

## Feminization in Orthopedics

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### Abstract:

**Introduction:** In older times the prominence of females in medication was high when there was a concept of saint and goddess who used to treat patients. Women were playing an important role and treatment of patient in Greek human advancement, performing medical procedures and were occupied in dealing with patients. With the passage of time it is observed that there is a scarcity of role of female population in adopting Orthopaedics Surgery as their carrier. Between 1800 and 1900 surgery became more defined and started introducing sub-specialties in surgical field. After 1900 despite resistance, women continued to infiltrate in the field of medicine and surgery. After these dramatic changes the ratio of females in medical education increased day by day, now it reached up to almost half of total medical students. In spite of women account for approximately 50% of the medical students in the United States, only 13% females are orthopedic surgeons and 4% are fellows of the American Academy of Orthopaedic Surgeons.

**Material and Methods:** We reviewed several articles in which surveys are done on the basis of questions that why the females are not choosing orthopedic surgery as their carrier. What are the problems facing them to pursue their career? What are the further professional choices in this field and how do we encourage other female student for pursuing the career.

**Results:** The most common reasons for having chosen orthopaedic surgery were enjoyment of manual tasks 71%, professional satisfaction 54%, and intellectual stimulation 53%. The most common reasons indicated for why women might not pursue this career included inability to have a good work, life balance 78%, perception of too much physical strength is required 74%, and lack of strong mentorship in medical school 69%.

**Conclusion:** We conclude that the reasons why women do not pursue this career. The reasons included inability to have a good work, life balance, perception of too much physical strength is required and lack of strong mentorship in medical school.

**Keywords:** Orthopaedics surgery, role of women in orthopaedics surgery, professional satisfaction, manual task, great physical activity.

### Introduction:

In old times the prominence of females in medication was high when there was a concept of saint and goddess who used to treat patients.

In early Egypt, love of Isis, the most prominent goddess of medication, followed; sanctuaries were made in her distinction in which numerous female practitioners were prepared and famous for tending to youngster-bearing issues. Medical

procedures were regularly done throughout the entire existence of Egypt, and in 1500 BC there were records of female clinical schools.<sup>1</sup> Women were treating patients in Greek human advancement, performing medical procedures and were occupied in dealing with patients. Female specialists worked one next to the other with men in Rome.<sup>1-2</sup>

Females were directed home in the declination

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Table 1: Female residents by speciality and year

Speciality	Year		
	1970 <sup>a</sup>	2001 <sup>a</sup>	2010 <sup>b</sup>
Orthopaedic Surgery	0.61%	8.97%	13.2%
Neurosurgery	0.90%	10.59%	13.9%
Urology	0.27%	12.69%	23.1%
Otolaryngology	0.64%	18.55%	32.3%
General Surgery	2.36%	23.74%	36.2%
Ophthalmology	3.69%	32.41%	41.4%
Obstetrics and Gynaecology	4.79%	71.41%	81.4%

<sup>a</sup>As reported by Blackmore et al.<sup>6</sup>

<sup>b</sup>Reported as percentage of Accreditation Council for Graduate Medical Education residents and fellows<sup>7</sup>

of the Roman Empire by brute clans as heavenly orders. During 1300-1600, females were not permitted to instruct in medication in Europe and it was the most obscure period for them.<sup>3</sup>

Between 1600 to 1800 clinical training began in any case coordinated way as advancement of the clinical educational system began. There was no different instruction of outer muscle framework at first and individual with no expert degree used to treat bones. In 1800 ladies at long last loosened things up; Elizabeth Blackwell was the principal lady of Western Medical School in 1847. Between 1800 and 1900 medical procedures turned out to be more characterized and began presenting subspecialties in careful field. After 1900 not-with-standing obstruction, ladies keep on invading in the field of medication and medical procedure. In 1970, in the wake of the passing of Title IX of advanced education act, major crushing and sensational change inside clinical schools was expanding convergence of female understudies.

Between 1800 and 1900 surgery became more defined and started introducing sub-specialties in surgical field. After 1900 despite resistance, women continued to infiltrate in the field of medicine and surgery. In 1970, after the passing of Title IX of higher education act, major devastating and dramatic change within medical schools was the increasing influx of female students. Ruth Jackson became the first female orthopedic surgeon in 1932. She was the founder of The Ruth Jackson Orthopaedic Society

(RJOS) founded in 1983. Since 1970, many of females infiltrating many surgical fields but still in a small number of females in orthopaedic surgery.<sup>6</sup>

After these dramatic changes the ratio of females in medical education increased day by day, now it reached up to almost half of total medical students. Although women account for approximately 50% of the medical students in the United States, only 13% females are orthopedic surgeons and 4% are fellows of the American Academy of Orthopaedic Surgeons (AAOS). Furthermore, a smaller number of women continue careers in orthopaedic surgery than other sub-specialty, and orthopaedic surgery has the very lowest representation of female trainees.<sup>4</sup>

The main purpose of this review article is to identify why women are not in the field of orthopedics and what are the problems they have faced in their career. In this review, we also identified (1) what reasons do women orthopaedic surgeons chose this specialty? (2) What perceptions do women orthopaedic surgeons think of other women choosing this field? (3) What are the benefits of early exposure to orthopedics and mentorship play in this choice? (4) What professional and personal choices do women in orthopedics make, and how might this deliver to female students who are choosing a career path?

#### Material and Methods:

We reviewed four articles in which surveys are done on the basis of questions that where are females in orthopedic surgery? what are the problems facing them to pursue their career? What are the further professional choices in this field and how do we encourage other female student for pursuing the career?

In this review article we discuss what are the different subspecialties in orthopedics??

#### Results:

The most common reasons for having chosen orthopaedic surgery were enjoyment of manual tasks 71%, professional satisfaction 54%, and intellectual stimulation 53%.

The most common reasons indicated for why women might not pursue this career included inability to have a good work/life balance 78%, perception of too much physical strength is required 74%, and lack of strong mentorship in medical school 69%.<sup>4</sup>

#### **Discussion:**

The field of medicine is advancing. With almost an equal number of women graduating from medical school, but the number of females entering into orthopaedic surgery has smaller representative numbers than other sub-specialties throughout the start as shown in table 1.1

Although advancements in technology have leveled the playing field and have created opportunities for women to become successful orthopaedic surgeons, fewer women seek out this profession than other surgical sub-specialties.

Lack of exposure to orthopedic surgery during medical school is one of the common reasons women do not apply to orthopedic residencies. A 2012 analysis reported on medical students' motivations to enter specific fields. Only 15% of students not pursuing orthopedics experiences before medical school were the most influential compared with 27% of those pursuing orthopedics.<sup>5</sup> However, women pursuing orthopedics had influences similar to those of medical students pursuing other fields. It's important to have prior exposure to orthopedics, which is more influential. Unfortunately, musculoskeletal education in medical school has historically been deficient. 75% of student reported that having less exposure to orthopedics.<sup>7</sup>

Another major barrier to women entering the field of orthopedic surgery is gender bias. Although, now-a-days gender bias plays a less important role in comparison to the past, but some how unconscious continues obstacle. This obstacle explained by Humbyrd, MD, that women in orthopedics are often held to a higher standard, or hold themselves to a higher standard, because when there are only 1 or 2 women in a program, each woman is seen as a representative for her entire gender: "When a woman does not

do well, it's like the whole gender is taking a hit, whereas when a guy is not doing well-well, that guy sucks" (oral communication, July 2012).<sup>8</sup>

Three major assumptions about orthopedic surgery that contribute to discouraging female applicants:

1. Uncontrollable and busy lifestyle intrinsic to the specialty.
2. Necessity of enormous physical strength.
3. Overwhelming "jock and fraternity" culture (C. Day, MD, unpublished survey, Harvard University, 2012).<sup>9</sup>

The most common reasons for having chosen orthopaedic surgery were enjoyment of manual tasks, professional satisfaction, and intellectual stimulation.

Personal attributes and preferences have been noted to play a role in women's ranking lists as well.

Huntington et al, queried orthopaedic match applicants to a single orthopaedic program with a 28% response rate and noted that women (15.5%) rated personal interactions and proximity to family and friends in ranking programs.<sup>10</sup>

In Blakemore et al, evaluation of women in orthopaedic residency, the authors noted that the rate of female medical students entering orthopedics has remained constant at 0.6% over time and postulated that perceptions of need for strength and negative impact on family choice were reasons for low numbers of women.<sup>11</sup>

#### **Conclusion:**

The most common reasons for having chosen orthopaedic surgery were enjoyment of manual tasks, skilled techniques, professional satisfaction, and intellectual stimulation. The most common reasons indicated for why women might not pursue this career included inability to have a good work/life balance, perception of too much physical strength is required and lack of strong mentorship in medical school.

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**Role and contribution of authors:**

Junaid Khan, collected the data, references and did the initial write up.

Rufina Ali, collected the data and helped in introduction writing.

Shazaf Masood Sidhu, collected the references and helped in discussion writing.

Haroon ur Rashid, critically went through the article and made final changes.

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