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## WISQ (Women in Surgery Questionnaire): A Glimpse at the Caribbean Perspective

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### ABSTRACT

**Objective:** This is a social research endeavour enquiring into the experiences and careers of women in surgery working in the Caribbean. It aims to assess the personal and professional fulfilment of women in the surgical specialty. This is critical to enhancing set patterns and highlighting areas requiring improvement.

**Design:** A 35- point questionnaire was distributed to seven (7) tertiary health care facilities in three (3) Caribbean countries. Study population inclusion criteria were all females in a post-graduate surgical programme, and all female registrars and consultants in the surgery department. Nine (9) surgical specialties were included.

**Results:** Out of the seventy-six (76) questionnaires delivered, seventy (70) of these were returned for analysis, averaging a ninety-two percent (92%) return. Analysis of this study population depicted a mean age of 37 years (SD 8.96), and the majority of physicians held registrar job roles, approximately forty- three percent (43%).

Based on the 7-point Likert scale, job satisfaction was viewed positively (mean score [SD], 5.5 [1.5]), but personal satisfaction showed a general shift towards a less favourable stance (mean score [SD], 4.4 [1.89]). Over seventy percent (70%) indicated that they had no active mentor relationships, strongly contrasting with the sixty-one (61) respondents (88%), who declared that this would be beneficial to career advancement.

**Conclusion:** The glass ceiling has been mentioned several times when speaking about women in the surgical discipline worldwide. It is still a challenge in the 21<sup>st</sup> century in attempting to bridge the male-female imbalance in the workforce. However, active mentor relationships and the presence of positive female role-models, help attenuate this.

### ARTICLE HISTORY

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### Introduction

Women remain underrepresented in the field of surgery in the 21<sup>st</sup> century- leading to an essentially male-dominated area of medicine. Data provided by the Association of American Medical Colleagues (AAMC) in 2017, demonstrated that women represented less than 25% of faculty in over 10 surgical specialties [1]. This disparity shows up within academia, where less than 20% of women hold titles of full professor or tenured members of staff [2]. This begs the question of whether an underlying barrier for diversity exists in this field and its application to the Caribbean medical body.

Lifestyle constraints, gender bias, and lack of representation are constantly mentioned factors as deterrents to pursuing the surgical specialty [3]. This was a social research endeavour to delve into the experiences, challenges, and outlook of women in surgery in the Caribbean.

### Design and Methods

A 35-point questionnaire was designed. This was subdivided into 7 categories of interest including, socio-demographics,

satisfaction with job and personal life, career advancement, challenges, perspectives and outlook. A standard 7-point Likert scale was employed for the assessment of satisfaction with job and personal life. The Likert scale was given a numerical value from 1 to 7- from “strongly disagree” to “strongly agree”. A pilot survey was conducted in Trinidad and Tobago among 10 medical professionals prior to distribution to the study population to ascertain clarity and comprehension of question formatting. The results of this pilot survey did not contribute to this paper, and no significant alterations were made following.

The study population comprised female registrars and consultants, in both provisional and permanent job positions. Additionally, female residents, that is, women enrolled in a post-graduate surgical programme, despite job title were involved. The study population were identified based on enquiries made within the respective surgical departments. Nine (9) surgical specialties were included General, Paediatric, Urology, Ear, Nose and Throat (ENT), Cardiothoracic, Neurological, Ophthalmology, Plastic and Orthopaedic Surgery.

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Participants working in public tertiary health facilities were identified in three (3) Caribbean countries namely: Barbados, St. Lucia, and Trinidad and Tobago. Questionnaires were distributed to seven (7) health facilities across the three (3) countries. Hard copy and online survey software tools were utilised as the method of circulation. The majority of questionnaires were completed via hard copy, an approximated 85%.

Analysis of data was done with the aid of Microsoft Excel Office 365. This as an anonymous questionnaire and was in **accordance with the WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects**. Ethical approval is not required where data is properly anonymised and informed consent was obtained at the time of original data collection.

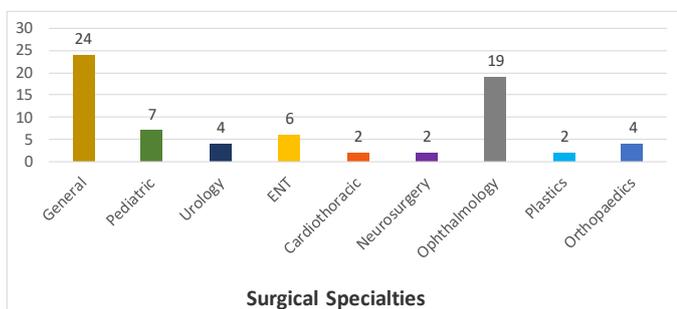
## Results

A total of 76 questionnaires were delivered via hard copy or online survey tool. Responses were received from seventy (70) participants, giving a collection rate of ninety- two percent (92%). Socio- demographic analysis revealed a mean age of 37.1 years (SD 9.0) and the average number of years since graduating from medical school was 12.6 years (SD 9.0). The majority (43%) of respondents were registrars. (Table 1) More than half of the participants were working in General (34%) and Ophthalmology (27%) surgical specialties. Conversely, less than 10% of respondents made up the specialties of Cardiothoracic, Neurosurgery and Plastic surgery. (Graph 1).

**Table 1:** Showing general socio-demographics of respondents from WISQ

Demographics of Respondents (WISQ)	
Age (mean [SD])	37.1 years [9.0]
Years since graduation (mean [SD])	12.6 years [9.0]
Job Title (%)	Registrars (43%)
	Consultants (27%)
	House Officer/Residents (30%)
Marital Status (%)	Single (53%)
Children (%)	YES (35%)

**Graph 1:** Showing distribution of surgical specialties represented in the study population.



Job satisfaction scored favourably amongst participants with a mean of 5.5 (SD 1.5). Satisfaction with personal life ranked more towards a negative stance as compared with job satisfaction. Nonetheless remained favourable with a mean of 4.4 (SD 1.9) for satisfaction with personal life. Despite the favourable outlooks with personal and job satisfaction, 61% of respondents indicated a moderate level of stress in the work environment and approximately 80% indicated that work-related factors played an undesirable role in their personal life.

Information was gathered on one’s personal view of their work setting as a woman in surgery. These results demonstrated disparity towards the surgeons in relation to patients, colleagues and health staff. The majority of respondents, 64% and 56% respectively, experienced gender bias with regard to surgical competence and the attitudes of ancillary staff in operating theatre. Furthermore, 64% of respondents faced sexually inappropriate comments in the workplace.

The presence of mentor relationships was assessed. Despite 88% of respondents indicating that an active mentor-mentee relationship would be beneficial to career development, mentorship was present in less than a third (28%) of participant careers. Almost all responders (97%) indicated that they supported other women in their field, whilst a lesser, 80% felt supported by their female colleagues in surgery. Sixty-seven percent (67%) of participants foresee a shift in the male-female imbalance in surgery. Those with a differing point of view (33%) – declared the hindrance being secondary to the demanding nature of surgery and the resultant quality of life. Overall, 60% of respondents have confidence in the possibility of “having it all” as a woman in surgery.

## Discussion

Women have been making an impactful contribution to the practice of surgery since 3500 BCE [4]. This journey to the modern age was riddled with obstacles and limitations. Fortuitously, the field of medicine has transformed over the decades as it relates to its demographics. There is a tilt in the scale, with comparable numbers of men and women enrolled in US medical schools [5]. Statistics published by the University of the West Indies (St Augustine) regarding medical school enrolment, depict a male to female ratio of approximately 1: 2.6 [6]. Both regional and international data reflect an upward trend in the number of female medical students enrolled compared to their male colleagues [7].

Despite the tremendous modifications overall, this pattern has not translated into the surgical specialty [8,9]. There were more than twice the number of males that fit the inclusion criteria of this study within the various surgical departments compared to females. Factors that may explain this disproportion are the absence of a strong influence of female role models in the field, perceived surgical personality and culture, and gender discrimination [3,10,11]. The latter was highlighted in this study with various forms of gender bias perceived by a significant number of participants. Being bypassed at the opportunity of promotion or being subjected to blatant sex-based discrimination in the workplace are discouraging elements. A survey of the surgical residents in a developed nation, indicated that at least once per year, 81.2% of the female residents faced such bias [12]. Again, an international survey highlighted that nearly 50% of respondents who were pregnant in surgical training saw a negative effect on their career, specifically missing opportunities for career advancement [13].

Mentorship is the single most powerful tool in the learning and practice of surgery. More so, in a specialty where women are often deterred from training due to lack of representation [11,14,15]. Within the boundaries of our paper, it was found that 88% of surgeons agreed that an active mentor-mentee relationship would be beneficial to their career development.

It is well-known that mentoring surpasses not only growth in surgical skills and knowledge, but also provides professional and social support that are indispensable in an arduous medical field. Female surgeons with mentors tend to devote more time to research, and as a corollary, more publications in peer-review journals. They express greater career satisfaction than women without mentors [16]. This perspective study therefore reflects the need to encourage more mentor-mentee relationships, as this is a positive influential factor. Of note, only 28% of our study population currently have and benefit from mentor-mentee relationships.

"Having it all" as a woman in surgery is an extremely subjective and multi-factorial term. This was one of the more thought-provoking questions asked in our questionnaire that left many with the need for introspection. It includes but is not limited to factors such as career satisfaction, equal opportunities for promotion and career advancement, and the obstinately sought-after work-life balance. Some of these aspects are easily compromised when in a surgical profession, and in many ways serve as a deterrent to women when choosing a career in the field of medicine [17]. Despite this, 60% of respondents felt as though they could "have it all" while working in a surgical specialty, which is commendable. To further increase this value and the numbers of women in surgery, representation is key. Recommendation for active women sub-groups in larger surgical organizations is a formidable way of providing residents and medical students with access to the desired academic and social support.

Society has evolved over the centuries, but a less progressive shift persists in the male-dominated surgical field. Areas still require revision, especially in the setting of social interactions with colleagues and ancillary staff. The "glass ceiling" phenomenon is an invisible barrier that hinders ultimate advancement and has been used frequently to refer to women in surgery. Attributing factors have been linked to lack of effective mentors, traditional gender roles, and sexism in the medical environment [18,19]. In the Caribbean, platforms such as Caribbean College of Surgeons, provide settings where networking amongst women can be established and pursued. Women continue to prove themselves to be valuable resources to the surgical specialty and will endure with unwavering effort to inch towards progress. In spite of the challenges, there are many successful female surgeons who work tirelessly and have earned the right to say they "have it all".

## Conclusion

Women face significant deterrents within the surgical discipline, with a resultant underrepresentation noted. It is believed that effective mentor-mentee relationships, with the necessary positive work environments can augment this. This perspective study did demonstrate some of the pitfalls in the various surgical departments, with obvious areas for improvement. However, both satisfaction with job and personal life were viewed favourably by the respondents in this survey.

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