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Women in surgery: Analysis of female surgeons in Turkey

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Abstract

Aim: When it comes to choosing a medical specialization, the current worldwide lack of interest among women in the surgical branches of medicine is noticeable. Furthermore, the ratio of women to men is quite low and can be attributed to many negative issues.

Material and Methods: We administered a 98-question survey to 196 female surgeons from different branches of medicine. The data were recorded in Microsoft Excel and analyzed using SPSS version 22.0 software.

Results: Our study investigated the factors affecting the progress of women in surgical careers and included 196 participants. The majority of the surgeons who completed the research questions were employees of neurosurgical departments (36.2%). Of the 196 study participants, 49.0% were >40 years of age, and 51.0% were ≤ 39 years of age. Among the surgeons included in our study, 42.6% stated that they had experienced negative interactions with their male colleagues. The participants responded that the good side of being a surgeon was the ability to perform surgery (87.7%), creating differences in patient outcomes (70.4%), and the diversity of tasks (32.1%).

Discussion: Currently, over 50% of medical school students are women, and the surgical profession is typically male-dominated. Worldwide, women surgeons are confronted with gender bias and face numerous challenges and obstacles in terms of competence, work ethic, unequal job opportunities, and undertaking academic or professional leadership roles. Creating a supportive environment where women surgeons can succeed will have a positive impact on society as a whole.

Keywords

Surgeons, Female, Career Mobility, Physicians, Women

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Introduction

The surgical profession has traditionally been male-dominated, with women surgeons playing background roles. In some studies, this male-dominated hierarchy is even referred to as "gang culture" or a "men's club" [1,2]. Today, over 50% of medical school students are women [3]. However, women are less involved in surgical fields, and this has been attributed to factors such as having children, significant lifestyle effects, long and irregular working hours, family responsibilities, inadequate mentoring, and the "pipeline effect," which theorizes that there is not enough time to see an improvement in numbers.

Changes in the roles of men and women in society and in work–life balance have been instrumental in initiating changes in the patriarchal structure of the surgical profession. Consequently, the number of women in surgery has steadily increased over the past decade. Our study aimed to better understand the factors affecting the progress of women in surgical careers and to collect and analyze data about the experiences of women surgeons in Turkey.

Material and Methods

All experiments were conducted in accordance with the relevant guidelines and regulations under Ethical approval and participation approval. Our study was approved by the ethics committee at Ankara Yıldırım Beyazıt University (meeting date and approval number: 07.09.2020-24). Informed consent was obtained from all participants and/or their legal family.

The subjects in our qualitative study were female surgeons. They were selected using purposive sampling, a non-probability sampling technique. Since age is considered a critical variable in determining the problems experienced by women, we selected women across all age groups so that comparisons could be made.

Our online questionnaire was titled "Women in Surgery: Analysis of Female Surgeons in Turkey." It was prepared as a Google Form so that the study participants could access it online. Then online questionnaire was sent to surgical science associations and delivered to the study participants through these associations from February 4 to September 7, 2021.

The first page of the research form provided participants with informed consent about the purpose of the research, the time required to complete the questionnaire, the confidentiality of the answers given, the fact that participation was voluntary, and how to contact the researcher.

The questionnaire comprised 98 questions about participants' demographic characteristics and covered the topics of work intensity, academic research efficiency, career satisfaction, work–life balance, gender opportunities, mentorship, and exposure to harassment.

The data were recorded in Microsoft Excel (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS version 22.0 software (IBM Corporation, Armonk, NY, USA). The Chi-Square test of independence was used to statistically evaluate the obtained data. P values < 0.05 were considered statistically significant.

Results

Our study investigated the factors affecting the progress of women in surgical careers and included 196 participants. (Figure 1).

Demographic Information of Female Surgeons

The proportion of participants aged >40 years was 49.0%, and 51.0% were aged ≤39 years. Over half of the participants lived in metropolitan city (Ankara, 34.4%; Istanbul, 33.3%). The proportion of participants who continued their education was 21.0%, while 44.1% worked as specialists. Of the female surgeons who continued their assistant training, 51.0% studied at education and research hospitals and 48.0% at state university hospitals. Over 52.0% of the female surgeons who participated in our survey were employed in academic positions in state-affiliated health institutions and 53.7% in educational research hospitals. Furthermore, 41.3% had worked for 11–20 years and 30.7% for 1–10 years since graduating from medical school. Over half of the respondents (62.8%) were married or living with a partner, 32.1% were single, and 70.6% did not have children.

Workload

Among the participants who completed their education, 48.5% averaged ≥80 working hours per week. In the first 10 years of their career, 72.8% of participants did not devote any time to academic study.

Academic Research Efficiency

We found that 36.7% of participants published articles in peer-reviewed journals. The major influencing factors affecting publication output were time constraints (70.4%), lack of a supervisor (52.0%), and lack of support from the department or institute (50.0%).

Career Satisfaction

The proportion of participants who agreed that if they could turn back the clock, they would make the same career choice again was 48.5%. 63.6% of participants stated that there were no female surgeons at the associate professor/professor level in the department during the assistant process. The proportion of participants who agreed that having other female surgeons in the department during surgical training made their training easier was 50.8%.

Pregnancy

Over half of the study participants (yes, 48.1%; partly, 7.6%) postponed pregnancy due to their work. Furthermore, 9.7%

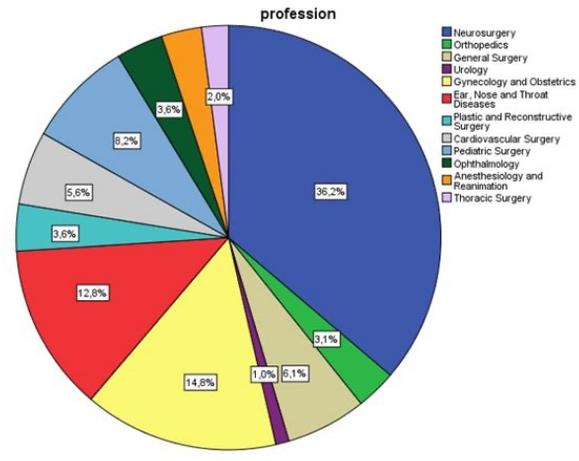

Figure 1. Classification of female surgeons participating in our survey according to their professional specialty

stated that maternity leave following childbirth was not granted at the institutions where they worked (Figure 2).

Gender Opportunities

Among the surgeons included in our study, 42.6% stated that they had experienced negative interactions with their male colleagues. Only 56.2% of participants stated that the program or department where they worked provided equal opportunities for hiring male and female specialist surgeons, and only 54.4% felt that their employer supported equal opportunities for men and women.

Mentoring

We found that 26.0% of women surgeons were members of the women's group of national associations related to their specialty, and 52.0% were not members of any associations. Furthermore, only 7.4% were trained as mentors. The proportion of participants who stated that it would be beneficial and supportive to create a separate organization for female surgeons was 43.6% (Figure 3).

Leadership

The proportion of participants who stated that they were members of national and international organizations was 16.9%. The rate of personal participation in national and international organizations was 57.6% and 86.7%, respectively, and the rate of personal participation as a mentor was 42.4%.

Becoming a Surgeon

The participants responded that the good sides of being a surgeon were being able to perform surgery (87.7%), creating differences in patient outcomes (70.4%), and the diversity of tasks (32.1%).

The participants responded that the bad sides of being a surgeon were the intensive workload (70.9%), less personal time (61.7%), and the fact that male colleagues consider surgery a job for men, not women (46.4%). Furthermore, they considered that the worst part of being a surgeon was the lack of financial return, statistical analysis, interpersonal conflict in the workplace, and male colleagues who considered that being a surgeon was a man's job. Additionally, we observed a statistically significant relationship between the age of women and the perception that surgery was a man's job ($P < 0.05$).

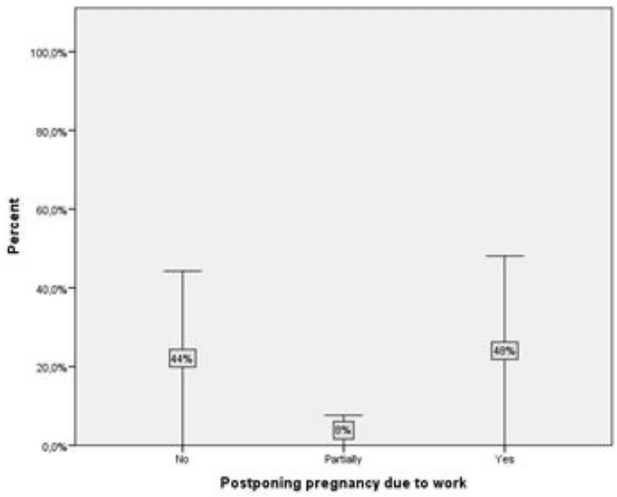

Figure 2. Postponement of pregnancy by women in surgery due to their work life

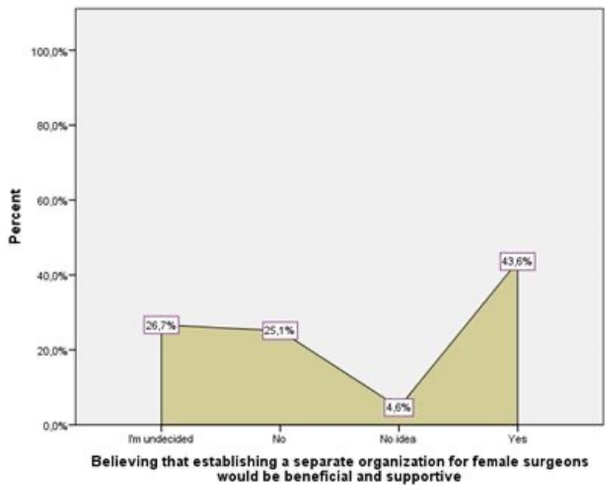

Figure 3. Graphical representation of the participants' views on the existence of women-led organizations

Discussion

We believe that Surgical careers combine intellectual expertise and manual skills in the treatment of patients and demand greater decisiveness than other medical specialties.

Turkey is a developing country geographically located primarily in Asia. Most Turkish societies have a patriarchal structure that is associated with their culture. [4] In our experience, women can only attain a senior position in their chosen field by making extra effort.

The psychological extension of gender discrimination is a phenomenon that has long been discussed, mainly in relation to the concept of gender schema theory, developed by Sandra Bem in 1981 [5]. This cognitive theory explains how people become genderized and how this leads to social prejudice. The concept of gender schema refers to an organized structure with related expectations based on the biological gender of a person.

Despite the fact that half of all medical students today are women, only a small number chose a surgical specialty. Although the proportion of female general surgeons increased to 32% in 2008, equality is not expected until 2028. Significant gender disparities persist in some surgical specialties, such as cardiothoracic surgery, neurosurgery, and orthopedic surgery (5%–6.5% of women). Nevertheless, the percentage of women in surgery across all specialties increased between 1969 and 2018. However, although the representation of women has increased overall, the annual percentage change rate in neurosurgery, orthopedic surgery, urology, and cardiothoracic surgery has increased more slowly [6]. As of 2017, only 13% of the approximately 70,000 surgeons across multiple specialties in the USA were women [7]. Reasons for this include work–life balance, lack of role models and mentoring, lack of support for pregnancy and parenting, and a culture that is not conducive to women. Delaying pregnancy in favor of career advancement increases the likelihood of fertility and pregnancy complications. Furthermore, 87.96% of female surgeons have fewer children compared with their male counterparts.

Female surgeons spend more time on household responsibilities than their male counterparts. Thus, the balance of responsibilities, both at work and at home, remains an unspoken challenge for many women in academic surgery. It was reported

that 57% of female surgeons perceived sexist difficulties in their surgical careers. Furthermore, it was reported in 1994 that 96% of female medical students vs. 0% of male students viewed surgery as "negative" in relation to their gender, and gender attitudes are considered a barrier to the career growth of females in medicine.

Women with a mentor–mentee relationship were reported to have a significantly higher level of satisfaction with their career development. In a Canadian survey, 79% of female respondents stated that they had at least one mentor, and 89% of these mentors were men. Again, the same study showed that the participants wanted to work with women as mentors because they believed that a female mentor would be more helpful in advising on how to balance a career with family life.

A study in 2010 revealed that male attending surgeons were less likely to agree that surgery is a good career for women vs. female surgeons. Additionally, a survey of 663 cardiothoracic surgeons and trainees reported low scores for behavior supportive of women and high scores for behavior unsupportive of women [8].

Positions on editorial boards are important and considered a valuable attribute when opportunities for academic promotion arise [7]. From 1997 to 2017, the number of women serving on editorial boards of high-impact surgical journals increased from 5% to 19%. However, this ratio was much lower than the ratio of men in total [9]. Similarly, it was reported that 43% of surgical conferences did not have women as general speakers [10].

According to the Association of American Medical Colleges, there were only 25 females with the job title of Leader in Surgical Departments in the USA in 2015-2016. As of 2017, only 5% of surgical department heads in the USA were women [11]. Currently, surgical assistants make up 38% of the total number of women in surgery in the USA. Despite this, the number of women in academic surgical positions is surprisingly low.

In society, it is preferable for women to work in jobs that are generally associated with their role as mothers. It is noteworthy that women's work in the field of surgery is considered distant from their role as mothers. It is possible that the insistence on the view of surgery as a male job is associated with the fact that the male-dominated society does not want to give up such jobs to a woman because men want to maintain their power.

We found that the proportion of participants who responded that the positive side of being a surgeon was job opportunities decreases with age across all specialties. As age decreased, the proportion of the participants who indicated that surgery is considered a male job among both male colleagues (60.0%) and patients (58.0%) is almost double the proportion of those who are older. This may be due to the fact that the number of assistants and specialists participating in our study was high, which is evident from the demographic data, and they are more exposed to negativity and gender discrimination at the beginning of their working life in comparison with associate professors and professors.

In 2015, a social media movement was launched under the title #İLookLikeASurgeon to provide visibility to women in surgery. This movement led to 128 million impressions in 3 months and serves as an indication that the problems faced by female surgeons are global. Thanks to these efforts, the face of surgery has begun to change, but more work needs to be done.

Limitation: The limitation of our study is that among the surgeons who completed the research questions, employees in neurosurgical departments were the most numerous, which could have led to biased results.

Conclusion

Although gender equality in surgery is progressing, significant discrimination against women continues. Male surgeons should be allies of their colleagues, actively supporting and encouraging the female surgeons with whom they work. Creating an environment where women can contribute, develop, and succeed by working in the best way possible will have a positive impact on society, setting an example for younger generations in the surgical field, as it will in every field.

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Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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