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Perception of Gender Issues among Surgical Residents and their Supervisors

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Abstract

Objective: To discover attitudes and perceptions about gender-related issues in surgical residents and supervisors in major teaching hospitals of twin cities.

Methods: This study was conducted in Rawalpindi and Islamabad during July and August 2020. Responses from 22 surgical training supervisors from five institutions and 49 surgery residents from three training institutions were collected via separate questionnaires. These were based on a 5-point Likert scale. Responses were tabulated and analyzed on SPSS version 23.

Results: Among the 49 residents, 53.1% (n=26) were men and 46.9% (n=23) were women. Of these, only 19% (n=10) felt any gender discrimination in the workplace. This perception was comparatively more in men (P=0.006). More males felt comfortable working at odd hours than women (P=0.005). Childcare service was not a requisite for 77% of residents. Those who required it were mostly women (P=0.050). 64% (n=14) of the supervisors were men. Only 36% (n=8) considered gender to be unimportant during selection of residents. There was a slight tilt towards preferring male residents during selection. More than half of all supervisors considered men to be more confident, better leaders and decision-makers in the emergency setting.

Conclusion: Gender is not felt as a discriminatory factor by residents during training. Female residents suffer during training due to family obligations, pregnancy and parenthood. These challenges may be facilitated by changing surgical culture; However, supervisors disagree. Supervisors rate men higher on confidence, decision making and availability and tend to incline towards male residents while selecting. During training, supervisors do not discriminate among residents in imparting training and assigning tasks.

Keywords: Surgery; Surgeons; Career choice; Education; Gender bias.

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1. Introduction

Surgery has long remained a domain of male surgeons. As more female residents join a working environment that has a predominantly male character, certain gender-related issues are bound to crop up that affect surgical training.[1] It is postulated that the biological and career development time clocks are in perpetual conflict. This has been reported to affect females more than males in a high-stress, time-intensive speciality like surgery.[2] Cultural roles assigned to females also affect the career aspirations of female graduates. A study conducted in 2018 in Karachi reported that only 19.4% of medical students foresaw a career in surgery.[3] It becomes necessary to maintain a gender equation in the workplace as any attempt to accommodate peculiar requirements of female residents may be viewed by their male counterparts as favouritism. Some authors have reported claims that female doctors are favoured more in some surgical centres.[4] Whereas others have reported that male surgical residents are given more opportunity to perform surgical procedures independently as compared to their female counterparts.[5]

In Pakistan, the number of female doctors has increased over the past decade. Although female doctors are 49.9% of all registered doctors in Pakistan, Pakistan Medical and Dental Council statistics of 2020 revealed that female doctors in Punjab, Sindh, KPK, Baluchistan and Azad Kashmir account for 52.6%, 53.6%, 35.6%, 42.3%, and 50.4% respectively.[6] Despite this large proportion of female medical graduates, the proportion joining for training in surgical specialities has been considerably low. The reasons female graduates not opting for surgery are as much in the hospital as outside it.[7] Nevertheless, in certain parts of the country like Karachi, Lahore and Rawalpindi/Islamabad, female graduates are opting for training in general surgery and allied specialities in increasing numbers. All stakeholders must bring about necessary changes in the workplace to make this

influx smooth and beneficial for patients, teachers and residents alike. Patients, their attendants, fellow residents, consultants and training supervisors all need to mould their perceptions and attitudes in a changing work environment. This study intended to probe into gender issues during surgical training by gauging the opinions of male and female residents and supervisors to form a basis for creating a healthy and congenial work environment. The objective of this study was to find out the attitudes and perceptions of surgical residents and supervisors in major teaching hospitals of Rawalpindi and Islamabad about gender-related issues in surgical training.

2. Materials & Methods

This study was conducted in the twin cities of Rawalpindi and Islamabad during July and August 2020. Data obtained from responses from surgical training supervisors from five postgraduate teaching institutions and residents in surgery from three training institutions was included.

The sample size was calculated by using the WHO sample size calculator. A total of 75 residents (25 each from 03 training institutions) and 30 supervisors (06 each from 05 institutions) were given the questionnaires. The sampling technique was non-probability consecutive sampling. Although an attempt was made to include an equal number of male and female residents and supervisors, it was not possible due to a smaller number of females. The anonymity of respondents was strictly observed.

Separate questionnaires were developed for supervisors and residents based on a structured 5-point Likert scale. A validated survey developed by Bruce et al,[8] was modified and some relevant points from the Career Barriers Inventory,[9] were included. A few open-ended questions were incorporated into the questionnaire for residents. These questions pertained to gender-related personal experiences and suggested any changes in the working environment of surgery to make it more congenial for everyone.

Forty-nine residents and 22 supervisors responded. Responses of supervisors and residents of both genders were tabulated and analyzed on SPSS 23. Frequencies were described in percentages and number of responses. Differences between the responses of male and female residents and supervisors were analyzed by using the chi-square test. A p-value of 0.05 or less was considered significant. Responses to open-ended questions were described as such.

3. Results

Out of a total of 49 residents included in the study, 53.1% (n=26) were men and 46.9% (n=23) were women. 30.6% (n=15) were from year 1, 34.7% (n=17) from year 2, 12.2% (n=6) from year 3, and 22.4% (n=11) from year 4 of surgical training. 30 were unmarried, 19 were married and only 13 had one or more children.

The difference between male and female resident responses was statistically insignificant (Table 1). 73% (n=36) of residents agreed that they feel physically safe in the workplace. Although there was no significant difference in perception among both genders about workplace safety and harassment, 61% (n=30) thought that no serious action would be taken if they reported gender-related workplace discrimination or harassment. Men perceived gender discrimination in the workplace more than women (P=0.006). Although 77% of residents thought they did not require childcare services, more women thought they depended on a childcare facility (P=0.050). Gender responses to other external factors were comparable (Table 2).

Only a few residents responded to open-ended questions. A few women believed that gender affected the way they were treated in training. Women wanted flexible work hours to enable them to look after their children. They also suggested appropriate accommodation for female residents and safe daycare services for their children.

Out of 22 supervisors who responded to the questionnaire sent to them, 64% (n=14) were men and 36% (n=8) were women. The mean age was 50.64±8.28 years. Thirty-six percent (n=8) supervisors considered gender to be unimportant whereas 64% (n=14) felt gender is an important factor to be considered during the selection of residents. There was a slight tilt towards preferring male residents during selection among supervisors of both genders (Table 3).

Table 1: Responses of residents about the learning environment

Response	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	P Value
I feel I am a valued member of my surgical team						0.568
Male	3	1	6	14	2	
Female	0	1	7	13	2	
Total	3 (6%)	2 (4%)	13 (27%)	27 (55%)	4 (8%)	
I have good collaboration with my colleagues						0.279
Male	0	0	5	13	8	
Female	0	2	2	14	5	
Total	0	2 (4%)	7 (14%)	27 (55%)	13 (27%)	
I feel overburdened by my duties						0.124
Male	5	3	8	7	3	
Female	1	7	7	8	0	
Total	6 (12%)	10 (20%)	15 (31%)	15 (31%)	3 (6%)	
I do not get enough exposure to perform surgical procedures						0.278
Male	3	7	7	4	5	
Female	0	11	6	4	2	
Total	3 (6%)	18 (37%)	13 (27%)	8 (16%)	7 (14%)	
I am treated equally as any other resident of my level of training regardless of gender						0.105
Male	4	0	1	15	6	
Female	1	2	5	12	3	
Total	5 (11%)	2 (4%)	6 (12%)	27 (55%)	9 (18%)	
I feel patients are more comfortable with residents of the same gender as them						0.209
Male	0	3	5	9	9	
Female	0	6	3	11	3	
Total	0	9 (18%)	8 (16%)	20 (41%)	12 (25%)	
I feel physically safe in the hospital and ward						0.433
Male	3	2	3	11	7	
Female	0	1	4	13	5	
Total	3 (6%)	3 (6%)	7 (14%)	24 (49%)	12 (25%)	
I feel discriminated in my working environment due to my gender						0.006
Male	10	3	5	6	2	
Female	2	11	8	1	1	
Total	12 (25%)	14 (29%)	13 (27%)	7 (13%)	3 (6%)	
I am confident in identifying and reporting discrimination /harassment						0.816
Male	1	2	6	12	5	
Female	1	3	3	13	3	
Total	2 (4%)	5 (10%)	9 (18%)	25 (52%)	8 (16%)	
I feel that serious action will be taken in case I report a workplace-related discrimination/ harassment						0.216
Male	4	2	8	8	4	
Female	1	6	9	6	1	
Total	5 (10%)	8 (16%)	17 (35%)	14 (29%)	5 (10%)	

Table 2: Gender comparison of residents based on family-related problems that affect training

Response	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	P Value
I feel I am unable to do justice to my work due to family						0.120
Male	8	2	5	5	6	
Female	3	7	8	4	1	
Total	11 (23%)	9 (18%)	13 (27%)	9 (18%)	7 (14%)	
I find it difficult to be on call/ attend calls at odd times						0.005
Male	3	8	1	10	4	
Female	0	4	11	7	1	
Total	3 (6%)	12 (24%)	12 (24%)	17 (36%)	5 (10%)	
I depend or will depend on childcare facilities for my children						0.050
Male	21	3	1	0	0	
Female	13	1	3	3	4	
Total	34 (69%)	4 (8%)	4 (8%)	3 (7%)	4 (8%)	
I considered or may consider leaving training due to my problems. (2 male and 1 female did not respond)						0.181
Male	13	2	6	3	0	
Female	7	8	3	3	1	
Total	20 (44%)	10 (22%)	9 (19%)	6 (13%)	1 (2%)	

Table 3: Comparison of supervisor responses based on gender

Responses	Male Residents	Female Residents	Both	P Value
Who are you more likely to select for training in surgery?				
Male supervisor	4	0	10	0.291
Female supervisor	4	0	4	
Total	8 (36%)	0	14 (64%)	
Which residents are more confident in the surgical profession?				
Male supervisor	10	0	4	0.311
Female supervisor	6	1	1	
Total	16 (73%)	1 (4%)	5 (23%)	
Which residents are better at the execution of patient care?				
Male supervisor	3	3	8	0.043
Female supervisor	1	6	1	
Total	4 (18%)	9 (41%)	9 (41%)	
Who is better at decision-making in an emergency setting?				
Male supervisor	7	1	6	0.459
Female supervisor	6	0	2	
Total	13 (59%)	1 (4%)	8 (36%)	
Which residents are more likely to be available at all hours?				
Male supervisor	9	0	5	0.013
Female supervisor	3	4	1	
Total	12 (55%)	4 (18%)	6 (27%)	
Who is more likely to practice professionalism and ethics?				
Male supervisor	1	4	9	0.182
Female supervisor	2	4	2	
Total	3 (14%)	8 (36%)	11 (50%)	
Who is likely to demonstrate better leadership capability?				
Male supervisor	7	0	7	0.246
Female supervisor	6	0	2	
Total	13 (59%)	0	9 (41%)	
Whose training is likely to be affected due to family responsibilities?				
Male supervisor	0	13	1	0.117
Female supervisor	0	5	3	
Total	0	18 (82%)	4 (18%)	

More than half of all supervisors considered men to be more confident and better at leadership and decision-making in an emergency setting. During the training period, no significant difference was found among male and female supervisors in their attitude and rating of residents (Table 3). There were only 02 areas of significant difference among male and female supervisors: First, in their opinion about the availability of residents at all hours (P=0.013) as most men thought female residents are not available at odd hours; Second, more women supervisors perceived that female residents are better at providing patient care whereas men thought that both male and female residents are equally good (P=0.043).

There was a consensus that family responsibilities are more likely to affect the training of women residents. Eighty-two per cent opined that training women are more likely to suffer due to family responsibilities (Table 3). Only 13% (n=3) thought that the working environment needs to change in surgical departments to accommodate women.

4. Discussion

This study has attempted to capture the nuances of gender issues in surgical training as perceived by residents and their supervisors, both male and female, in the twin cities of Rawalpindi and Islamabad. This is one of the few regions in Pakistan that has seen a surge in female graduates joining for training in surgery and allied specialities.[6]

In their responses, residents felt that they were by large, equally treated regardless of gender. 54% of residents reported no discrimination based on gender at their workplace. This contrasts with a similar study by Bruce et al that reported 53 out of 68 respondents as having experienced gender discrimination.[8] Surprisingly, more male rather than female residents indicated that there was gender discrimination in their workplace (P=0.006). This is contrary to previous studies in which more women reported experiencing discrimination during postgraduate training.[10,11] Sixty-one per cent of residents felt that reports of gender harassment or discrimination would not be taken seriously by their seniors. This conforms with a previous report from Massachusetts General Hospital where 65% felt the same.[11] Males were more comfortable working during odd hours and at a stretch as compared to their female counterparts (P=0.005). Previous studies have similar findings.[12,13] About a quarter of women felt that they would have to rely on a maid or a daycare facility to take care of their children during working hours or when they were on call. Childcare facilities in their workplace were either non-existent or not safe. These results are no different than those reported from a US study of 347 women in which only 18.4% reported the presence of an adequate institutional childcare facility.[14]

This study revealed that supervisors of either gender preferred male postgraduate trainees during the selection process. Only 22% (n=5) of supervisors felt that more female graduates joining surgical specialities is a good development. This is no different than reported elsewhere as gender bias against women during selection and recommendations for a surgical residency is not uncommon.[15,16] Our results showed that once selected, residents of both genders were treated equally by supervisors in matters of training, patient care, leadership and assigning duties. They rated them similarly on decision-making, emergency response, confidence, efficiency, leadership, punctuality and professionalism. This is at variance with other studies. Schueneman et al,[17] reported in 1985 that although women rated higher in academic achievement, they were less proficient in surgical skills due to being more cautious. Thirty-four years later, very little had changed in perception as Gerull et al,[18] stated that women were consistently rated lower in assessments by their superiors. Could it be that Pakistani supervisors are less gender biased in their assessment?

There was a consensus among all supervisors that training of female residents is more likely to be adversely affected due to family responsibilities. This is because of the assigned gender roles wherein many female residents are expected to carry out all household work in addition to their professional work. In addition, the time of residency frequently coincides with the time that most female residents get married and experience parenthood. This multiplies the burdens placed on them. A nationwide United States survey of surgery residency programs conducted in 2016 concluded that parenthood adversely affected the training of women residents.[19] Surprisingly, most supervisors thought that residents of both genders were equally distracted after getting married or having children (P=0.105). Although no previous data is available on this aspect, the literature suggests that women have been seen to be more

distracted at the workplace after getting married or rearing a child.[20]

There was a significant difference in perception among male and female supervisors about the ability of female residents to be available for duty in the hospital at odd times (P=0.013). This is expected in a Pakistani city because of security concerns, availability of transport, childcare issues and other peculiar cultural handicaps. Nevertheless, female supervisors disagreed with the notion that female residents are not available at all hours. Women surgical residents in the United States reported spending more hours in the hospital as compared to their male counterparts.[21] It could have multiple reasons including better hospital accommodation, long travel distances, and availability of institutional childcare.

An area of discord was the claim by women supervisors that women residents provide better patient care than men (P=0.043). This compares favourably with what has been reported by Gerull et al.[18] Male supervisors believed both genders perform equally in this area. Also, the supervisors were asked about their opinion of the need to bring about changes like flexible duty hours and the provision of institutional childcare facilities. Only 13% (n=3) felt the need to bring about such changes to facilitate women residents.

Gender issues in surgical training have been explored in most countries with a sizable proportion of female residents.[22-24] This study has attempted to lay the groundwork by documenting these issues in the twin cities of Rawalpindi/Islamabad. As women graduates outnumber men in Pakistan, more women are bound to opt for specialization in surgery and allied fields. This necessitates a proactive approach to steer the surgical culture from a predominantly male to an inclusive one. A qualitative study to delve deep into these issues is needed. This may help in bringing about a positive change in attitudes and working environment that is practicable for residents and surgeons of both genders. Further work is required to determine the nature of these changes and the method of their implementation.

5. Conclusion

Residents do not discriminate against each other based on gender. Training of female residents suffers due to family obligations, pregnancy and parenthood. The impact of family obligations may be lessened by changing surgical culture, but supervisors do not feel so. Supervisors are more inclined to select male residents as they rate men higher on confidence, decision making and availability. During training, supervisors do not discriminate among residents in imparting training and assigning tasks.

CONFLICTS OF INTEREST- None

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M.I, M.S.S, M.N - Experimentation/Study Conduction
S.I.S, S.S - Analysis/Interpretation/Discussion
M.I, M.S.S - Manuscript Writing
S.I.S, S.S - Critical Review
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