

Gender-Based Preponderance of Commonly Observed Surgical Cases Presenting at a Referral Health Facility in Southern Nigeria

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DOI: [10.36348/sjbr.2023.v08i01.002](https://doi.org/10.36348/sjbr.2023.v08i01.002)

| Received: 29.11.2022 | Accepted: 08.01.2023 | Published: 12.01.2023

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Abstract

Surgical operations constitute an integral part of medical management of different health challenges. Developing countries suffer from under-reporting of health conditions even when such conditions are fairly common in occurrence. This study observed common surgical cases with a view to highlighting possible associations with gender. A retrospective cross-sectional descriptive approach was adopted. A total of 626 cases presenting for surgical review between a two-year periods from September 2020 to August 2022 at University of Calabar Teaching Hospital, Calabar in Nigeria were reviewed. Data analysis to test for gender association was carried out using chi-square analysis on SPSS 22.0 at 95% confidence level with p-value of ≤ 0.05 . The highest frequency of 56% was recorded for breast tumour. This was followed by hernia and goitre which accounted for 20% and 15 of surgical cases respectively. Lesser frequencies were observed for lipoma (4%), appendicitis (2%) and fistula (2%). The least among the commonly observed cases was testicular torsion which was recorded to be 1%. Breast tumour and goitre were significantly higher in females compared to males, while hernia was seen to be significantly higher in males compared to females. Testicular torsion occurred solely in males. This study concludes that significant gender associations exist in the distribution of surgical cases at the study centre. While female preponderance was observed for breast tumour and goitre cases, hernia was prevalent among the males.

Keywords: Breast cancer, blood groups, blood transfusion.

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INTRODUCTION

Surgical operations constitute an integral part of medical management of different health challenges. There is the necessity of proper medical review prior to surgery, and both aspects require the expertise of well-trained medical personnel. Nigeria has struggled under the burden of inadequate health professional including surgeons it is reported that a large number of people in need of surgical care do not have access to quality and life-saving surgical interventions [1]. In Nigeria where primary healthcare dominates in terms of physical structure, provision of surgical care is not obtainable at these centres due to unavailability of personnel and equipment [2]. Referral health facilities endeavour to maintain specialised medical care by converging the few well-trained health professionals. Although diverse health conditions may require surgical intervention, different regions of the world have peculiar patterns when it comes to the commonly observed cases.

Information of this nature serves well in health insurance policies as well as the immediate hospital allocations with regards to manpower sourcing, funding and procurement of surgical consumables.

The toll of inadequate healthcare coverage in Nigeria is far reaching and encompasses the inability of a portion of the populace to access medical care. Pertaining to surgical care specifically, less than half of the general population can afford the attendant financial responsibility [1]. Financial constraint has contributed to poor health-seeking behaviours towards medical care in Nigeria [3-5]. It is thus not surprising that developing countries such as ours suffer from under-reporting of health conditions even when such conditions are fairly common in occurrence. This has been attributed to lack of awareness and financial constraint on the side of the populace as well as the pervading inadequacy in health infrastructure. It is also not unusual for patients to seek

medical care after their health conditions are advanced or deteriorated. Late reporting to hospital and irregular monitoring impact adversely on medical management in Nigeria [6- 10]. This notwithstanding, attempts are being made to record patterns of conditions observed in routine practice. An additional aspect to these observational studies is to reveal possible associations such as gender preponderance. This strategy could aid better healthcare delivery, particularly in a region where early diagnosis and timely intervention are yet to be attained.

MATERIALS AND METHODS

Study Site

This single-site study was conducted at University of Calabar Teaching Hospital, Calabar in Nigeria. Ethical approval for this retrospective study was obtained from the institutional Health and Research Ethics Committee.

Sampling

This cross-sectional descriptive study retrospectively enrolled 626 cases presenting for

surgical review between a two-year periods from September 2020 to August 2022.

Statistical Analysis

Data analysis to test for gender association was carried out using chi-square analysis on SPSS 22.0 at 95% confidence level with p-value of ≤ 0.05 .

RESULTS

Observed presenting cases for surgical review are shown in Table 1. The highest frequency of 56% was recorded for breast tumour. This was followed by hernia and goitre which accounted for 20% and 15% of surgical cases respectively. Lesser frequencies were observed for lipoma (4%), appendicitis (2%) and fistula (2%). The least among the commonly observed cases was testicular torsion which was recorded to be 1%.

The frequency distribution of the observed cases based on gender is presented in Table 2. Breast tumour and goitre were significantly higher in females compared to males, while hernia was seen to be significantly higher in males compared to females. Testicular torsion occurred solely in males.

Table 1: Presenting cases for surgical review

Parameter	Number (n = 626)	Percent (100)
Breast Tumour	351	56
Hernia	126	20
Goitre	94	15
Lipoma	26	4
Appendicitis	12	2
Fistula	11	2
Testicular Torsion	6	1

Table 2: Gender distribution of presenting cases for surgical review

Parameter	Number	Males	Females	p-Value
Breast Tumour	351 (100%)	14 (4%)	337 (96%)	0.001
Hernia	126 (100%)	93 (73.8%)	33 (26.2%)	0.001
Goitre	94 (100%)	8 (8.5%)	86 (91.5%)	0.001
Lipoma	26 (100%)	12 (46.2%)	14 (53.8%)	0.695
Appendicitis	12 (100%)	3 (25%)	9 (75%)	0.083
Fistula	11 (100%)	4 (36.4%)	7 (63.6%)	0.366
Testicular Torsion	6 (100%)	6 (100%)	0 (0%)	-

DISCUSSION

Breast cancer is known to disproportionately affect women [11-15]. It accounted for 56% of all cases. This study revealed its frequency to be 24 times higher in females compared to males. Probably due to its female preponderance, previous reports from the study locality focused on only females with little or no information on the males [16, 17]. It is therefore interesting and medically important to appreciate that some proportion of breast tumour cases involves males up to the tune of 4%. This line of research could be further explored to investigate the comparative outcome of this health condition between males and females.

Untimely, both present and possible future findings would aid better management.

Hernia as a common surgical case in this study was observed to be second to breast tumour, making up to 20% of all surgical cases. There were more males involved than females. Hernia among the males constituted of inguinal hernia, scrotal hernia, umbilical hernia and incisional hernia. In the cases involving females, incisional hernia and umbilical hernia were common. A previous study on surgical cases among children also reported hernia to be prevalent in Southern Nigeria [18]. Their study revealed umbilical hernia as the commonest congenital conditions requiring surgical

intervention. Apparently, some of such cases are unattended to in childhood leading to their persistence up till adult life as seen in the present study.

Goitre ranked third with a proportion of 15% among all the reviewed cases. It has been previously reported to be common among out-patients in Nigeria with a characteristic female preponderance [19]. Its significant female preponderance as recorded in the present study was quite close to that of breast cancer. Considering that both conditions have hormone-driven mechanisms implicated in their pathogenesis, it is interesting to record an association of gender with the distribution patterns. The established association could be explored for therapeutic researches and management policies.

CONCLUSION

Significant gender associations exist in the distribution of surgical cases at the study centre. While female preponderance was observed for breast tumour and goitre cases, hernia was prevalent among the males.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

Funding

No external funding was used for this study.

Authors' Contributions

*Udosen JE, Akwiwu EC and Akpotuzor JO – Research idea and design

*Akpotuzor DU and Abunimye DA – Sample analysis and literature search

*Udosen JE and Akwiwu EC – Data analysis and writing of manuscript

*Akpotuzor JO – Reviewed the manuscript

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