research productivity is a measure of the number of scientific and biomedical articles published by academics in peer-reviewed journals emanating from universities and/or research institutes in any given nation. In recent times, it has been found that research work done in collaboration with international scientists from the USA, UK, South Africa, and others has resulted in more productive publications from the University of Ibadan Community.<sup>4</sup> Invariably, this led to a high-ranking of the University of Ibadan significantly among her contemporaries in the Nigerian state. In the University College Hospital, Ibadan, several journals have emerged: Prime med Journal, African Journal of Medicine, Medical Sciences Archive of Ibadan Medicine Journal, Dokita, and presently AIPM. However, AIPM stands as the leading journal with more international presence and impact factor among the others.

It is pertinent to note that the rate at which biomedical research works are being done in most of our medical training institutions does not translate into commensurable productivity in policy making, prevention of infections and disease, commercialised products, creation of jobs, and improved standard of living. Even though there are several publications, most of the published works are not done in peer-reviewed and high-impact journals. It is therefore not enough to perform research and publish the outcome; it is important that the outputs translate beyond academic or research exercise. This is because, when properly harnessed, research productivity can improve the quality of teaching and career development that can influence the production of graduates and specialist doctors alike that can translate acquired knowledge to health and socioeconomic development. The latter is a path that AIPM is towing. Hence, there is more to be done both at the state and federally owned medical teaching institutions by setting up a functional research council that will oversee research impacts, publication, and productivity in Nigeria and encourage research collaboration at national and international levels.

This could be done through the engendering of multidisciplinary research and intellectual exchange based on the field of biomedical science and technology classification. A case of reference was the collaboration between Nigerian scientists and researchers at the Department of Epidemiology, Helmholtz Centre for Infection Research, to produce a mobile software named Surveillance, Outbreak Response Management, and Analysis System (SORMAS), which has so far been put into use in 15 out of 36 states in Nigeria.<sup>4</sup> An invention such as

SORMAS will help not only in the preservation of biomedical data in our medical institution but will bring to fore real-time collection and sharing of data on infectious diseases between medical specialists. The foregoing will breed more research visibility and impact in the long run. Creating a national publication database among the teaching hospitals in Nigeria will be a plus, as it is seen in other countries like Australia and Malaysia, where there is a central database for the collection and storage of publications of research work from the universities. This will no doubt foster collective preservation of scientific and biomedical research for the greater good of national development in biomedicine and technology.

Another thought line is for the government to create a program that will engender and measure research excellence as developed in the UK<sup>13</sup> and excellent research, like in the case of Australia<sup>14</sup>, through its arm, the Federal Ministry of Technology and Science, in collaboration with the Federal Ministry of Health.

## **The Future and Conclusion**

The Annals of Ibadan Postgraduate Medicine Journal will continue to promote advances in medical science and campaigns to ensure these are converted into healthcare benefits for society.<sup>6</sup> This can be further enhanced with more collaboration with research institutes, reputable local journals, and through government encouragement. A nationwide study on determinants of research productivity, accessibility to journals, staff, and student exchange programs with universities and research institutes in developed countries is an area to explore for excellent biomedical research work to be more evident in our citadel of medical training.

Provision of subvention to publishing institutions as AIPM will also encourage more research interest and delight in publication for resident and specialist doctors and scientists in Nigerian settings, which will subsequently result in further research productivity and positive developmental impact for the nation.

The place for more collaboration and interface with international biomedical research institutions is a quest to be explored for more beneficial impact in the 21st century Nigeria Teaching Hospital. There is a need to re-check and seek more favourable government policy in line with the Federal Ministry of Health and Ministry of Science and Technology as concerning biomedical research and publication. More so, the private multinational organisations support is invaluable in this course.<sup>2</sup> There will be a need for a digital repository of biomedical papers in the Nigerian teaching hospital

libraries, as this will help in bringing about excellent preservation of data, better citation, and visibility.<sup>15</sup>

### Conflict of Interest Statement

The authors affirm that they have no conflict of interests to declare.

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