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Representation of Women in Vascular Surgery Science and Leadership; Trends in the Past Two Decades



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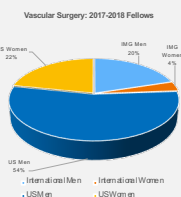
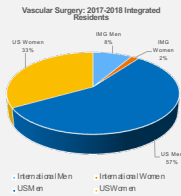
BACKGROUND:

In the last two decades, there has been an increase in the proportion of female applicants and matriculants to medical school and surgical residencies. This change indicates a narrowing of the gender gap across the levels of training. In the mid-2000s, the proportion of women applying to general surgery programs surpassed 33% and the entering general surgery resident class surpassed 40% female [1]. The 2018 rate of increase of female matriculants was 3.2% more than the prior year. In 2011, this rate was 0.3%. In 2018, 11,160 women were enrolled in medical school, comprising 51.6% of the medical school class across the country [1].

At the medical education level, the rate of increase has been faster. Since 2011, each year has seen a higher rate increase in the number of female matriculating students than the year prior. The 2018 rate of increase of female matriculants was 3.2% more than the prior year. In 2011, this rate was 0.3%. In 2018, 11,160 women were enrolled in medical school, comprising 51.6% of the medical school class across the country [1].

As women continue to comprise ever larger proportions US medical graduates, the ability to attract the brightest applicants to the field of vascular surgery has necessitated an emphasis on the recruitment of women vascular surgery residency applicants. Data from business literature shows that gender diversity and identifying with women in leadership positions correlates with young women choosing to enter a male dominated field [2].

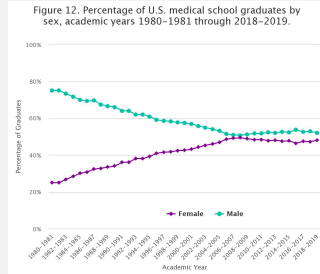
However, there is no current in-depth analysis of the gender distribution in leadership across the many vascular surgical societies in the United States. The exact extent of women vascular surgeon involvement across all the vascular surgical societies over the past 20 years is unknown.



OBJECTIVE

The purpose of this study was to evaluate the changing representation of women in regional and national vascular societies over the last 20 years.

The goal of this work is to inform all surgeons on the current representation of women in the field of vascular surgery and improve efforts to recruit the largest portion of medical school trainees into the field of vascular surgery.



METHODS

A retrospective review of meeting programs from regional and national professional vascular surgical associations (PVSA) from 1999-2019 was performed.

Presenter, moderator, members/chairs of committees, and officers (President, President-elect, Vice-President, Secretary, or Treasurer) data were collected.

Gender was categorized as binary with unclear determinations made by personal knowledge or through internet search. Names from which gender was unable to be ascertained were omitted from the data.

The data was subdivided into early (1999-2009) and current (2010-2019) periods. Percent changes compare percent of change of women in each category in current period (2010-2019) to early years (1999-2009)

RESULTS

Five regional, 4 national PVSAs, and 119 meetings were analyzed. Not all PVSAs were able to provide data for the entire study period. The data was subdivided into early (1999-2009) and current (2010-2019) periods.

The mean number of female presenters increased from 10.3% in the early years to 19.3% currently (p<0.001).

Senior authorship attributed to women has increased as well from 7.6% to 9.3% (p=0.04).

The total number of women moderators at meetings increased from 7.3% before 2010 to 18.9% (p<0.001) currently.

Female participation in committees has increased from 10.5% of members in the early time period to 23.6% currently (p<0.001).

Female committee chairs have increased from 9.3% to 17.5% (p=0.04).

Female participation at the officer level has increased considerably with the proportion of women officers rising from 5.7% to 14.2%. (p=0.01).

Finally, while there is an overall increase in numbers after 2010, there remains wide regional and national variation (Table) for women participating in science as presenters (range 7.6-34.9%), senior authors (3.9-19.9%), and moderators (5.5-40.7%).

Five PVSAs, 3 regional and 2 national, had less than 10% women at the officer level.

	Percentage of Women 2010-2019									
	Regional Societies					National Societies				
	EVS	NEVS	WEVS	SAVS	MSVS	APVSA	SVS	SCVS	P value	
Presenters	16.1%	21.40%	20.29%	21.20%	7.60%	28.00%	14.80%	17.20%	14.90%	<0.001
Moderators	16.2%	21.30%	8%	5.50%	7.10%	26.70%	40.70%	20.50%	17.80%	0.14
Senior Authors	6.2%	13%	5.3%	17.60%	4.4%	10.60%	3.90%	7.50%	19.90%	<0.001
Committee Members	16.7%	28.90%	13%	14.60%	19.5%	35.1%	23.70%	26.3%	32.5%	<0.001
Committee Chairs	10.9%	11.50%	10.3%	12.50%	16.7%	16.9%	25%	39%	26%	0.23
Officers	18%	11.20%	2.8%	2.8%	0%	4.8%	16.70%	1%	6.2%	0.14

[†]Data not available for all ages ^{**}Data only available for 2019

DISCUSSION

As women continue to comprise ever larger proportions US medical graduates, the ability to attract the brightest applicants to the field of vascular surgery has necessitated an emphasis on the recruitment of women vascular surgery residency applicants.

In 2012, the Society of Vascular Surgery has been actively recruiting women with an initiative to increase the number of women entering the field of vascular surgery [3]. Initiatives connecting women vascular surgeons to female medical students through mentoring have been cited to encourage women to consider the field [3,4]. Developing and advancing women in leadership has been identified as a crucial step in securing the field of vascular surgery.

It is evident that there has been an increase in women in leadership over the past 20 years with a faster rate of increase in current periods than past periods. There remains room for further increase in women in leadership across societies in to be representative of the number of female vascular surgery residents and to attract the brightest among the potential female applicants to the field.

There is room for further research to explore specifics behind how women advance through leadership positions.

CONCLUSIONS

The past two decades have demonstrated an increase in the number of women participating in scientific discovery and presenting their work, as well as serving as moderators at vascular surgery professional meetings.

The proportion of women in leadership positions has not followed in accordance with the increase in participation.

Efforts to attract and develop women as leaders will yield valuable role models for both undergraduate and graduate medical trainees, which may help mitigate the predicted workforce shortage and improve the diversity of patient care.

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