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Is there a gender disparity in the residency training programme? Perspectives of trainees from a tertiary hospital in Nigeria

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Abstract:

INTRODUCTION: Universal health coverage in Africa is constantly threatened by inadequate workforce relative to the health needs of the population. These inadequacies may be worsened by gender disparities with female doctors worse affected. This study aims to highlight the gender distribution of residents across specialties, compare the residency programme experiences of male and female trainees and assess their perspectives towards gender disparities in training.

METHODOLOGY: This was a pretested cross-sectional online survey using Google Forms© involving all 208 University of Uyo Teaching Hospital (UUTH) residents with additional information from the hospital database. Data was analyzed using Stata version 16 with statistical significance $P < 0.05$. Ethical approval was obtained for the study.

RESULTS: Of 208 trainees, 128 (61.5%) were male while 80 (38.5%) were female. Departments had from 2 (ENT) to 29 residents (internal medicine). A response rate of 58.6% was obtained from 122 respondents (62.3% males). General surgery had a 100% male predominance while paediatrics had a 68% female predominance. Most respondents (72.9%) felt that the programme was quite stressful and 36.9% had considered leaving. Half of the trainees (50.8%) got maximum support from their families in the form of emotional and psychological care. While 73.8% acknowledged gender disparities, only 24.6% experienced discrimination.

CONCLUSION: The UUTH residency training programme is male dominated, especially in general surgery with training challenges experienced by male and female trainees. Gender disparities exist though only a quarter experienced discrimination. Existing disparities should be urgently addressed and gender mainstreaming promoted by training institutions.

Keywords:

Gender disparity, Nigeria, perspectives, residency, trainees

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Introduction

The World Health Organization policy of universal health coverage in Africa is constantly threatened by inadequate workforce relative to the health needs of the population.[1,2] Personnel availability alone is insufficient; equitable distribution and access by the population are essential to translate theoretical coverage to effective service.[1] Medical specialist training is essential to ensuring high-quality care and a popular career pathway amongst many young doctors. Despite similar numbers of medical graduates, females are under-represented in residency programmes, especially in surgery and related specialties.[3] Apart from the challenges of excelling in male-dominated

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specialties, the training of some female residents tends to be prolonged due to childbearing and other family commitments.

Gender inequality can be defined as the "legal, social and cultural situation in which sex and/or gender determine different rights and dignity for women and men, which are reflected in their unequal access to or enjoyment of rights, as well as the assumption of stereotyped social and cultural roles."[4] Even in developed countries, gender disparities exist in secondary and tertiary educational levels in fields such as science, technology, engineering and medicine.[5] It has been reported that gender inequality is a function of systemic factors unrelated to ability, such as bias, organisational constraints, culture and differential effects of work and family demands.[5] In sub-Saharan Africa, only 30% of the research output across the continent is done by women, thus highlighting significant disparities.[6]

It is worrisome that male trainees perceive disparities much less than female trainees and this may likely perpetuate the negative trend.[7] In Nigeria, while the proportion of female dental lecturers rose from 36.2% in 2003 to 42.5% in 2013, the figures for female dental residents fell from 45.8% to 40.8% over the same period.[8] A survey evaluating the residency programme in Nigeria's top tertiary hospital showed a marked male predominance of 73.4% compared to 26.6% for female residents.[9]

Thus, there is a need to identify and address any existing gender disparities within the Nigerian residency training programme. Findings from this study will also serve as a basis for promoting gender balance and mainstreaming in residency training in Nigeria. This study aims to highlight the gender distribution of residents across different specialties, compare residency programme experiences of male and female trainees and also assess the perspectives of residents towards gender disparities in training.

Methodology

We created an online survey using Google Forms© to assess and compare training experiences of the male and female residents, as well as their perception towards gender discrimination in the residency training programme. Information on the gender distribution of residents across various departments in the hospital was acquired from the hospital's Human Resource Department. The survey consisted of 32 questions covering sociodemographics and the different study objectives. It was pretested by five resident doctors across different departments and adjusted based on feedback received.

The survey was disseminated electronically on all the social media platforms used exclusively by the hospital's 208 trainees. To ensure participation by as many residents as possible, trainees from departments that showed poor participation in the online survey were subsequently approached to complete a self-administered paper version. Recommendations from the CHEERIES checklist for standardized reporting of internet surveys were used during the study.[10] Data was extracted to Microsoft Excel version 2016 and cleaned for errors. Information on each resident was strictly safeguarded and kept anonymous. Data was summarised as simple proportions with comparisons done using *t*-test for quantitative variables and Chi-square for categorical variables. Statistical analysis was done using Stata version 16 (StatCorp, Texas, USA) with $P < 0.05$ considered statistically significant. Institutional ethical approval was obtained before the study.

Results

The University of Uyo Teaching Hospital (UUTH) currently has a total of 208 trainees, of which 128 (61.5%) are male while 80 (38.5%) are female. The gender distribution across different departments is shown in Figure 1 with internal medicine and ENT departments having the highest and lowest number of residents, respectively. One hundred and twenty-two residents completed the study questionnaire giving a response rate of 58.6%. There were 76 males (62.3%) and 46 females (37.7%) with a mean age of 35.9 ± 4.8 years.

Most respondents graduated in the years 2009, 2010 and 2012 with most beginning residency in 2012, 2017 and 2019. Registrars accounted for 42.5% of participants while senior registrars made up the slight majority. Of the married trainees (73.8%), majority (61.5%) had non-doctor spouses while 38.5% had a doctor spouse. Trainees had a median of two children (range: 0–4) with an average of three dependants (range: 0–10).

Although males began residency training earlier than females (4.7 vs. 5.3 years), this was not

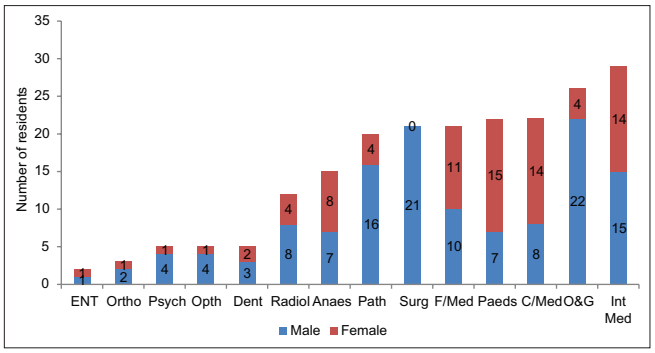

Figure 1: Gender distribution of University of Uyo Teaching Hospital residents by department

statistically significant (P = 0.14). Overall, only seven respondents (four females and three males) had completed their training over an average of 7.1 years. Nearly 70% (69.6%) of trainees were from Akwa Ibom state with surrounding states accounting for the remainder. Most trainees (45.8%) were registered for both postgraduate colleges although 83.6% of all trainees had no additional qualifications before or during residency.

Roughly two-thirds of residents (61.3%) had done outside postings with a median of 10 months and a range of 1–36 months. Most respondents (72.9%) felt that the programme was quite stressful and 36.9% had considered leaving. Table 1 compares the residency training experiences of male and female trainees. Half of the trainees (50.8%) got maximum support (scores of 5) from their families, mainly in the form of emotional and psychological care. Moderate levels of support (scores of 3) were obtained from friends (31.1%), colleagues (40.2%) and mentors (31.2%) while the lowest support (scores of 2) was received from the training institution (40.2%).

Job satisfaction, financial rewards and influence of mentors were the topmost factors residents considered when choosing a speciality while poor remuneration, unconducive environment and excessive were the most challenging issues faced. Table 2 shows the speciality choices, challenges and levels of support received. Regarding gender disparities, most (73.8%) agreed that it existed, although about a quarter (24.6%) had experienced any form of gender discrimination, as shown in Figure 2. Although 47 participants (38.5%) felt that females were more favoured in the programme, an equal number also felt that no gender was favoured. Most trainees reported that males were the majority in their departments (50.1%) but were open to employ both genders (71%) during future recruitment exercises.

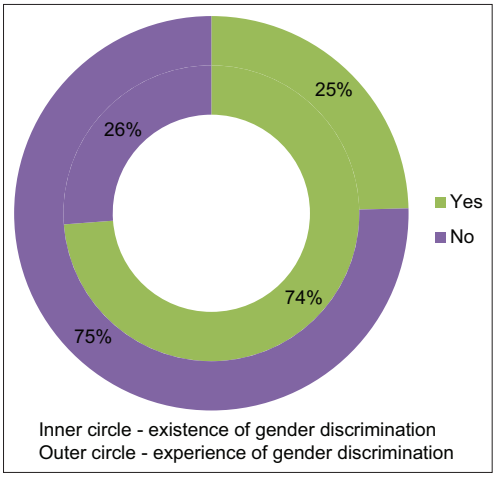

Figure 2: Existence and experience of gender discrimination

Discussion

The age and gender distribution of our trainees is similar to a previous report from the largest Nigerian tertiary hospital.[9] From our study, there was a predominance of male trainees overall (63%) similar to other studies from different parts of Nigeria.[9,11,12] This may reflect a bias in employment though it is also possible that fewer females actually apply for the residency programme.

Specialties such as internal medicine, obstetrics and gynaecology, paediatrics and surgery are quite popular amongst our trainees as in other institutions[9,12] though there is a growing interest in family medicine[13] also seen in our study. There were no female residents in general surgery and very few in obstetrics and gynaecology (11.5%) with this trend widely reported.[3,14] Reasons identified for this negative trend include reduced family time, heavy workload, requirement of physical effort and lack of female role models/mentors.[14] Trainees in this study identified job satisfaction, financial rewards and influence of mentors as the most important factors influencing their choice of speciality. Female predominance in paediatrics as shown in this study has been previously reported[12] though the reasons for this are unclear.

The response rate of 57.8%, although regrettably low, is reflective of poor participation in research by trainees as highlighted by Eze *et al*.[15] amongst trainees in Southeast Nigeria. Majority of residents were married (73.8%) mostly to non-doctors (61.5% vs. 38.5%) though how this may affect training is unclear. Female trainees started and finished training later than their male counterparts, and although this was non-significant, it is likely the result of childbearing and family commitments expected of them. Female trainees tended to have an extra child (2 vs. 1, $P < 0.01$) compared to male trainees, though there were no significant differences in number of dependants ($P = 0.2$). It is possible that in our environment, female residents get married and raise families earlier than their male counterparts.

Stress levels are quite high amongst both groups of UUTH residents as has been noted amongst trainees from other parts of the country[9,11,16] with a significant proportion considering quitting the programme similar to the report by Ogunsemi *et al*.[17] Residency stress is multifactorial and is worsened by outside posting requirements (training at a more equipped or accredited hospital usually outside the trainee's state of residence), most of which last for at least 12 months. Family support is essential, especially with regard to emotional and psychological care, with a need for improvement in various aspects of institutional support as recommended by Ogunnubi *et al*.[16] Residents identified poor remuneration, unconducive environment

Table 1: Comparision of training experiences of male and female trainees

Variable	Total, *n* (%)	Male, *n* (%)	Female, *n* (%)	*P*
Biodata				
Age (years), mean±SD	35.9±4.8	35.9±5.4	36.1±3.7	0.80
Sex	122 (100)	76 (62.3)	46 (37.7)	
Marital status				
Single	32 (26.2)	24 (19.6)	8 (6.6)	0.08
Married	90 (73.8)	52 (42.7)	38 (31.1)	
Trainee level				
Registrar	51 (42.5)	33 (27.5)	18 (15)	0.66
Senior registrar	69 (57.5)	42 (35.0)	27 (22.5)	
Residency training experience				
Delay before residency (years), mean±SD	4.9±2.3	4.7±2.2	5.3±2.6	0.14
Average residency duration (years), mean±SD	7.1±0.6	7.0	7.9±0.9	0.62
Colleges registered				
National	30 (24.8)	16 (13.2)	14 (11.5)	0.27
West Africa	36 (29.8)	26 (21.5)	10 (8.3)	
Both	55 (45.4)	33 (27.3)	22 (18.2)	
Outside postings				
Yes	73 (61.3)	49 (41.2)	24 (20.2)	0.16
No	46 (38.7)	25 (21.0)	21 (17.6)	
Rank residency stress from 1 (least) to 5 (most)				
1	2 (1.6)	0 (0.0)	2 (1.6)	0.39
2	5 (4.1)	3 (2.5)	2 (1.6)	
3	26 (21.3)	18 (14.7)	8 (6.6)	
4	52 (42.6)	34 (27.9)	18 (14.8)	
5	37 (30.3)	21 (17.2)	16 (13.1)	
Has the stress of residency made you consider leaving it?				
Yes	45 (36.9)	27 (22.1)	19 (15.6)	0.13
No	46 (37.7)	33 (27.1)	12 (9.8)	
Maybe	31 (25.4)	16 (13.1)	15 (12.3)	
Do you think gender disparity exists?				
No	32 (26.2)	24 (19.7)	8 (6.6)	0.08
Yes	90 (73.8)	52 (42.6)	38 (31.1)	
Have you ever experienced gender discrimination?				
No	92 (75.4)	65 (52.3)	27 (22.1)	0.01
Yes	30 (24.6)	11 (9.0)	19 (15.6)	
What gender does residency favour more?				
Male	28 (22.9)	20 (21.3)	27 (22.1)	0.01
Female	47 (38.5)	26 (16.4)	2 (1.6)	
Neither	47 (38.5)	30 (24.6)	17 (13.9)	

SD: Standard deviation

and excessive workload as their top challenges during training. Addressing intrinsic and extrinsic factors (such as listed) in future residency training policies will enhance training quality and reduce underlying stress.

It is worthy of note that while most residents believe that a gender disparity exists in the training programme, only about a quarter experienced any form of discrimination with females significantly more affected. Our study suggests that there is a perceived existence of gender discrimination, but the actual experience of discrimination is low. Under-representation of females in general surgery and other specialties in the residency programme has been severally highlighted[11,12,14] with such doctors experiencing greater discrimination.[18,19] There seemed to be no agreement regarding which gender the programme favours though bias is possible as most respondents in our study were male. Despite a male preponderance in the residency programme, majority of respondents (71%) would prefer the employment of trainees of both genders in future interviews. While this is commendable, the proportion of females employed into residency may need to be increased in order to address the current disparity.[7,20]

This study had some limitations including its low response rate, cross-sectional design and inability to obtain past employment information. Moving forward, a multicentre study with better participation and qualitative components will better explore the deeper

Table 2: Trainees' choice of speciality, residency challenges and levels of support

Serial number	Factors affecting speciality choice	*n* (%)	Top challenges faced	*n* (%)
1	Job satisfaction	89 (30)	Remuneration	106 (27)
2	Financial rewards	62 (21)	Unconducive environment	79 (19)
3	Influence of mentor	42 (14)	Excessive workload	64 (17)
4	Employment chances	37 (13)	Lack of mentorship	56 (14)
5	Family time	31 (10)	Outside posting requirements	25 (6)
6	Area of need/lack of employment	12 (4)	Proposal	20 (5)
7	Peer influence	11 (4)	Spouse and children in diff city	14 (4)
8	Outside posting requirements	7 (2)	Unsupportive colleagues	14 (4)
9	Others - Passion	5 (2)	Incessant strikes	11 (3)
10			Poor health	2 (1)

Levels of support for trainee residents					
Rating	Family, *n* (%)	Friends, *n* (%)	Colleagues, *n* (%)	Mentors, *n* (%)	Institution, *n* (%)
1 (none)	6 (4.9)	27 (27.1)	19 (15.6)	28 (22.9)	38 (31.2)
2	6 (4.9)	26 (21.3)	13 (10.7)	22 (18.0)	49 (40.2)
3	19 (15.6)	38 (31.1)	49 (40.2)	38 (31.2)	28 (22.9)
4	29 (23.7)	24 (19.7)	32 (26.2)	21 (17.2)	6 (4.9)
5 (full)	62 (50.8)	7 (5.7)	9 (7.4)	13 (10.7)	1 (0.8)

issues underlying any observed gender disparities. Greater participation in academic research by female trainees as afforded by this study is commendable and should be encouraged.[5,6]

Conclusion

The residency training programme in UUTH is male dominated, especially in general surgery and obstetrics with largely similar experiences of stress and other challenges by male and female trainees. Gender disparities exist though only a quarter of residents experience any form of discrimination with females more affected. There is a need to address existing disparities and promote gender mainstreaming in the Nigerian residency training programme.

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Conflicts of interest

There are no conflicts of interest.

References

1. WHO | Global Strategy on Human Resources for Health: Workforce 2030. WHO. Available from: http://www.who.int/hrh/resources/globstrathrh-2030/en/. [Last accessed on 2020 Jul 30].
2. Akwaowo CD, Motilewa OO, Ekanem AM. Assessment of resources for primary health care: Implications for the revitalization of Primary Health Care in Akwa Ibom, Nigeria. Niger Med J 2020;61:90-5.
3. Bruce AN, Battista A, Plankey MW, Johnson LB, Marshall MB. Perceptions of gender-based discrimination during surgical training and practice. Med Educ Online 2015;20:25923.
4. Gender Inequality. European Institute for Gender Equality. Available from: https://eige.europa.eu/thesaurus/terms/1182. [Last accessed on 2020 Jul 28].
5. Shannon G, Jansen M, Williams K, Cáceres C, Motta A, Odhiambo A, *et al*. Gender equality in science, medicine, and global health: where are we at and why does it matter?. The Lancet. 2019;393:560-9.
6. Khisa AM, Ngure P, Gitau E, Musasiah J, Kilonzo E, Otukpa E, *et al*. Gender responsive multidisciplinary doctoral training program: The Consortium for Advanced Research Training in Africa (CARTA) experience. Glob Health Action 2019;12:1670002.
7. Lukela JR, Ramakrishnan A, Hadeed N, Del Valle J. When perception is reality: Resident perception of faculty gender parity in a university-based internal medicine residency program. Perspect Med Educ 2019;8:346-52.
8. Chukwumah NM, Umweni AA. Gender disparity and the dental profession in Nigeria: A 10-year follow-up study. Niger J Dent Res 2017;2:87-92.
9. Esan O, Adeoye A, Onakoya P, Opeodu O, Owonikoko K, Olulana D, *et al*. Features of residency training and psychological distress among residents in a Nigerian teaching hospital. South African Journal of Psychiatry. 2014;20:46-50.
10. Eysenbach G. Improving the quality of web surveys: The Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Internet Res 2004;6:e34.
11. Yusufu LM, Ahmed A, Odigie VI, Delia IZ, Mohammed AA. Residency training program: Perceptions of residents. Ann Afr Med 2010;9:91-4.
12. Ebuenyi ID, Ikuabe PO, Ufondu CC, Onubogu CU, Onyeka IN. Gender variations in specialties among medical doctors working in public healthcare institutions in Bayelsa State, Nigeria. Nigerian Journal of Medicine. 2017;26:18-22.
13. Ojo OS, Egunjobi AO, Fatusin AJ, Fatusin BO, Adeyemo AJ. A systematic review of the literature on the specialty preferences of Nigerian medical graduates: Disparity between the literature and reality. S Afr Fam Pract 2019;61:209-14.
14. Makama JG, Garba ES, Ameh EA. Under representation of women in surgery in Nigeria: By choice or by design? Oman Med J 2012;27:66-9.
15. Eze BI, Nwadinigwe CU, Achor J, Aguwa EN, Mbah A,

Ozoemena F. Trainee resident participation in health research in a resource-constrained setting in south-eastern Nigeria: perspectives, issues and challenges. A cross-sectional survey of three residency training centres. BMC medical education. 2012;12:1-9.

16. Ogunnubi. Stress and Training Satisfaction Among Resident Doctors in Nigeria: Any Justification for a Change in Training Policy? Available from: http://www.jcsjournal.org/article.asp?issn=2468-6859;year=2018;volume=15;issue=1;spage=32;epage=40;aulast=Ogunnubi. [Last accessed on 2020 Jul 27].
17. Ogunsemi OO, Alebiosu OC, Shorunmu OT. A survey of perceived stress, intimidation, harassment and well-being of resident doctors in a Nigerian Teaching Hospital. Niger J Clin Pract 2010;13:183-6.
18. Miller J, Katz D. Gender differences in perception of workplace experience among anesthesiology residents. J Educ Perioper Med 2018;20:E618.
19. Barnes KL, McGuire L, Dunivan G, Sussman AL, McKee R. Gender bias experiences of female surgical trainees. J Surg Educ 2019;76:e1-14.
20. Phillips NA, Tannan SC, Kalliainen LK. Understanding and overcoming implicit gender bias in plastic surgery. Plast Reconstr Surg 2016;138:1111-6.