

REVIEW ARTICLE

Women in Cardiology: Role of Social Media in Advocacy

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Abstract: Digital and social media have transformed the field of medicine. They are powerful tools that academic and non-academic physicians and healthcare providers are using to influence others, promote ideas, obtain knowledge, disseminate research and communicate with others. The history of advocacy for women in medicine and the role of social media in influencing the choice of women to choose Cardiology as a career and its role in advocacy for Women in Cardiology (WIC) have been reviewed. It has changed the way cardiologists learn, educate, and interact with each other. Social media has proven especially useful in advocating for WIC, but whether it can help improve the numbers of female doctors going into Cardiology remains to be seen. In addition to encouraging women to pursue cardiology, social media has drawn attention to key women's rights issues affecting practicing female cardiologists.

Keywords: Women, cardiology, social media, advocacy, health care, cardiologists.

1. INTRODUCTION

Digital and social media are disruptive but also transformative to the field of medicine. They are powerful tools that academic and non-academic physicians and healthcare providers are using to influence others, promote ideas, obtain knowledge, disseminate research and communicate with others. Social media can expedite the translation of medical evidence, disrupt peer review, change the path to leadership, improve lifelong learning, connect colleagues and may even transform cardiovascular research [1]. With approximately 2 billion users worldwide and over 70% of Americans using social media platforms, social media has become intertwined with the personal and professional lives of cardiologists [2]. Social media can also be used to enhance professional networking, organizational promotion, patient care, professional and patient education and public health programs. When used correctly, social media allows endless opportunities for mentoring younger colleagues, delivering high-quality patient care, providing public education about heart disease, and providing continuing medical education. The purpose of this paper is to review the role of social media in influencing the choice of women to choose Cardiology as a career, and review its role in advocacy for women in cardiology (WIC).

2. WHY SOCIAL MEDIA?

The context of social media is broad and constantly evolving, but is generally defined as a web-based platform

that allows individuals to collaborate and gather virtually to share ideas, information, images and other content. There are multiple social media platforms available, including Facebook, Instagram, Snapchat, Doximity, LinkedIn, and Twitter. Twitter is particularly popular among cardiologists. Twitter, founded in 2006, is a free microblog of up to 280 characters per message. It has become a forum for communication among health care clinicians and scientists. These discussions are followed by patients, the public, health care journalists, and industry and financial institutions. In 2019, there were almost 3.4 billion users worldwide on Twitter and over 74% of Americans using social media platforms, with a total of 500 million tweets sent per day [3]. About 40% of those on Twitter are not actively posting content, but are following the discussions of others [4]. Further, nearly 262 million, or 79 percent, are international users, making Twitter currently the easiest platform to follow discussions both locally and globally [3].

Globally, more men than women use Twitter and men follow and retweet more men than women [3, 5]. However, in the United States, women are more active than men on the platform. Several articles in medical journals and magazines have encouraged physicians to be more active in social media for various reasons such as engagement, education, communication, and advocacy [1, 2, 4, 6-26]. Since 2001, The American College of Cardiology (ACC) WIC committee decided to make a concerted effort to attract more women physicians to go into Cardiology [27]. The hashtags #ACCWIC and #ilooklikeacardiologist made it easier for female cardiologists not only to find each other but also to show younger women what the life of a female cardiologist looks like. An additional benefit to Twitter is the direct messaging option which adds opportunities for private conversations

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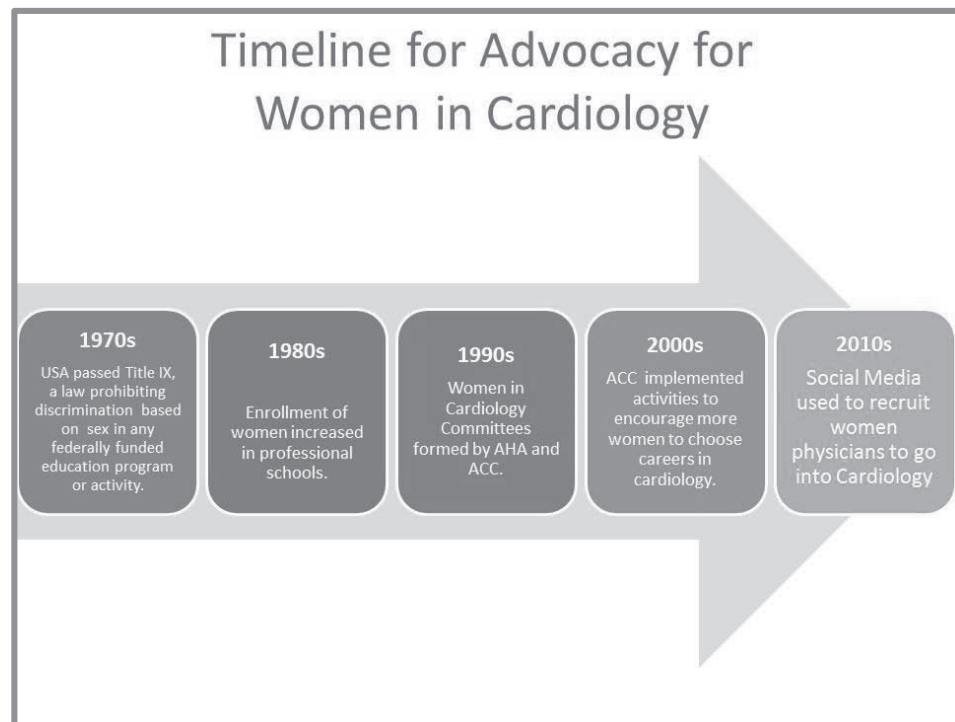


Fig. (1). Timeline for advocacy for women in Cardiology. Sources: Wenger NK. Women in cardiology: the US experience. *Heart* 2005; 91:277-9; The United States Department of Justice. Overview of Title IX of the Education Amendments of 1972. Available from: <https://www.justice.gov/crt/overview-title-ix-education-amendments-1972-20-usc-1681-et-seq>.

and mentor, supporting and coaching that can be done locally and internationally.

3. ADVOCACY FOR WOMEN IN CARDIOLOGY

Despite increased attention to gender equality and equal opportunities for men and women, women continue to remain a minority in cardiology. Fig. (1) shows the timeline for women joining the field of medicine and cardiology since the 1970s. The United States President signed Title IX of the Education Amendments of 1972, which is a comprehensive federal law that prohibits sex discrimination in any federally funded education program or activity. Its principal objective is to avoid the use of federal money to support sex discrimination in educational programs and to protect individual citizens against that action. These programs not only included traditional educational institutions such as schools, colleges and universities but also federally funded training programs including residencies and fellowships [28].

As a result of Title IX, there have been a growing number of women entering medical school. In the past decade, from 2009 to 2019, women almost equaled the number of men going into medicine, as shown in Fig. (2) [29]. With women comprising almost 50% of the medical student body with a similar proportion of internal medicine residency applicants, there appears to be a “residency to fellowship cliff.” There is a precipitous drop in cardiology, with only 21% of women in the United States, 14% of practicing cardiologists in Australia [30] and 16.8% of women in the United Kingdom choosing cardiology as a career [31]. Of these, only 10% of women elect to specialize in procedural fields [1], making the disparity in numbers real and palpable. Further,

senior levels of cardiology also continue to be dominated by males [27].

This lack of female presence in cardiology matters for many reasons, especially because WIC is critical for patient care. Several studies have shown that the sex of the physician has an effect on the outcome of the patients, often indicating that female physicians have better outcomes for various reasons [32-34]. As cardiovascular disease remains the leading cause of death in females, it is clear that WIC can have a positive impact on patient outcomes. In order to narrow down this gender gap and ultimately improve patient care, engagement with advocacy by both men and WIC is necessary [31]. Among the strategies for advocacy, social media can now be considered one of the most important methods of communication and means of advocacy for WIC.

The WIC community has grown in recent years and has represented professional women in many ways. They have quickly recognized the importance of social media by utilizing it to draw attention to women’s empowerment and women’s rights issues such as gender inequalities and discrimination. Hashtag activism has significantly increased awareness for causes important to WIC, with the hopes of ultimately inspiring positive action or reform. Tangible accomplishments include advocacy for more women on professional panels (#NoManels) and curbing harassment (#MeToo), among many others. According to Twitter, conversations about feminism have increased tremendously with prominent women spotlighting women’s rights issues and bringing conversations about it to the wider public. Men have also been recruited into the campaign for women (#He-

Can Social Media help improve the numbers of female doctors going into Cardiology and interventional Cardiology?

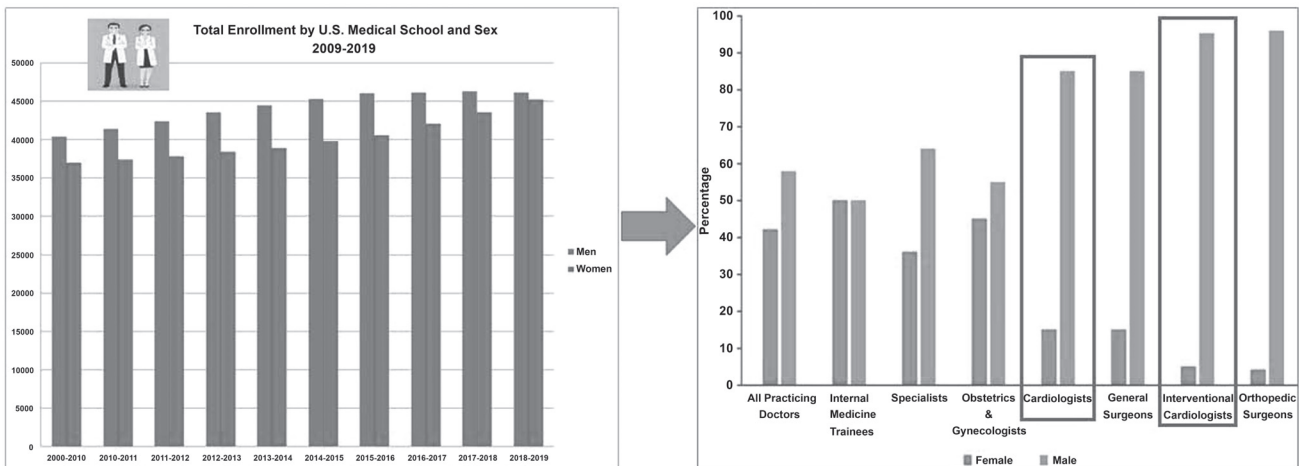


Fig. (2). Source: Association of American Medical Colleges, Accessed July 6, 2019, available from: <https://www.aamc.org/data/facts/enrollmentgraduate/>. Abbreviation: U.S. United States. (A higher resolution / colour version of this figure is available in the electronic copy of the article).

ForShe). They have been encouraged to advocate for women by speaking up when a professional committee or conference panel lacks diversity or extending research and career development opportunities to women. Thus, this new type of social media use brings along great opportunities with regard to gender equality and women's rights.

3.1. Professional Education for WIC

The communication capabilities provided by social media platforms, particularly Twitter, are also being used to provide a novel supplemental learning modality. Major cardiovascular journals and professional organizations, such as the ACC and American Heart Association (AHA), can disseminate cardiovascular health information and education quickly, efficiently, and on a worldwide scale [4]. Cardiologists with common interests can also share information by creating online learning networks. This can help women in cardiology keep abreast of medical education while maintaining a work-life balance. For instance, Twitter accounts may enhance medical education through announcements, exam preparation, and identifying continuing medical education (CME) resources [35]. Cardiology specific twitter-based journal clubs have also been established (@Heart_BMJ, #HeartJC) [36]. These online journal clubs have typically generated a large number of global participants. One of the driving factors for this success may be that the sessions are not conducted as a focused chat, but rather as an open period of discussion that can extend over time [36]. This allows individuals from different time zones to contribute at a locally convenient time. Women can also easily engage with the cardiovascular community on social media platforms to post questions with links to blogs for active discussion. Cardiologists who passively follow other users can still benefit from these additional educational resources.

Engaging in social media also allows women to virtually learn at a distance from conferences that are unable to be attended. Major cardiology conferences have established

hashtags that can be used for live Twitter feeds to exchange information on meeting events and presentations (#ACC19, #AHA18 to name a couple). These hashtags usually generate a large amount of social media traffic and commentary related to the meeting. The 2017 annual ACC Scientific Sessions (#ACC17), for instance, generated over 300 million impressions globally on Twitter using the #ACC17 hashtag [4].

3.2. Strengthening the WIC Pipeline

The AHA and the ACC have worked hard to recruit women into cardiology and encourage success through mentorship, networking, and development of leadership skills [27]. Both organizations have developed WIC committees or sections that are dedicated to these goals. The AHA has a successful travel award and scholarship program for current trainees held at the annual AHA scientific meeting and a mentorship award recognizing those who have been exceptional mentors to women in the field. The ACC has multiple programs to help recruit women into cardiology, such as their online mentorship programs and networking opportunities at scientific meetings [27]. However, many women are not aware of these programs. With 40% of American adults who use Twitter aged between 18-29 years [37], social media offers a key opportunity for improving dissemination at no cost.

In addition to the ACC scientific sessions, several regional ACC WIC meetings have been conducted in an effort to recruit younger women physicians to cardiology. These meetings are announced and discussed through social media to increase attendance. Facebook, LinkedIn and Twitter are among the commonly used platforms to market the meetings which have been very well attended. These meetings have created another way for female cardiologists to network and build friendships and collaboration closer to home. Social media provides a free and easy way to stay connected before and after the meetings.

A 2018 study of medicine residents published in JAMA Cardiology revealed that there are many negative perceptions of cardiology as a career choice including: adverse working conditions; work-life imbalance; and lack of diversity [38]. In an effort to dissuade these notions and highlight the positive aspects of practicing cardiology, the ACC WIC Section launched the #ChooseCardiology campaign [39]. The Section has invited women in residency, fellowship and early career to share why they would #ChooseCardiology, again to encourage women to consider cardiology for their career [39]. The AHA Go Red for Women organizers in Chicago wanted to reach out to younger women about heart disease, so to engage high school students, a campaign was added to introduce them to careers in STEM (Science, Technology, Engineer, Math/Medicine) called Go Red Goes STEM in 2016 [40].

4. INCREASING DEMAND FOR CARDIOLOGISTS

Due to the aging population of patients as well as cardiologists, a MedAxiom 2009 survey analysis of the Cardiovascular workforce showed that there would be a shortage of cardiologists in the next 10 years [41]. Another MedAxiom Annual Survey in 2014, showed that general/non-invasive cardiologists are the oldest segment with a median age of 56 years, followed by interventional cardiologists at 54 years and invasive physicians at 52 [41]. Alarming more than a third (37 percent) of the general/non-invasive cardiologists are 59 years or older. Overall, 15 percent of the cardiology physician workforce is age 64 years or older. Due to the aging patient population and cardiologists, it is not surprising that the analysis also found that in the United States, there is a robust pace of recruitment of cardiologists [29].

This is an opportune time to attract young physicians to consider the field of cardiology. Social media is certainly one way of convincing the young women medical students and physicians, who are facile with social media, to become a cardiologist.

5. NETWORKING

Social media platforms allow many women cardiologists to connect with other colleagues and follow prominent cardiologists and research scientists. This connection transcends geographic borders, and therefore allows users to extend their networking reach internationally. This ability to network provides a sense of community and serves as one's professional village where colleagues are able to share their professional ideas and share opinions on various topics.

Before the advent of social media, the ability to network globally was possible only by travelling to international meetings. This was very costly and was limited to academic cardiologists who were reimbursed to present their research and collaborate with other physician-scientists. Social media has altered that kind of networking and allows all physicians, including non-academic cardiologists, to network globally at any time of the day without travelling. It has also completely changed the path to leadership for some cardiologists since some of the most "followed" cardiologists are able to attract attention to their achievements aside from academic publications [1].

Women cardiologists and cardiology fellows-in-training have created membership groups on Facebook to connect with each other as a safe place to discuss interesting and challenging cases and issues that women cardiologists face. Named "Women in Cardiology," this group was created in October 2018 and already has over 1000 members. This kind of group camaraderie creates kinship and may help decrease burnout, which has become increasingly noted in physicians. A Physician Life Survey including questions about burnout was completed by 2,274 cardiologists and fellows-in-training, including 1,321 men (58%) and 953 women (42%). The survey showed that more than one-quarter of American cardiologists reported burnout [42]. This topic has been discussed by many cardiologists on various social media platforms to figure out ways to help decrease burnout rates.

Social media also creates an outlet for addressing other issues important to WIC, such as pregnancy. Female cardiologists often experience significant barriers to achieving work-life balance, especially early in their careers when pregnancy and family planning decisions are being considered [43]. According to a 2015 work-life survey conducted by the ACC WIC Section, female cardiologists were less likely than their male colleagues to be married or have children [43]. Women more commonly cited concerns regarding radiation exposure as influencing their decision to not pursue interventional cardiology, compared to men. The survey also found that most pregnancies among female cardiologists occur during fellowship (49%) or early career (63%). Therefore, many women are trying to establish their careers while raising their families, with many feeling pressured to take shorter maternity leave than available to them. Social media tools, such as the WIC Facebook group, invite open discussion in a safe environment for women to raise their concerns and seek advice about many of their pregnancy and work-life balance issues.

CONCLUSION

Social media has transformed the cardiovascular field with its wide-reaching potential at almost instantaneous rates and at no cost. It has changed the way cardiologists learn, educate, and interact with each other. Among its many benefits, social media has proven especially useful in advocating for WIC. In addition to encouraging women to pursue cardiology, social media has drawn attention to key women's rights issues affecting practicing female cardiologists. While these uses should be embraced, cardiologists must exercise responsibility and follow best practices when utilizing social media.

CONSENT FOR PUBLICATION

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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