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| RESEARCH ARTICLE

Barriers and Facilitators to Career Advancement of Women in Infectious Diseases of Poverty Research in Nigeria

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| ABSTRACT

Women scientists are commonly under-represented in all stages of their research career, thus resulting in fewer women in leadership and decision-making positions. The dearth of women scientists in infectious diseases of poverty research often results in a lack of diverse perspectives necessary for addressing gender dimensions and the burden of the diseases. This study, therefore, aimed to look at barriers and facilitators to the career growth of women scientists in infectious diseases of poverty research in Nigeria. It also aimed at highlighting the importance of positive actions such as research mentorship and adequate funding to ensure that women achieve their full potential in their research careers. This was a cross-sectional quantitative study conducted in six higher institutions in the South-West, North-Central, and North-West geopolitical zones of Nigeria. The institutions were the Nigerian Institute of Medical Research, Lagos, and its Kainji out station in Niger State; University Teaching Hospital, Lagos; Nigerian Institute for Trypanosomiasis and Onchocerciasis Research, Kaduna, University of Lagos; and the University of Ibadan. The study population was made up of 134 participants, which included fifty-six (56) women scientists in infectious diseases of poverty research within the age range of 20 to 50 years. They held a minimum of master's degrees in biomedical, socio-behavioral, and life sciences. Other participants were seventy-eight (78) graduate students and postdoctoral fellows in biomedical and life sciences, aged between 20 and 40 years. Family issues, which included balancing life and career and raising children, and gender stereotyping, such as having full responsibility for caregiving within the family, were some barriers to their career growth. Suggested facilitators to their career growth were adequate funding opportunities, including career re-entry grants, continuous and periodic participation in training, short courses, seminars, and webinars to enable them to stay up-to-date with the latest developments and techniques in their various research fields.

| KEYWORDS

Barriers, facilitators, career growth, women scientists, infectious diseases of poverty research.

| ARTICLE INFORMATION

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1. Introduction

Women constitute about half the global population and, therefore, half the potential human resource. However, their proportion in science is much lower than their proportion in the population (Malhotra, 2018). Not only are women scientists present in much smaller numbers than men at all levels, but their presence also decreases with increasing rank in the academic hierarchy, and they advance more slowly than men. Under-representation of women in science is a global occurrence that deprives women of opportunities in science. The socially constructed characteristics of gender differences between women and men also permeate the responses to infectious diseases (Sommerfeld *et al*., 2017). The gender gap widens as women progress in their academic

careers, with lower participation at each successive rung of the ladder from doctoral student to full professor, and there is generally a poor recognition of the way sexuality has shaped the work processes in academic institutions. But gender-responsive interventions are critical for the prevention and treatment of infectious diseases of poverty (Allotey and Gyapong, 2005). In many cases, compared to men, women tend to experience slow progression or/and high attrition from science research. Women find it hard to adjust to the work culture of science that requires long working hours, scientific mobility, and an unconducive work environment. Efforts to address infectious diseases have long been hindered by the failure to take into account the social aspects of these diseases, and gender is a fundamental dimension of the social aspects (Tolhurst *et al*., 2002). Infectious diseases of poverty are widespread and have a high prevalence among poor people. Their causative pathogens infect people living in persistent conditions of poverty, and the poor infected people are ceaselessly poor and infected. Whereas the dearth of women scientists in infectious diseases of poverty research often results in a lack of diverse perspectives that are essential to addressing gender dimensions and the burden of these diseases.

2. Literature review

Nigeria, a low-middle-income country situated in West Africa with approximately 206 million inhabitants in 2020, is the most populous nation in Africa and contributes almost a quarter of the global malaria burden and the fourth highest burden of tuberculosis, in addition to the high prevalence of pneumonia, diarrhea and other poverty-promoting chronic infectious diseases otherwise known as neglected tropical diseases, some of which are known to have a disproportionate effect on women and girls. Women's participation in global research is essential because it increases the prospect of women's specific health issues being addressed. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS) data (UNESCO 2019), less than 30% of researchers worldwide are women. Generally, very few women scientists occupy decision-making positions in higher institutions, thus making their role in prioritizing research agendas to be seriously restricted (Acker, 1990; Malhotra, 2018; Slovak, 2019). Over the decades, Nigeria has strengthened its institutional framework for science and technology and established a National Research and Innovation Council (NRIC) in 2014, whose objective is to mainstream women in science, technology, and innovation (STI) (Badaki, 2016). The policy by the NRIC provides incentives for women's participation in science, strengthens the political and institutional framework to promote women's participation in STI, and also encourages the promotion of gender balance in STI disciplines, which includes supporting women to participate and hold leadership positions in STI endeavors. The policy also includes providing scholarships and mentoring to increase female enrollment and retention in STI disciplines, as well as a framework to encourage and increase women's employment in STI sectors. Despite the progressive policy framework to support women scientists in Nigeria, they still remain under-represented in science and are faced with many challenges while pursuing their careers. These are partly due to some environmental and socio-cultural factors, including religious and cultural fundamentalism, as well as work-family conflict, societal bias towards women, gender insensitive organizational culture, and institutional policies that make it more difficult for women to attain leadership positions. In spite of various research grants and fellowship opportunities available worldwide, many young women scientists in Nigeria lack experience in putting up winning applications. Whereas their counterparts in developed countries fare better in the grants review process because they have greater access to many resources that shape the quality of their applications. As a result, Nigeria has a low scientific publishing record, while only a small number of its researchers are women. This study therefore aimed at identifying the barriers to the career advancement of women in infectious diseases of poverty research in Nigeria and highlighting ways to improve on their inequitable representation in this field.

3. Methodology

3.1. Study area

The cross-sectional quantitative study was conducted in six higher institutions located in the South-West, North-Central, and North-West geopolitical zones of Nigeria, namely the Nigerian Institute of Medical Research (NIMR), NIMR Kainji out station, Kainji, Lagos University Teaching Hospital, Nigerian Institute for Trypanosomiasis and Onchocerciasis Research, Kaduna, University of Lagos and the University of Ibadan.

3.2. Study population

A total of 134 participants were included in the study. They consisted of fifty-six (56) women scientists in infectious diseases of poverty research, aged 20 to 50 years, who held a minimum of master's degrees in biomedical, socio-behavioral, and life sciences, and seventy-eight (78) graduate students and postdoctoral fellows in biomedical and life sciences, aged 20 to 40 years.

3.3. Ethics

Participation was voluntary. Informed consent was obtained from all participants, and the data collected was kept confidential.

3.4. Data collection and analysis

Each respondent's history, demographic, and socio-cultural information, as well as their knowledge on the (i) barriers to their career advancement, (ii) resources that helped them to overcome such barriers, and (iii) resources that could have been most helpful to

overcome the barriers were obtained using a semi-structured, self-administered questionnaire. Data were analyzed using IBM SPSS Statistics 20.0.

4. Results

Major barriers, according to the respondents, were balancing family life and career (70.5%), raising children (62.3%), taking care of children and elderly parents (57.2%); long hours in the laboratory (49.7%), difficulty in obtaining replies in epidemiological studies from men about behavioral issues and habits (56.3%), comfort in asking questions in front of a group of predominantly male colleagues (49.3%), higher tax than male counterparts resulting in lower pay (47.5%), dearth of research grants and funding opportunities (80.3%), safety in travelling to remote field sites to conduct research (59%), non-availability of child care support at workplaces (57.4%), little or no access to mentors (55.7%), lack of role models (39.3%) and gaps in soft skills such as conference presentation, manuscript preparation and grant writing (37.7%) (Figure1).

Resources that helped them to overcome some of the barriers were personal friends and family members (62.3%), teachers, and advisors (33.3%). Also, resources that they suggested that could have been most helpful to facilitate overcoming the barriers were adequate research grants and training fellowships (73.8%); re-entry grants to enable them to take a break to look after their children and elderly parents (62.8%), institutional research mentorship programs (54.1%); membership of professional societies and networking (36.1%).

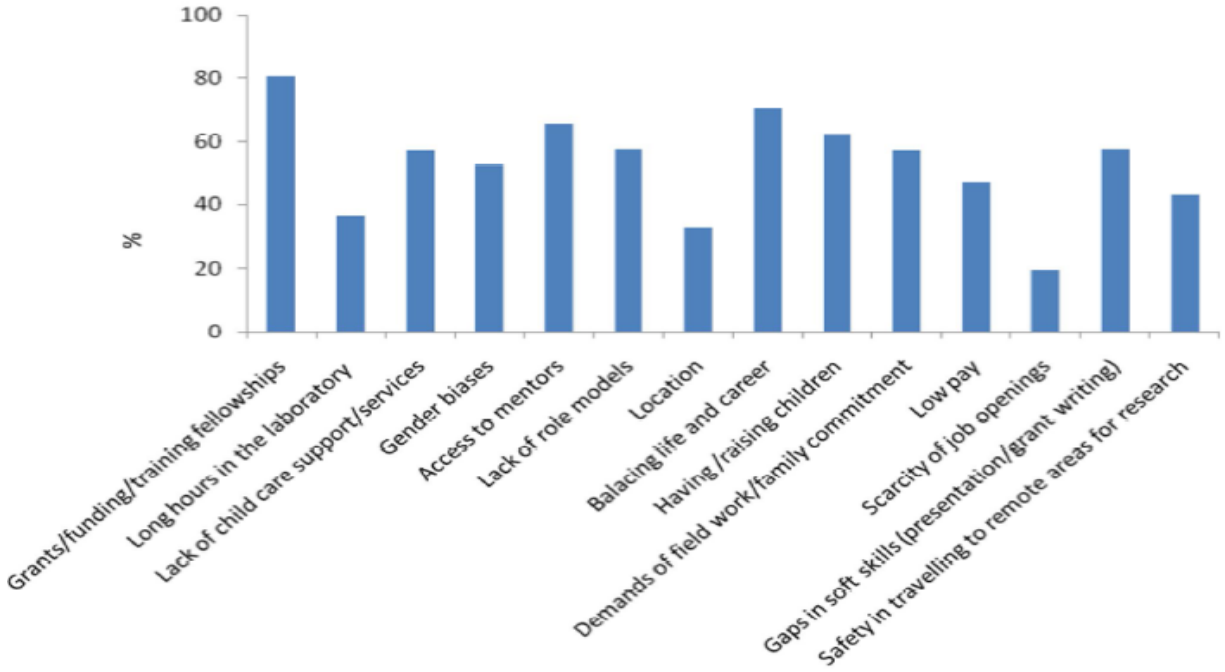

Figure 1: Some identified barriers to the career advancement of women scientists in infectious diseases of poverty research in Nigeria.

5. **Discussion**

Women are nurtured to be caregivers. Thus, they play a major role in the life of their families as a wife and/or mother. The responsibility to cater to the needs of the immediate and extended family (children, husband, and elderly) can be tedious and time-consuming, leaving little time for women scientists to address their career advancement needs, which leads to missing multiple opportunities for travel, collaborations, networking, and capacity building. The majority of the women emphasized the difficulty in achieving a work-life balance (70.5%) as they were skewed towards raising and caring for the family due to the socio-cultural values placed on women as homemakers in Nigeria. Some, therefore, chose to put their research careers on hold while supporting the growth and development of their families. Our findings support the report that women often struggle to find a balance between work and family life and that balancing work and caregiving responsibilities were more challenging for scientists in single-parent scenarios (Hansen and Slagsvold, 2015). Also, the many years and demands of intensive research and long hours in the laboratory required to establish an independent research career path often coincide with the period in which women tend to start families. This unavoidable drop in productivity (measured by the number of papers published and their impact) experienced during those years has a detrimental impact on women's grant success rates.

This study shows that women scientists in infectious diseases of poverty research in Nigeria have a lot of difficulties in devoting time to research. They are often subjected to family responsibilities that confine them mostly to domestic activities, thereby devoting less time to research-related activities. This supports previous findings (Sayer *et al*., 2005), which stated that women spent far more time on unpaid domestic work than men. Career disruptions due to caregiving responsibilities and the impact on track records are more challenging for women, thus making them seek alternative positions outside the academic sector. Other elements, including lack of role models and access to mentors, were also identified by the women as important detrimental factors to their career progression.

6. Conclusion and Recommendation

Adequate funding should be made available for women scientists to enhance their career growth and promote knowledge sharing, management, and retention. There should be several funding opportunities also, including career re-entry grants for postdoctoral women scientists to be able to re-establish their scientific careers after a continuous break due to family obligations. Capacity building, which involves continuous and periodic participation in training, short courses, seminars, and webinars, is necessary for women scientists to keep abreast of the latest developments and techniques in their fields. Besides, there is a need for the establishment of institutional research mentorship in Nigeria to enable senior and experienced scientists to mentor the younger ones, especially in the field of infectious diseases of poverty. In addition, family-friendly policies and practices in higher institutions are recommended in relation to the provision of child-care support for women scientists in Nigeria.

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References

[1] Acker, J. (1990). Hierarchies, jobs, bodies: A Theory of Gendered Organizations. *Gender and Society*, *4*(2). 139–158.

[2] Allotey, P. and Gyapong, M. (2005). *The Gender Agenda in the Control of Tropical Diseases: A Review of Current Evidence. Special Topics in Social, Economic, and Behavioural (SEB) Research 4. TDR/STR/SEB/ST/05.1*. Geneva, Switzerland: World Health Organization on behalf of the Special Programme for Research and Training in Tropical Diseases.

[3] Badaki, J. (2016). Supporting early-career women scientists in Nigeria; TDR, Newsletter. Available from: Https://tdr.who.int/newsroom/news/item/17-05-2016-supporting-early-career-women-scientists-in-Nigeria.

[4] Hansen, T. and Slagsvold, B. (2015). Feeling the squeeze? The effects of combining work and informal caregiving on psychological well-being. *European Journal of Ageing*, *12*(1). 51–60. Https://doi.org/10.1007/s10433-014-0315-y.

[5] Malhotra, C. (2018). The malaise of under-representation of women in science: the Indian story. *Current Science*, *115*(9). 1714–1723. Https://www.jstor.org/stable/26978487.

[6] Sayer, L. C. (2005). Gender, time and inequality: trends in women's and men's paid work, unpaid work and free time. *Social Forces*, *84*(1). 285–303.

[7] Slovak Liaison Office for Research and Development. Women in Science–How to increase women's participation in science? [Internet]. Slovak Liaison Office for Research and Development; 2017.

[8] Sommerfeld, J., Manderson, L., Ramirez, B., Guth, J. A. and Reeder, J. C. (2017). Infectious disease research and the gender gap. *Global Health, Epidemiology and Genomics*, 8;2: e9. Doi: 10.1017/gheg.2017.2.

[9] Tolhurst, R., de Koning, K., Price, J., Kemp, J., Theobald, S. and Squire, S. B. (2002). The Challenge of Infectious Disease: Time to Take Gender into Account. *Journal of Health Management*, *4*(2). 135-151. Doi: 10.1177/097206340200400204.

[10] UNESCO Institute for Statistics (2019). Women in Science (n◦55) [Fact sheet], UIS/FS/2019/SCI/55, UIS Publ., Montreal, QC, Canada. Available online at: Https://unesdoc.unesco.org/ark:/48223/pf0000370742.