

Surgery in South Africa – the attitudes toward mentorship in facilitating general surgical training

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Background: There are many barriers to pursuing a surgical career in South Africa, some of which are unique to females. Mentorship has been proposed as a solution to mitigate these barriers. The value of mentorship has not been formally assessed among South African general surgeons and trainees.

Methods: The study was part of a larger study designed to assess barriers to pursuing a career in surgery, including the value of mentorship. A 15-item questionnaire was designed and distributed via the Research Electronic Database Capture from 1 February 2020–3 April 2020. Data were analysed using Stata 15 SE. All responses were anonymised.

Results: One hundred and twenty-nine (13.5%) of 955 potential participants responded to the survey of which 26% (33/129) were female. Sixty-seven per cent of respondents were specialist surgeons (87/129). Seventy per cent (90/129) of participants reported having a role model in surgery, however, 66% (86/129) reported they had no mentor in surgery. 107/129 (83%) participants reported the importance of mentorship. The need for a formalised mentorship programme to facilitate surgical training was recorded by 60% (78/129) of participants, while 18% (23/129) reported the need for a mentorship group specifically for females.

Conclusion: Eighty-three per cent of participants reported the importance of mentorship however two-thirds lacked a mentor. Most participants advocated for a mentorship group to facilitate surgical training. Establishing formalised mentorship programmes could mitigate the barriers to pursuing a surgical career.

Keywords: surgery, training, barriers, mentorship

Appendix 1 available online: <http://sajs.redbricklibrary.com/index.php/sajs/article/view/3597>

Introduction

Surgery is a highly competitive specialty and a particularly challenging learning environment.¹ Barriers to pursuing a career in surgery include heavy workload, poor work-life balance, verbal discouragement, and limited options for postgraduate surgical training. These barriers can lead to low interest to pursue a surgical career choice. Challenges identified in the surgical workplace include, among others, verbal, physical and emotional abuse, long working hours, and lack of time for commitments outside of surgery.^{1,2} Challenges in the surgical workplace have led to burnout, physical and emotional exhaustion, and even attrition of surgeons. Some of these challenges are unique to female surgeons, such as limited time to plan a family and gender discrimination in the workplace.³ There is an increasing number of female doctors in medicine, yet a disproportionately low number of women in surgery. In South Africa, 60% of medical students are female, however, only five per cent are surgeons.⁴ The under-representation of women in surgery is evident at all levels including in academic and leadership positions.^{5,6}

Mentorship has been gaining traction in the field of surgery and can be an important way to mitigate challenges

of and barriers to pursuing a surgical career. Mentorship has been defined as a “two-way relationship and type of human development in which one individual invests personal knowledge, energy and time in order to help another individual grow and develop and improve to become the best and most successful they can be.”⁷ Mentors can be important facilitators of the entrance of young doctors, particularly female doctors, into the field of surgery.⁸ Mentors can also play an important role in a mentee’s career satisfaction and development, particularly in academia, and aid in the retention of surgeons.⁹

While evaluation of mentorship in surgery has been increasingly reported in the literature from high-income countries, such as the United States, there is a paucity of literature on the value or perceptions of mentorship in low- and middle-income settings, such as South Africa.^{1,9}

The primary objective of this survey was to determine the value of mentorship among South African general surgeons. The secondary objectives of this study were to determine the proportion of participants that felt a formalised mentorship programme for surgical trainees in general and women in particular was needed.

Methods

This was a cross-sectional survey conducted using a 15-item questionnaire (Appendix 1) which was designed and distributed via the Research Electronic Database Capture (REDCap) software (version 8.1.13, Vanderbilt University). The survey was developed by both authors, the senior author being a surgical sub-specialist, and included questions on challenges and barriers to pursuing a career in surgery, as well as the attitudes and perceptions of mentorship in facilitating surgical training. These questions were adapted from previously published studies.^{1-3,9} Questions on the value of mentorship were single-answer choice questions except for the question on methods to facilitate surgical training, where participants were allowed to select multiple answers. The questions on the value of mentorship were analysed using Stata 15 SE. The survey was circulated to qualified general surgeons who are members of the Association of Surgeons South Africa (ASSA) or Surgicom, as well as to general surgical trainees through their heads of department. The survey was conducted over a two-month period from 1 February 2020 to 3 April 2020. All responses were anonymous, and no identifying data were included. Descriptive analysis of the data was performed using measures of dispersion (means and median).

Results

One hundred and twenty-nine (13.5%) out of 955 general surgeons and trainees approached to participate, responded to the survey. Seventy-four per cent (96/129) were male and 47% (60/129) were older than 50 years of age (Table I). Sixty-seven per cent (87/129) of participants were consultant surgeons with a median of 18 years (IQR 10–28) post-fellowship experience. Twenty-three (18%) of the participants were registrars in surgical training and the median number of years in training was two years (IQR 1–3).

Fifty-three per cent of participants (69/129) reported having a role model in their lives and 70% (90/129) reported the presence of a role model in surgery (Table II). This role

Table I: Demographic characteristics

Characteristics	
Gender	<i>n</i> = 129
Male	96 (74%)
Female	33 (26%)
Age	<i>n</i> = 129
20–29	8 (6%)
30–39	36 (28%)
40–49	25 (19%)
> 50	60 (47%)
Position	<i>n</i> = 129
Consultant	87 (67%)
Fellow	8 (6%)
Medical officer in surgery	5 (4%)
Registrar	23 (18%)
Unspecified	6 (5%)
Median number of years post-fellowship (IQR)	18 (10–28)
Median years in registrar training (IQR)	2 (1–3)

Table II: Presence of role models and mentors

	Male (<i>n</i> = 96)	Female (<i>n</i> = 33)	<i>n</i> = 129
Presence of a role model in life			
Yes	55	14	69 (53%)
No	31	13	44 (34%)
No response	10	6	16 (13%)
Presence of role model in surgery			
Yes	65	25	90 (70%)
No	21	2	23 (18%)
No response	10	6	16 (12%)
Who is your role model			
Senior colleague	62	16	78 (60%)
Other (family member/none)	18	5	23 (18%)
Peer	6	6	12 (9%)
No response	10	6	16 (13%)
Presence of a mentor			
Yes	28	15	43 (33%)
No	58	12	70 (54%)
No response	10	6	16 (12%)
Gender of mentor			
			<i>n</i> = 43
Male	26	10	36 (84%)
Female	0	2	2 (5%)
Both	2	3	5 (12%)
Number of mentors per respondent			
			<i>n</i> = 43
1	11	3	14 (32%)
2	9	8	17 (40%)
3 or more	8	4	12 (28%)
Presence of a mentee			
			<i>n</i> = 129
Yes	42	15	57 (44%)
No	44	12	56 (43%)
No response	10	6	16 (13%)
Gender of mentee			
			<i>n</i> = 57
Male	16	3	19 (33%)
Female	2	4	6 (11%)
Both	24	8	32 (56%)

model in surgery was a senior colleague in 60% (78/129) of cases.

Fifty-four per cent (70/129) did not have a mentor; of these 61% (43/70) felt they lacked mentorship and would have liked to have had a mentor for their career development. Eighty-four per cent (36/43) of the mentees had a male mentor and 68% (29/43) had two or more mentors. Forty-four per cent (57/129) reported having a mentee with 56% (32/57) having both male and female mentees.

Eighty-three per cent of the participants (107/129) reported that they felt it was important to have a mentor (Table III).

Table III: The value of mentorship as reported by participants

	Male	Female	Total
Important to have a mentor?			<i>n</i> = 129
Yes	82	25	107 (83%)
No	3	2	5 (4%)
Missing	11	6	17 (13%)
Perceived lack of mentorship (if no mentor)			<i>n</i> = 70
Yes	30	13	43 (61%)
No	14	13	27 (39%)
Facilitation of surgical training			<i>n</i> = 129
Mentorship programme	57	19	76 (59%)
Postgraduate surgical training scholarships	50	11	61 (47%)
Part-time surgical training programmes	36	10	46 (36%)
Other (flexible training programmes, appropriate cover of maternity leave, part-time post graduate training, better working hours)	15	2	17 (13%)
Is there a need for a mentorship group for all surgeons?			<i>n</i> = 129
Yes	56	22	78 (60%)
No	6	4	10 (8%)
Unsure	34	7	41 (32%)
Is there a need for a group to support female surgeons?			<i>n</i> = 129
Yes	7	16	23 (18%)
No	20	7	27 (21%)
Unsure	50	3	53 (41%)
Missing	18	8	26 (20%)

The need for a formal mentorship group for all surgeons was recommended by 60% (78/129) of the participants, whereas 18% (23/129) reported the need for a group to specifically support female surgeons; 16 out of the 23 (70%) respondents were female.

Discussion

Our survey shows that South African general surgeons and trainees perceive the need for mentorship in surgery. Eighty-three per cent of participants regarded the presence of a mentor as important, yet two-thirds did not have a mentor in surgery. Sixty per cent of participants reported that a mentorship programme would facilitate surgical training and a similar amount further reported the need for a formalised mentorship group for all surgeons.

Mentors can play a role in aiding retention of surgeons and increasing career satisfaction by creating a supportive environment that cultivates learning, advice on how to mitigate stress and decrease barriers to pursuing surgical careers, particularly for female doctors.¹⁰ Surgical trainees in orthopaedics who had mentors reported significantly higher job satisfaction and career development than those without mentors.¹¹ There are several barriers to effective mentorship which include time constraints, generational and cultural differences, scarcity of qualified mentors and gender

differences.⁸ While mentorship has often been regarded as a casual relationship, recent literature argues that mentorship should be cultivated in surgical programmes as this is an important method of teaching both technical and non-technical skills.^{8,12} Formalised mentorship programmes are becoming increasingly important globally for their ability to address mentor time constraints, increase confidence and interest in surgical careers among medical students,¹³ and increase satisfaction of the mentorship environment among surgical trainees.¹¹ A recent study in the United Kingdom reported that 83% of participants (surgeons in various surgical specialties) were willing to undergo formal mentorship training to increase the number of qualified mentors and improve effective mentorship.¹⁴ However, formalised mentorship programmes require involvement of the surgical department and the academic institution to ensure success.⁹

Numerous organisations, including the College of Surgeons of East, Central, and Southern Africa, have established formalised mentorship groups specifically for female surgeons in all specialties.¹⁵ These dedicated groups for women in surgery have helped to improve retention of female surgeons in the field by increasing academic and leadership opportunities and providing support for challenges that are unique to female surgeons.^{15,16} A 2017 study reported that same-sex mentorship was preferred among females and could positively influence career choice and address barriers to pursuing surgery, advocating for the development of national mentorship programmes in the United States.¹⁷ Our study showed that 45% of female participants had a mentor, and an overwhelming majority (84%) of mentors were male, which could be explained by the male-dominated nature of surgery in South Africa but also suggests a lack of female mentors.

Nearly two-thirds of participants in the current study reported the need for a mentorship group for all surgeons and 70% of female respondents reported the need for a dedicated group to support female surgeons. Despite this, there is no published data as to whether South African academic institutions have formal mentorship programmes in general or for females specifically and if they are effective. Even in institutions that have established these programmes, there is no data on their effectiveness. We believe it should be a priority to establish formalised mentorship programmes in surgical training programmes whilst at the same time devising metrics to assess their value.

It is recognised that there are several inherent limitations and challenges associated with surveys. There was a relatively low response rate, and the study sample was not representative of all regions and academic institutions in South Africa despite constant communication and reminders to encourage survey completion. Being embedded in a larger questionnaire meant that for simplicity of completion mostly single-answer responses were used. As a result, we were unable to do a more qualitative assessment of some responses; for example, reasons why respondents felt it is important to have a mentor or what aspects the respondents felt they lacked in their training that could be improved by being mentored.

Conclusion

Despite these limitations, over 80% of the South African general surgeons and surgical trainees who participated in

the study valued mentorship and 60% felt there was a need for a formal mentorship programme to facilitate surgical training.

Conflict of interest

The authors declare no conflict of interest.

Funding source

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Disclaimer


This survey was initiated by and conducted under the auspices of the Association of Surgeons of South Africa (ASSA).

Ethical approval

Ethical approval for this study was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee (protocol number: BREC/00002259/2020).

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