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To cite this article: Charles Oluwole Omolase, AA Egberongbe, OO Komolafe, AA Olasinde, BO Omolase & OA Adeosun (2015) Practice of bio-medical research amongst doctors in Owo, South African Family Practice, 57:2, 112-115, DOI: [10.1080/20786190.2014.978104](https://doi.org/10.1080/20786190.2014.978104)

To link to this article: <https://doi.org/10.1080/20786190.2014.978104>



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Published online: 25 Feb 2015.



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## Practice of bio-medical research amongst doctors in Owo

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**Aim:** This study aimed at appraising the practice of bio-medical research amongst doctors working at Federal Medical Centre, Owo, Ondo State, Nigeria. Barriers to health research were also identified.

**Methods:** This study was conducted over a period of six months between June and November 2012 among different cadres of medical practitioners working at the Federal Medical Centre, Owo, Ondo State, Nigeria. One hundred respondents selected by simple random sampling technique were interviewed with the aid of a semi-structured questionnaire. Informed consent was obtained from each of the respondents. The information obtained included their bio-data, previous research training experience, and publication. Views of respondents on bio-medical research and barriers to health research were also sought. The data obtained with the aid of the questionnaire were collated and analysed with SPSS 15.0.1 statistical software version.

**Results:** A total of 85 out of the 100 medical practitioners that collected the questionnaire returned their filled questionnaire. The age range of the respondents is 25–59 years with a mean age of 36.55 years  $\pm$  8.4 years. The median age was 34 years, and the mode was 34 years. There were 71 males and 14 females. Most respondents (61; 71.8%) had training in research while the remaining 24 (28.2%) did not. Most respondents (66; 77.6%) had participated in research and few, 19 (22.4%), had not participated in research. Less than half of the respondents (41; 48.8%) had had previous research published, and more than half (43; 51.2%) had not had research published. Most respondents (79; 92.9%) believed that research helped in promoting medical practice. Lack of research funding was a major barrier to research (75; 88.2%).

**Conclusion:** Most respondents had participated in research. The majority of the study participants had training in bio-medical research prior to this study. There is a need for regular training of doctors in bio-medical research, and adequate funding should be provided for research.

**Keywords:** medical practitioners, Nigeria, practice, research

### Introduction

Research plays a very important role in the provision of health care. It is an essential component of training both at undergraduate and postgraduate levels. Research is systematic collection, analysis, and interpretation of data to solve problems.<sup>1</sup> It is a vital tool in the advancement of knowledge and enhancing progress. Health research is fundamental in establishing the scientific basis for clinical care.<sup>2,3</sup> Advancement in surveillance and management of diseases is largely dependent on the quality of bio-medical research.<sup>2</sup> Information obtained from research findings derived from clinical trials is incorporated into the practices of physicians.<sup>4</sup> Apart from improvement in medical knowledge, bio-medical research also enhances communication amongst physicians.<sup>4</sup>

The compelling need for evidence-based medicine has brought to the fore the importance of bio-medical research.<sup>2</sup> A wide gap exists between the realisation of the need for health research and its implementation.<sup>5,6</sup>

Practice of bio-medical research in the developing world is yet to reach an acceptable level. There is dependence of medical practice in the developing world on research findings from the developed world, and this has adversely affected management of some diseases. However, recently some degree of advances has been recorded in bio-medical research in the developing world.<sup>7</sup> Lack of expertise in research,<sup>8</sup> problems emanating from dissemination of research findings,<sup>9</sup> and incorporation of research

findings into policy formulation<sup>8</sup> have adversely affected bio-medical research in developing world. Failure of health policy-makers to utilise research findings in policy formulation may be born out of a lack of understanding of research findings and its applicability in the formulation of health policy.<sup>2</sup>

In view of the rapid changes in medical practice, there is a need for physicians to keep abreast of the latest developments in their practice through application of scientific principles.<sup>10</sup> Utilisation of research publication for the purpose of promotion at work is a stimulant for greater involvement of medical doctors in research.<sup>11</sup> However, the study location is not a teaching hospital where research publications are needed for the purpose of promotion. Thus in view of the last-mentioned fact, we decided to appraise the practice of bio-medical research in the hospital. Identification of barriers to bio-medical research is also imperative. To enhance the benefits of health research on care of patients, there is a need to identify and overcome barriers to bio-medical research.<sup>12,13</sup> The authors are not aware of similar studies in this hospital or in the South-Western part of Nigeria.

This study aimed at appraising the practice of bio-medical research amongst doctors working at the Federal Medical Centre, Owo, Ondo State, Nigeria. Barriers to health research were also identified. It is hoped that policy implications drawn from this study would guide policy formulators in introducing policies that would promote implementation of bio-medical research in this part of the world.

## Methods

This study was conducted over a period of six months between June and November 2012 among different cadres of medical practitioners working at the Federal Medical Centre, Owo, Ondo State, Nigeria. Ethical clearance was obtained from the Health Research Ethics Committee of the hospital prior to commencement of this study.

One hundred respondents selected by simple random sampling technique were interviewed with the aid of a semi-structured questionnaire. Informed consent was obtained from each of the respondents. The questionnaire was derived from modification of the study instruments (questionnaires) used in similar studies carried out by Sabzwari et al. in Pakistan<sup>2</sup> and Eze et al. in South-Eastern Nigeria.<sup>14</sup> The questionnaires were modified to suit the aims of this study and also to conform with the peculiarities of our own environment. The information obtained included their bio-data, previous research training experience, and publication. Views of respondents on bio-medical research and barriers to health research were sought. The data obtained with the aid of the study instrument (questionnaire) was collated and analysed with SPSS 15.0.1 statistical software version. Cross-tabulation was done as well as chi-square tests. Statistical significance was set as  $p \leq 0.05$ .

## Results

A total of 85 out of the 100 medical practitioners that collected the questionnaire returned their filled questionnaire.

The age range of the respondents was 25–59 years with a mean age of 36.55 years  $\pm$  8.4 years. The median age was 34 years, and the mode was 34 years. There were 71 males and 14 females.

The ethnicity of the respondents showed that 69 (81.2%) were Yorubas, 9 (10.6%) were Ibos, and the remaining 7 (8.2%) belonged to other ethnic groups. Most respondents, 65 (76.5%), were married and 20 (23.5%) were single. The majority of the respondents were Christians (76; 89.4%), and a few were Muslims (9; 10.6%).

The status of the study participants showed that 12 (14.1%) were consultants, 11 (12.9%) were resident doctors, and the remaining 62 (73%) were medical officers.

Years post qualification as detailed in Table 1 showed that 37 (43.5%) had working experience of <5 years.

Most respondents, 61 (71.8%), had training in research while the remaining 24 (28.2%) did not.

Less than half of the respondents (38; 44.7%) had postgraduate training, and more than half (47; 55.3%) did not have postgraduate training.

**Table 1:** Attitude of respondents to research

Attitude	Frequency	Percentage (%)
Promotes critical appraisal	80	94.1
Improves patients' care	79	92.9
Promotes understanding	79	92.9
Helps in promotion	75	88.2
Helps to change policy	75	88.2
Promotes cohesion	61	71.8
Enhances societal standing	57	67.1
Provides financial benefit	29	34.1

Most respondents (66; 77.6%) had participated in research, and fewer (19; 22.4%) had not participated in research.

Less than half of the respondents (41; 48.8%) had had previous research published, and more than half (43; 51.2%) had not had research published.

Less than half of the respondents (39; 46.4%) were involved in research presentation, while most of them (45; 53.6%) were not involved.

Most respondents (49; 59%) had a research mentor, while the remaining 34 (41%) did not.

Few respondents (21; 25.3%) had a research mentee, while the majority (62; 74.7%) did not.

Most respondents, 76 (90.5%), read journals, and the remaining 8 (9.5%) did not.

As detailed in Table 1, most respondents (79; 92.9%) believed that research helped in promoting medical practice.

As shown in Table 2, lack of research funding was a major barrier to research (75; 88.2%).

## Discussion

The majority of the respondents were of the Yoruba ethnic group. This finding is not surprising in view of the fact the study community is a Yoruba community. The fact that more Christians than Muslims participated in this study is in keeping with Christianity been the predominant religion in the study community. There were more males than females among medical practitioners in the hospital at the time of this study; this could readily explain the predominance of males in the study population. The busy schedule of medical practitioners could readily explain why a few of them did not return their filled questionnaire. It may imply that a few of them did not fill their questionnaires at all. However, the response rate of 85% is representative of the sample size. A qualitative study in future possibly in the form of focus group discussion would probably be more revealing and may add more quality to the literature on this subject matter.

**Table 2:** Barriers to research

Barriers	Frequency	Percentage (%)
Lack of funding	75	88.2
Lack of research skills	66	77.6
Lack of training	64	75.3
Lack of research awareness	64	75.3
Lack of statistical support	61	71.8
Lack of protected time for research	56	65.9
Bureaucracy and politics	54	63.5
Rejection of articles	48	56.5
Poor remuneration	47	55.3
Lack of mentor	46	54.1
Restricted literature access	37	43.5
Research is difficult	31	36.5
Restricted internet access	29	34.1
Restricted computer access	25	29.4

Bio-medical research plays a fundamental role in medical practice. It is a tedious task, and in view of the challenges involved it may be difficult for academic physicians to sustain the momentum of bio-medical research. It is interesting to note that most of our respondents had training in bio-medical research. The need for training in medical research cannot be overemphasised. Training in bio-medical research would help much in improving the quality of research as researchers through effective training would be able to apply relevant research methodology in their research. However, training in research can only be meaningful if researchers apply the knowledge acquired during such training sessions. There may be a need for the relevant authorities to carry out needs assessments in a bid to determine the areas of needs of researchers as they are likely to have varying levels of competence.

It has been reported that interest and involvement of clinicians in research has declined recently.<sup>15,16</sup> Previous studies have identified lack of quality time for research, financial constraint,<sup>15</sup> busy clinical practices,<sup>17</sup> and lack of interest<sup>18</sup> as major barriers to participation of clinicians in bio-medical research. In this study lack of research funding was also a major barrier to the practice of research. The funding needed for research often varies depending on the type of research and the location of the study. The expertise of researchers in data management also influences the cost of research as researchers who are not versed in statistics may have to pay a statistician and this would add to the cost implication of research. The demanding nature of medical practice remains a challenge for doctors as they hardly have quality time for health research. The need for quality time for research for doctors cannot be overemphasised as this would also promote research to a large extent. Arrangements could be worked out at departmental level where doctors could be given some time off their busy schedule so that they could have quality time to carry out research, which would go a long way in promoting medical practice.

Financial incentives and infrastructural support are key factors in the promotion of research.<sup>19</sup> Age and gender also tend to affect participation of doctors in bio-medical research. Younger clinicians tend to show more inclination towards research.<sup>20</sup> There is also less involvement of female physicians in bio-medical research.<sup>16</sup> Other reported barriers to bio-medical research include inadequate mentorship.<sup>5,6</sup> Mentors are needed to guide young researchers through their careers. Through the assistance of mentors, mentees can learn the rudiments of bio-medical research and sources of grants for implementation of research. There is a need for attention to be paid to mentorship in bio-medical research so that researchers can effortlessly navigate through the difficult terrain of bio-medical research.

Insufficient statistical support,<sup>2</sup> inappropriate remuneration,<sup>2</sup> restricted access to literature,<sup>2</sup> lack of interest,<sup>6</sup> and poor awareness<sup>21</sup> are some of the other identified barriers to bio-medical research. Some factors tend to stimulate involvement of doctors in bio-medical research. These factors include accessible resources, appropriate rewards, time allocation, and promotion at work.<sup>22,23</sup>

It is not surprising that less than half of our respondents had had research published as most of them were not working in research centres or teaching hospitals. It is often said that in the teaching hospitals, where doctors need scientific publication for their promotion, they either publish or perish. This assertion is born out of the need for scientific publication in order for academics to gain promotion, including those that are medical practitioners. However, in institutions where research publication is not needed for promotion, the authorities concerned may introduce

incentives and reward systems to enhance the practice of bio-medical research.

## Conclusion

Most respondents had participated in research. The majority of the study participants had training in bio-medical research prior to this study.

Lack of funding and research skills were major barriers to the practice of bio-medical research.

## Recommendation

- (1) There is a need for regular training of doctors in bio-medical research.
- (2) Adequate funding should be provided for research.
- (3) A bio-statistician should be employed by the authority concerned so as to assist researchers.

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Received: 03-05-2014 Accepted: 05-10-2014