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Women in Surgery: Factors Deterring Women from Being Surgeons in Zimbabwe

F. C. Muchemwa[1], K. Erzingatsian[2]
[1]University of Zimbabwe, College of Health Sciences, Harare, Zimbabwe
[2] University of Zambia, Lusaka, Zambia
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Correspondece to: Faith C Muchemwa, Email: fcmuchemwa@yahoo.co.uk

Background: ***There is a disproportionate number of female and male surgeons in Zimbabwe. Factors determining the post-graduate career choice of female doctors in Zimbabwe have not been documented. The main objective of this study was to determine factors deterring women in Zimbabwe from choosing surgery as a lifetime specialty of choice.***
Methods: ***A convenience sample of 161 doctors and medical students were recruited. A questionnaire covering a broad range of topics was administered and collected anonymously. Undergraduate and post-graduate enrolment figures and information on registered surgeons was obtained from the respective authorities.***
Results: ***A total of 159 questionnaires were assessable, with a slight male dominance. The majority (60%) was below the age of 30 years. The vast majority were within 5 years of graduating from Medical School. Surgery was selected as the specialty of choice by 40% of the respondents with only 25% of them being women. A female enrolment figure for the University of Zimbabwe, College of Health Sciences, was 34% in 2010, an increase from 13% in 1995. Female surgeons comprise 8% of the Surgical Society of Zimbabwe. Women selecting surgery responded that surgery was dynamic, exciting and a good challenge. However, they admitted that other women would not choose it as it was too demanding. Women choosing Surgery were consistently found to have been leaders at some point in their life. Women selecting other specialties re-iterated that their surgical rotations were too tough and iron ruled, making it an unwelcome environment for women; in addition, they sited that the lack of female role models in the department was a deterrent. Lack of time with family by being in a surgical specialty was cited by only 5% of the study population. Males choosing Surgery as a specialty, at all levels, encouraged women to join the specialty, however, they cited work disruptions when female colleagues were pregnant.***
Conclusion: ***In this qualitative study, we have found that there are fewer women choosing Surgery as a specialty. It is clear that achieving gender balance in the Department of Surgery will continue to be a challenge. This balance is further compounded by the significantly low proportion of female medical students enrolled to the UZ-CHS each year, and the lack of appropriate female role models in the Department.***

Keywords: Factors, Deterring, Women, Surgeons

Introduction

Surgery is a broad specialty encompassing several sub-specialties such as General Surgery, Plastic Surgery, Orthopaedics, and others. It is an important component of health care that reduces morbidity and mortality related to surgical conditions.

The role of women in the medical field has traditionally been associated with care giving (nursing, midwifery) and other allied medical arts. Historically, surgery was associated with masculinity, however, women started joining the specialty and it became more and more apparent that this was not exclusively a specialty for men[1]. However, there is still a significant disparity between the numbers of men and women practising surgery worldwide. Several papers have been published; under the title 'Women in Surgery.' Erkut[2] concluded that although women do face gender-specific obstacles, they should also take responsibility for endeavouring to assume leadership roles, especially in fields that have been particularly resistant[2].

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In a lecture given by one of the most prestigious female general surgeons, she envisioned that, sooner than later, if the gender imbalance remained, health policy organizations and politicians would have to "solve the problem for us" [3]. The topic "Women in Surgery" is not a new topic; however, the available literature cannot be directly extrapolated to Zimbabwe and Africa. The majority of published reports are from the west, where the economic, social and cultural parameters are different. This was a qualitative research, carried out to explore and unravel the factors hindering Zimbabwean women from choosing Surgery as a post-graduate specialty of choice.

Subjects and Methods

A questionnaire which contained a wide range of closed and open ended questions was designed. The questionnaire was administered to a convenience sample of participants from the University of Zimbabwe, College of Health Sciences (UZ-CHS) and hospitals in Harare and Bulawayo, the two largest cities in Zimbabwe. Other respondents were recruited from conferences and workshops of various medical specialties.

Participants included medical students, house officers, general medical officers, postgraduate trainees, general practitioners and specialists. Three hundred questionnaires and individual consent forms were distributed. As an incentive, participants were allowed to keep the blue ball-point pens supplied to them for purposes of completing the questionnaire. For the sake of anonymity, stamped, addressed envelopes were also provided. In addition to the questionnaire, the investigator took time to interview willing participants in order to get an in-depth view of their perceptions.

Enrolment data for the past 20 years was availed by the UZ-CHS, Dean's office. The list of Surgeons registered in Zimbabwe was provided by the Surgical Society of Zimbabwe (SSZ) and enrolment figures for the College of Surgeon East Central and Southern Africa (COSECSA) trainees and graduates was obtained from the COSECSA registry. Each participant signed a consent form before completing the questionnaire. All willing, eligible participants were included; these included medical students and doctors. Those not willing to participate in full were excluded. Affiliated health personnel; such as surgical assistants, operating room nurses and surgical clinical officers were excluded from the study.

Survey Instruments

A questionnaire was designed to cover a broad range of topics; demographics, career development stage at the time of interview, and their perceptions regarding career choice in women and how they viewed surgical training. Some questions were direct while others were open ended and required detail. Direct verbal interview was also administered in a few instances. Data analysis was both iterative and interpretative.

Results

A total of 300 questionnaires were given out, a yield of 54% (n=161) was achieved, 2 of the questionnaires were spoiled and could not be assessed. Fifty four percent (n=85) of participants were male and 46% (n=74) were female. The majority of participants (59.7 %) were 30 years of age and below and only 5% were above the age of 60. There was equal number of participants who were married compared to those who were single, divorced or separated. A large percentage of participants were within 5 years of graduating, this number included medical students who answered '0' years, to the question. Only 10% of participants were veterans, having graduated more than 15 years from the time the study was conducted.

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Data received from the SSZ shows that there is a total number of 108 surgeons for a population of 13 million, of whom only 6 (5.6%) are women. Presently, out of a total of 34 Master of Medicine in Surgery (MMED Surg) there is one female (2.9%), of the 14 registered with COSECSA, only 2 (14%) are female. Three students are registered with the South African College of Surgeons, and one is female. These figures put together, only 7.8% of all trainees are women.

Enrolment figures from the UZ-CHS show that there has been a steady increase in the number of women admitted to the medical school. Quite impressively, the figure of female enrolment over 20 years had increased from a low 13 per cent to a high 34 per cent in 2010 (Table 1).

Table 1. Yearly Enrolment Figures for 1990-2010 *(UZ-CHS)*

Year	Total No	Male No (%)	Female No (%)
1990	77	59 *(77%)*	18 *(23%)*
1995	67	57 *(83%)*	10 *(13%)*
2000	102	79 *(77%)*	23 *(23%)*
2005	144	105 *(73%)*	39 *(27%)*
2010	159	105 *(66%)*	54 *(34%)*

Table 2. Specialty of Choice

Specialty of Choice	**Total**	**Male No (%)**	**Female No (%)**
Surgery	68	51 *(75%)*	17 *(25%)*
Medicine	18	9 *(50%)*	9 *(50%)*
Anaestheology	14	6 *(43%)*	8 *(57%)*
Obstetrics and Gynaecology	12	2 *(17%)*	10 *(83%)*
Oncology	10	3 *(30%)*	7 *(70%)*
Public Health	8	2 *(25%)*	6 *(75%)*
Paediatrics	7	0 *(0%)*	7 *(100%)*
Pathology	6	4 *(67%)*	2 *(33%)*
Ophthalmology	4	2 *(50%)*	2 *(50%)*
General Practice	4	2 *(50%)*	2 *(50%)*
Radiology	4	3 *(75%)*	1 *(25%)*
Abstainers	4	1 (25%)	3 (75%)

The majority of respondents selected surgery as their postgraduate specialty of choice, while 4 medical students admitted that they were not yet ready to commit to any specialty, as shown in Table 2. Although only a quarter of the population choosing Surgery as a career choice were women, they had very strong positive sentiments regarding why they chose surgery and these are summarized in Table 3. Both sexes generally agreed that Surgery is a professionally and physically demanding specialty, and attributed the paucity of women in the specialty to these deterrents. Other comments made by male participants are outlined in Table 4.

It is interesting to note that 15 of the 17 women choosing surgery as a career had held an important position in school or at university, with the majority responding to at least one of being a school prefect, head girl, class representative or a senior member of a Students' association in higher education. There was no trend regarding leadership traits in men choosing surgery as a specialty. The position in the family did not seem to be related to the postgraduate

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specialty in both men and women; answers varied from first born, twin, to one of several siblings.

Table 3. Adjectives Used by Women Who Chose Surgery as a Specialty of Choice

Why they chose it	*Why they think others don't choose it*
Surgery is dynamic	Physically demanding
Exciting	
"Fell in love with it"	
Fascinating	
Interesting	
"for the challenge"	

Table 4. Responses of Men Who Selected Surgery as a Specialty of Choice

What men in Surgery think hinders women from being surgeons
Surgery is too demanding
Bad social and cultural attitudes
Women are not as ambitious as men

Table 5. Men in Surgery Found it Challenging to Work with Pregnant Female Colleagues

Question:	"How did pregnancy of a colleague affect your work?"
"Pregnant colleagues are absent from work too often"	
"I had to work on her behalf"	
"She made me feel guilty, I ended up doing all the work"	
"She fainted several times, she could not work as she should"	

Table 6. Recommendations and Comments of Respondents Regarding Future Gender Balance in Surgery

Positive Recommendations	*Negative comments*
The system must create good working conditions	Surgeons have a military approach to teaching
Modify duties, 24hr calls should be shared	Surgeons are egotistic
Women should just show interest/ motivation	Surgeons are mean
Bring in more female role models	Male surgeons look down on females
Change cultural and religious	

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Pregnancy and Surgery

Women attested that they have not been affected by the pregnancy of their colleagues; however, a few commented that they themselves experienced absenteeism because of pregnancy induced-ill health. Men who chose surgery as a career, on the other hand, complained about increased workload.

Mixed reactions were obtained to the still unanswered question of; 'is it possible to achieve gender balance in Surgery?' A total of 57% of respondents thought it would be possible if certain issues, outlined below, were addressed. Forty three per cent of the participants believed that regardless of all effort, it would be impossible to achieve this balance. Participants from non-surgical specialties were more positive and attributed the paucity of women to lack of role models. Of note are the specific reactions outlined in the table below.

Discussion

We have shown in this study that achieving gender balance in the Department of Surgery in Zimbabwe will continue to be difficult. Female respondents have shown great reservations to joining Surgery as a specialty of choice.

This balance is further compounded by the significantly lower number of females enrolled for the MBChB degrees in the UZ-CHS each year, as shown in Table 1. However, it is encouraging to note that in the past 20 years, female enrolment has increased from just 13% to 34% in 2010.For the COSECSA post graduate surgical courses, candidates sitting the 2013 membership examination consisted of 26 females of a total of 154 candidates (16.9%) (COSECSA registry). This trend shows some improvement when compared to Fellowship (FCS) graduates. From 2004 to 2012, ninety candidates have successfully completed the COSECSA FCS, of these, only 7.8% are female.

We have explored reasons why women do not choose surgery as their lifetime career. This is clearly demonstrated by the sentiments expressed by women choosing other specialties. They believe that the attitudes of mentors and trainers have to change; in addition they feel there is need for more female role models in Surgery.

Similar problems exist elsewhere. Almost half of Canadian women surgeons said that they had been discriminated against in the course of their training[4], although fewer felt that they had been discriminated against at formal decision making processes such as residency application.

Women often forsake their ambitions to raise a family, this leads to another possible conclusion that it is within the biologically determined character of women to prefer a domestic life rather than a career[5]. Women are believed to be gentler and less aggressive than men although it is questionable whether such traits can be exclusively assigned to biological roots. It is, however, certainty that there are constant family and social pressures operating to keep women from being ambitious. If a female surgeon is allowed to act as a woman and still be a surgeon, she could possibly bring to the healing art more of the gentleness and compassion with which the hand of a woman is historically linked[5]. An article by Zhuge et al[6], identified some of the factors that contribute to a "glass ceiling" effect for women surgeons and proposed ways to help them reach their full career potential[6]. The article cited 3 main constraints to the career advancement of women surgeons: traditional sex roles in which women bear a big portion of family duties, sexism in the profession, and a shortage of women mentors. The article also noted that women were paid less and received less institutional and mentoring support than their male colleagues in academic surgery[6].

In Ontario, Canada, where they have nearly achieved a gender balance in the department of Surgery, Brown et al noted that there is now a shift in the generational attitudes and this is changing the culture of academic surgery; often described as the prototypical male-dominated

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medical environment[7]. They noted that even though women struggled more when childcare responsibilities conflicted with work obligations, the presence of more women in the department appeared to increase the acceptability of starting a family and taking maternity leave therefore allowing women to manage both aspects of their life[4]. Family issues had less impact on Zimbabwean female doctors, with only 5% of the study population mentioning this as a deterrent.

In this study, we noted that the admission rate of women has gradually risen from 10% to 34%. British Columbia in Canada, have reached a 1:1 male female ratio. In spite of this good balance, there is still a lower number of females enrolling for surgical residency. They conclude in their paper that it is important for surgical program directors to become more aware of the educational challenges for women. By addressing these issues, they may better attract female applicants and provide the best educational experiences for their students, both male and female. Failing to do so may result in an eventual shortage of surgeons[7].

Conclusion

In conclusion, we have shown that male and female doctors in Zimbabwe have different perceptions regarding women choosing Surgery as a specialty of choice. The gender balance will take long to achieve in Zimbabwe until undergraduate enrolment figures become even, in addition, the attitude of and towards female surgical candidates should change in order to create a favourable environment to pursue this career.

Limitation of the Study

Paper based questionnaire was challenging to analyse because of the difficulty to extract feeling and emotion from the answers. The sample size was too big, making it difficult to analyse the data. This also prevented an in-depth analysis of each questionnaire.

Recommendations

- Medical students interested in Surgery should identify role models who have the potential to transform their lives. A role model is a person who is emulated by others. The term first appeared in Merton's socialization research of medical students[8]. He hypothesized that individuals compare themselves with groups; these groups are not necessarily a group to which those individuals belong. In this sense, aspiring female surgeons do not necessarily need female role models.

- Senior members of the Department are encouraged to identify and encourage potential surgical recruits, especially women who may be naive.

- Women who chose other specialties specified that the teaching methods in Surgery were harsh and hostile; therefore, a change in the teaching methodology may enhance female enrolment in Surgery.

- Reduction of working hours would seem very favourable to women concerned about less time spent with their families. The UK and Ireland have reduced the working week of surgical trainees from 56 hrs to 48 hours[9], however, there are some concerns that this directive will negatively impact on the amount of surgical exposure and therefore compromise surgical training[10].

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