

Women's Participation in the Medical Profession: Insights from Experiences in Japan, Scandinavia, Russia, and Eastern Europe

Aditi Ramakrishnan, MA,¹ Dana Sambuco, MPPA,² and Reshma Jagasi, MD, DPhil³

Abstract

Although much literature has focused on the status of female physicians in the United States, limited English-language studies have examined the role of women in the medical profession elsewhere in the world. This article synthesizes evidence regarding the status of female physicians in three purposively selected regions outside the United States: Japan, Scandinavia, and Russia and Eastern Europe. These three regions markedly differ in the proportion of female physicians in the workforce, overall status of the medical profession, cultural views of gender roles, and workforce policies. Through a review of studies and articles published between 1992 and 2012 examining women's representation, status measures such as salary and leadership positions, and experiences of female physicians, the authors discuss potential relationships between the representation of female physicians, their status in medicine, and the overall status of the profession. The findings suggest that even when women constitute a high proportion of the physician workforce, they may continue to be underrepresented in positions of leadership and prestige. Evolving workforce policies, environments, and cultural views of gender roles appear to play a critical role in mediating the relationship between women's participation in the medical profession and their ability to rise to positions of influence within it. These insights are informative for the ongoing debates over the impact of the demographic shifts in the composition of the medical workforce in the United States.

Introduction

THE REPRESENTATION, STATUS, AND EXPERIENCES of women physicians in the United States have been the focus of considerable research and discussion.^{1–9} Scholars have speculated that increased participation of women in the medical profession—the so-called “feminization of medicine” by which dramatic increases in women's enrollment in medical school are leading to major shifts in the gender composition of the physician workforce in many countries¹⁰—may have implications for the physician–patient relationship, delivery of care, population health outcomes, and status of the profession as a whole.^{11–13} However, compared with studies of the United States, the English-language medical literature has included limited comparative analysis or consideration of what lessons might be gleaned from understanding women's experiences in medicine in other regions of the world.

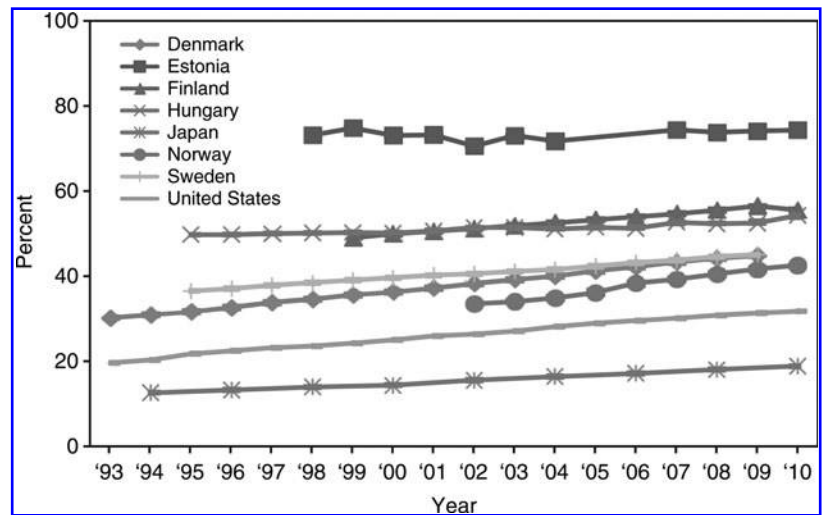
The Organisation for Economic Co-operation and Development (OECD) data reveal substantial variability in the

proportion of women currently participating in the medical profession in different countries (Fig. 1).¹⁴ Therefore, insights may emerge from better understanding the relationships between women's representation in the profession, their relative status in the field, workforce concerns, and the overall status of the profession, as well as the possible ways in which different cultural environments influence these relationships.

In this review, we evaluate the status of women in medicine in three purposively selected regions outside of the United States. First we consider Japan, the OECD member nation with the most dramatic underrepresentation of women in the medical profession. Next we consider Scandinavia, a region in which women's participation in the medical profession is relatively robust and which we believed would be interesting for analysis because its countries are consistently among the top 10 nations when ranked by the United Nations Development Programme's Gender Inequality Index (GII), which measures gender inequality in the domains of reproductive health, empowerment, and labor market

¹Medical School, ²Division of General Medicine, and ³Department of Radiation Oncology, University of Michigan, Ann Arbor, Michigan.

FIG. 1. Percentage of female physicians in eight Organisation for Economic Co-operation and Development (OECD) member nations between 1993 and 2010. Source: (OECD). Note: Russia is excluded from this figure because comparable data were not available.



participation (Fig. 2).¹⁵ Finally we consider Russia and Eastern Europe, a region in which women constitute a majority of practicing physicians but where GII scores are more variable and generally higher (indicative of greater general gender inequality).

We seek primarily to describe the status of women within the profession in each of these regions using measures such as representation in leadership positions and salary. Because scholars and commentators alike have questioned whether the feminization of a profession may be associated with lower overall prestige and salary of that profession, we also assess evidence linking the proportion of women in the medical profession to the status of the profession as a whole.^{16,17} Finally, we evaluate the extent to which concerns about adequacy of the physician workforce, quality of care, or access

have emerged in countries with a higher representation of female physicians.

Methods

In 2012, peer-reviewed journals in ArticlesPlus (a meta-search “article discovery tool” used at the University of Michigan), MEDLINE, and EBSCO Host Gender Studies Database were searched for English-language empirical studies and descriptive articles published between 1992 and 2012 reporting representation and experiences of female physicians in countries outside of the United States. These databases were chosen in order to review medical and social sciences literature. We searched ArticlesPlus and EBSCO Host Gender Studies Database with the terms “women OR gender OR female” AND (country name) AND “medic* OR physician*”. Country names included Japan, Sweden, Norway, Denmark, Finland, Russia, Estonia, Lithuania, Serbia, and Hungary. MEDLINE was searched with these terms with the modification of “medical OR medicine OR physician OR physicians”. Titles and abstracts of articles were reviewed by one author (A.R.) for the minimum inclusion criteria, which were the consideration of women physicians’ representation, status (including salary), experiences, or the impact of their participation on the profession, workforce, access, or quality of care. Papers without abstracts and commentaries were screened directly for these criteria by the same author. To identify additional studies, bibliographies of those studies found by electronic searches were searched in order to identify additional studies. Quantitative and qualitative study designs were included. A categorization of themes was developed from the study results.

The literature search identified 2686 citations. Review of titles and abstracts for inclusion criteria led to retrieval of 35 full-text sources for assessment. Of these, 28 were empirical studies, 5 were commentaries/opinion pieces, 1 was a national statistics compilation, and 1 was a book. These 35 studies met the minimum inclusion criteria and were reviewed, along with the OECD report, for measures of female physicians’ status in the field, discussion of the overall status of the profession, and descriptions of concerns about the workforce, quality of care, and access related to gender.

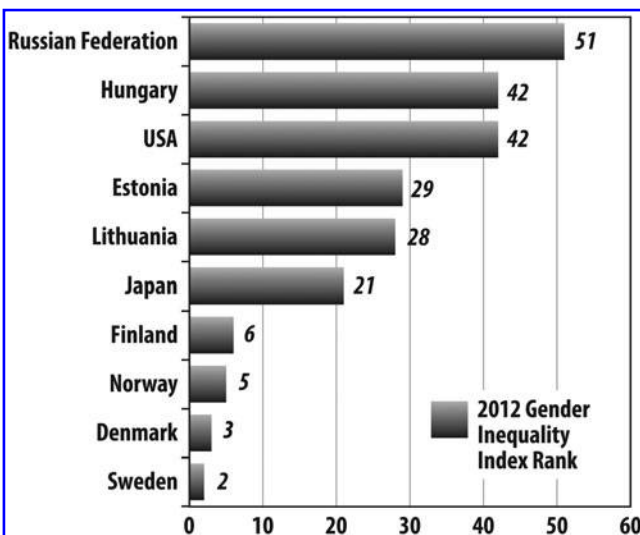


FIG. 2. The United Nations Development Programme Gender Inequality Index (GII) rank for selected countries in 2012. Source: United Nations Development Programme. Note: Serbia is excluded from this figure, as it was not assigned a GII score in 2012.

Results

Case 1: Japan

Of the OECD member countries, Japan has the lowest proportion of female physicians at 18% (Fig. 1), although women's participation is growing. In 2010, approximately 30% of all medical students were female, and women comprised 34% of physicians under age 30 working in Japan.^{18,19}

Nevertheless, female representation appears lacking in medical society leadership positions and membership. Studies have shown that although 66.2% of obstetrician-gynecologists were women, female physicians made up only 27.7% of the Japanese Society of Obstetrics and Gynecology and held 1.9% of the leadership positions.^{20,21} Women constitute an even smaller proportion of other specialties: for example, a recent report revealed that 7.6% of board-certified members belonging to the Japanese Circulation Society, the cardiology association, were female.²²

Several studies document how Japan's societal norms and social policies appear to influence the experiences of women in medicine. In a survey of 249 female Japanese physicians, gender discrimination regarding career choice, discrimination and sexual harassment in the workplace, high levels of stress concerning family responsibility, and lack of support regarding pregnancy and childcare in the workplace were reported.²³ Female obstetrician-gynecologists surveyed were more likely than their male counterparts to be single and childless, and 34% reported receiving advice from colleagues and superiors to postpone childbirth.²¹ Only 50% of male and female obstetrician-gynecologists surveyed could obtain maternity or paternity leave.²¹ Furthermore, childcare options in Japan are limited and expensive compared with other countries.²³ In 2009, the Japanese Medical Association reported that only 50% of hospitals had childcare centers onsite.²³

Unsurprisingly, given this environment, pregnancy and childcare appear to affect the number of hours worked and procedures performed by female physicians in Japan. In a study surveying 1301 members of the Japanese Society of Obstetrics and Gynecology, a significantly higher percentage of men reported handling deliveries and performing surgeries.²¹ Women described "giving up" these procedures earlier than their male counterparts due to childcare responsibilities and reported fewer working hours, fewer night duties, and lower income.²¹ In another survey-based study, 79% of female cardiologists felt that childcare hindered their ability to practice cardiology compared with 39% of male cardiologists.²²

In addition, female physicians in Japan tend to leave the profession altogether during and after childbirth for several years primarily due to childcare responsibilities. The employment rate among female physicians has been shown to decrease nine years after their graduation from medical school by 75%, primarily due to childbirth and childcare.^{23,24} A certain proportion return to the workforce after they have finished raising their children, completing the "M-shaped curve" that describes the pattern of female workforce participation in Japan.²⁴ However, the percentage of women physicians taking leave is greater than the percentage returning to the workforce.²⁰

These findings have fomented concerns that women's increasing role in medicine is contributing to the physician shortage in certain subspecialties and regions in Japan.^{17,19,23,25} However, one study predicted that Japan may not experience

an overall shortage in physicians, but instead shortages of physicians in particular specialties which fewer young physicians are choosing due to quality of life factors or where women are underrepresented.²⁵

Kaneto et al. (2009) pose the provocative question of whether women should feel obligated to work after receiving a medical education that is heavily subsidized by tax revenue, especially when there is a physician shortage in certain specialties and geographic areas.²⁴ However, several authors of studies identified here suggest alternative solutions that might be explored before venturing into this more ethically and socially complex terrain. Women physicians surveyed in these studies reported needing supportive spouses, flexibility in work schedules such as shift work and work-sharing, onsite childcare support, improved maternity leave policies, supportive work environments, and retraining programs for physicians returning after childcare leave.^{18,19,23,26} Kawakami et al. suggest that more hospitals and academic medical centers should follow the example of Tokyo Women's Medical University, which provides onsite nurseries and career development and retraining resources for women after they return to work.¹⁹ Yamazaki et al. also indicate that it is integral to develop education about gendered stereotypes for medical students and residents.²³ In a similar vein, Carnes advocates for education and cautions against the reinforcement of "socially constructed gender-based assumptions," which inhibit the ability of male and female physicians to shape their own careers and participate fully in the medical profession.²⁷

Case 2: Scandinavia

Since the 1970s, the proportion of women in medicine in the Scandinavian countries has increased and surpassed the proportion of female physicians in the United States.²⁸ In the 2012 OECD data, Norway ranked the lowest at 42%, Denmark had 44%, Sweden had 45%, and Finland had the highest proportion at 56%, which appears partly to be a product of its historical and cultural position between Scandinavia and Russia.^{14,28}

In Norway, despite the substantial proportion of female physicians, few women are found in the higher-income specialties and in leadership positions.^{29,30} Women physicians tend to specialize in obstetrics and gynecology and pediatrics, and although they have in recent studies comprised only 10% of surgeons, an increasing number are entering surgery.^{31,32} In a study examining why fewer women attain the rank of specialist in the Norwegian medical hierarchy, women physicians reported difficulties combining family responsibility with fields such as surgery and internal medicine which require heavier workloads and night duties.³³ Therefore, while female and male medical graduates were equally likely to enter these training programs, fewer women completed the specialist training and instead switched to fields more compatible with family responsibilities or postponed childbirth.³³ Structural barriers such as inflexible work hours, gender discrimination, and lack of female specialist role models were cited as reasons partly explaining this pattern.³³

One cross-sectional study surveyed 13,844 Norwegian physicians and found that significantly fewer women than men held leadership positions in hospital medicine, public health, private practice, and in academic medicine.²⁹ Male

physicians had a significantly higher estimated probability of attaining leadership positions in these various sectors and across all ages, with the highest probability in academic medicine. However, women had a slightly higher probability of leadership in child psychiatry, where 66.7% of physicians are women.

These findings exist despite policies and cultural attitudes that promote work–life balance.^{30,31} The Norwegian government has created state-sponsored daycare centers, the right to paid parental leave, and the right to paid leave in order to care for sick children. Maternity leave translates into 52 weeks with 80% wage compensation or 42 weeks of 100% wage compensation.³⁰ Fathers are guaranteed 4 weeks of paid paternity leave.³⁰ Such policies that both logistically and financially support the combination of parenthood and paid work for both women and men do appear to have had some impact on women in medicine. One study reports that while the majority of female physicians felt they needed to choose between a career and parenthood a few decades ago, young women in Norway now believe that it is possible and “normal” to combine a medical career with family responsibilities.³¹ Male doctors in this study also reported facing increasing pressure to assume more domestic responsibility.

One cross-sectional study of 561 first-year Danish medical students revealed that female students had a 69% lower probability of choosing a “technique-oriented specialty” compared with male students.³⁴ The authors defined “technique-oriented” as procedural internal medicine specialties and surgical specialties excluding obstetrics and gynecology. The decision of entering a “person-oriented” versus a “technique-oriented” specialty was associated with lack of self-confidence and perceptions of the technique-oriented specialties as prestigious with competitive work environments.³⁴ As female doctors will outnumber male doctors by 2017, these findings have prompted the authors to suggest focusing on gender bias and confidence within medical school education in order to decrease gender differences in specialization.

Literature exploring the experiences of female physicians in Sweden has focused on financial disparities, work environment, and work–life policies. Swedish female physicians are paid significantly lower salaries than male physicians.³⁵ In a 1996 study of female physician representation in Scandinavian countries, female physicians constituted 6% of academic medicine professors in Sweden, which was the lowest in Scandinavia.²⁸ Regarding work environment, a cross-sectional mental health survey of 571 Swedish female physicians at an academic hospital found that degrading experiences and harassment at work were significantly associated with suicidal ideation among surveyed physicians.³⁶ A study of students’ experiences revealed that women reported more disadvantages, such as sexual harassment in the workplace, mistreatment by nurses and staff, and fewer opportunities to perform minor surgeries and examine patients, than their male peers.³⁵

Nevertheless, some suggest that perceptions of work–life balance are changing among the current generation of medical students in the direction of promoting gender balance in various specialties and a more family-oriented medical culture.^{35,37} In one cross-sectional survey of 507 Swedish medical students, a significant number of male and female students reported considering work–life balance an important

part of their future life expectations.³⁷ Furthermore, the proportions of female and male physicians working part time in Sweden have increased and grown more equitable in the past decade, reflecting the younger generation’s different views and expectations of the medical profession.³⁷

In Finland, the representation of women in medicine has surpassed the rest of Scandinavia, as 56% of physicians are female and 66% of physicians under 35 were women in 2012.³⁸ Most (64%) Finnish physicians are specialists, and of these, 52% were female. Interestingly, while fewer women than men under 35 are specialists, the proportion of male and female specialists tends to become more equal between the ages of 45 and 65.³⁸ As in other countries, female physicians tend to be overrepresented in pediatrics and underrepresented in surgery.^{38,39}

Unlike other Scandinavian countries, in Finland female physicians have advanced significantly in the realms of administration, teaching, and research and constitute approximately 40% of these fields.²⁸ However, women have been underrepresented at higher administrative positions, as indicated in a 1996 study which showed that only 20% of chief physicians in hospitals were female.²⁸ Regarding physician mental health in this country, one study found that female physicians in Finland have a greater risk of suicide than other female professionals and the general population, but are not more prone to suicide than male physicians.⁴⁰

Case 3: Eastern Europe and Russia

Russia differs from much of the West in that since the 1950s, women have comprised approximately 70% of the physician workforce.²⁸ During the Soviet period, as part of a broader phenomenon of deprofessionalization of medicine, medical societies were abolished, physicians became state employees and lost control over the profession, and the prestige of the Soviet physician declined, with medicine becoming one of the poorest-paid professional occupations.^{28,41} Simultaneously, women were encouraged to work as physicians in this new landscape, resulting in the feminization of the profession.²⁸

Despite the large proportion of women physicians in Russia, studies have noted that few tend to be found in prestigious specialties, societies, tertiary care, and in academic medicine, of which Harden (2001) suggested only 10% were women.⁴¹ One 1992 study of physicians in Moscow found that women segregated into obstetrics, general practice, pediatrics, and primary care—fields which tend to be regarded as less prestigious.²⁸ Female physician salaries were found in one study to be 65% of male physician earnings due to a 10-hour difference in work week, which the authors argued might stem from a cultural expectation for women to have primary household and childcare responsibilities and from the larger representation of men in sectors of medicine that traditionally require longer hours and provide high salaries, such as academia, administration, and tertiary care.²⁸

Similar changes have been documented in Estonia,⁴² which witnessed a dramatic loss of physicians (some of whom fled and others who were exiled, imprisoned, or killed) and deprofessionalization of medicine during its Soviet occupation after World War II. Its historically prestigious, largely male medical profession had become 77% female at the time of a 1991 survey. Of note, because of chronic

shortages in the communist regimes, a second economy for the allocation of both goods and services based on networks of social influence existed. Scholars have used the example of Estonia to demonstrate how female physicians fared worse not only in terms of formal salaries, but also in terms of “informal” or black market rewards.⁴³

In Harden's study, Russian female physicians reported work–family conflict, structural barriers such as training time required for surgical practice, and workplace and educational discrimination by superiors and mentors as factors that impede women from entering specialties.⁴¹ Interviews in this study also revealed that women themselves believe that motherhood and primary care are naturally linked and that men are equipped with more analytical minds, linking them to academia and administration roles. In terms of career satisfaction among Russian physicians, one study found that male physicians were more satisfied with their careers than female physicians.⁴⁴

In Hungary, while the proportion of female physicians has steadily increased from 30% in 1970 to 52% in 2012, women physicians continue to face challenging cultural and professional expectations and lack of workplace support.⁴⁵ Only 6% of female workers work part time, which is the lowest proportion in the European Union, and 3% of female physicians work part time.⁴⁵ In this society, female physicians are expected to prioritize family and therefore have to fulfill the roles of mother, spouse, and physician to the highest standards.⁴⁶ In a survey of Hungarian physicians, the majority of female physicians reported lack of social support and female mentors, lower job satisfaction, and higher levels of work–family conflict.⁴⁶ Citing lack of part-time opportunities and work–family conflict, female physicians also experienced higher levels of burnout than male physicians.⁴⁶

Serbia is similar to Hungary in that 64% of physicians are female, 1% of the workforce is employed part time, and childcare is seen as primarily a woman's domain.^{14,47} One cross-sectional study of primary care physicians in Serbia found that female physicians experience significantly higher rates of both burnout and work–family conflict than male physicians.⁴⁷ In addition, as an interesting contrast to Levinson and Lurie's speculations regarding gender differences in patient–physician relationships,¹⁶ significantly more female than male physicians reported experiences of depersonalization and distancing towards patients due to the high volume of patients in primary care practice.⁴⁷

While more than 50% of physicians and scientists with graduate degrees in Lithuania are women, one study investigating the experiences of seven female physician-scientists in Lithuania reveals that though feminization of academic medicine has changed the demographics of the institution, it has not shifted the distribution of power.⁴⁸ Common themes linking the experiences of female physician scientists included “hard work and hope that someone (a man) will recognize her work” and complete reliance on a mentor who was usually male.⁴⁸

Discussion

These three international case studies reveal a range of female physician experiences, work-life policies, cultural norms and expectations, structural barriers, and gender disparities in medicine. The relationships between women's

increased participation in medicine, the status of women in the profession, and the status of the profession itself appear complex and influenced by the broader social and cultural context.

In Japan, the low numbers of women in medicine reflect the prevalent societal belief that careers and motherhood cannot be easily combined. The parallel lack of female physician representation in leadership positions, societies, and academic medicine reveals a direct relationship between the representation of female physicians and their status in medicine. Regarding women's general position in the Japanese labor market, in 2009 women comprised 72% of the part-time workforce, allowing for women's participation in the workforce without disrupting the gendered norm of childcare.⁴⁹ The lack of both adequate childcare and spouses who contribute to housework/childcare have been found to hinder women in various careers in Japan from pursuing a combination of career with family.⁵⁰ These data and observations of women's position and challenges in the general labor market further contextualize the pattern of Japanese female physician participation and experiences and underscore how the medical world reflects societal norms and hierarchies.

In contrast, the approximately equal numbers of male and female physicians in Scandinavia have coincided with the emergence of progressive work–life policies, the belief that motherhood and employment can be combined, and changing expectations of work-life balance. Historically women's participation in the overall labor market has been encouraged during the past few decades, with Sweden being the first country to establish paid parental leave for fathers in 1974 and its National Labor Market Board developing statements since 1977 encouraging men to contribute to childcare responsibility.⁵¹ In Denmark, women's participation in the labor force after childbirth does not tend to decline, and 89% of women ages 20–49 with children ages 0–14 years are employed.⁵²

Nevertheless, despite these advances in gender equity both in medicine and in the overall workforce, women physicians' representation in medical leadership positions is less common and does not reflect their overall representation in the medical workforce in Scandinavia. Gendered norms still prevail generally in this region, despite progressive policies; one study showed that while 90% of fathers took parental leave, mothers still took 79% of the parental leave days available in 2007 in Sweden.⁵¹ A significant number of men, particularly those working blue-collar jobs, cited social conditions at work discouraging them from sharing parental leave equitably with their partners.⁵¹

Finally, the literature reveals that under Soviet rule, medicine became one of the most poorly-paid professional occupations and women grew to constitute the majority of physicians in Russia and Eastern Europe.^{28,41} The few studies surveying Russian physicians suggest that medicine has now become a gendered, dual-labor landscape, where women comprise the majority of the primary care workforce and men tend to work in the more prestigious and often higher-paid specialties and sectors of administration, research, and academia.^{28,41}

Traditional conceptions of gender roles seem to shape the disparities experienced by women pursuing medical careers in this region. This pattern is mirrored in the broader labor

market. In 1996, employed women in rural areas of Russia were found to perform 23 hours more of unpaid work (work in the house and on household plots) than their husbands.⁵³ In 1994, Russian women ages 20–24 years received 56% of the average male wage in that age bracket.⁵³ One study of paid parental leave in post-Soviet Estonia found that despite policies encouraging paid parental leave for fathers, the majority of fathers do not take parental leave and even when doing so, do not become the primary caregiver.⁵⁴

In sum, these three regions differ markedly regarding the historical participation of women physicians, current representation, and sociocultural contexts and policies. However, despite these differences, horizontal segregation across specialties and vertical segregation along the medical hierarchy continue to persist.^{55,56}

The “feminization of medicine” has also led to concerns about workforce shortages and changes in quality of care in many countries, though these concerns do not appear to have emerged in Russia. Of note, the feminization of certain professions such as nursing has not raised such concerns, suggesting the depth of gendered assumptions and biases. In Japan, the increasing role of women in medicine may contribute to workforce shortages in certain specialties and regions. However, as Yamazaki notes, changes within professional culture that embrace the combination of motherhood and a medical career may ease these concerns.²³ Scandinavia, where an increasing number of male and female physicians work part time and consequently the medical profession seems to be changing its structure in order to accommodate the expectations of a younger generation of physicians, may serve as an example in this regard.

While concerns about feminization’s influence on quality of care have been raised, studies analyzing the impact of women’s participation on quality of care in these regions have not been reported in the English-language literature we reviewed. Levinson and Lurie propose that women and men practice medicine differently and that the growth of women in the field could improve the physician–patient relationship and promote more teamwork among medical staff.¹⁶ However, this review indicates that women physicians need more support in order to combine motherhood with career, avoid burnout, and gain representation in leadership and academics. Once such measures have been implemented, future studies may examine if and how the feminization of medicine influences the quality of care.

Our study has strengths, including carefully selected regions and a range and diversity of international scholarship examining the status of female physicians. However, several limitations merit consideration. We only evaluated English-language literature, and though this provided a range of perspectives and data, our observations are necessarily limited because we did not evaluate literature published in those countries’ native languages. We hope that future researchers with the appropriate linguistic expertise will expand on this endeavor by reviewing the non-English language scholarship in this area, in order to validate and enrich the initial observations we offer in this paper. We also hope that this work will prompt additional research and deliberation regarding the root causes of many of the differences described in this review.

By understanding experiences of women in medicine from regions that vary dramatically from our own, we glean insights that are nevertheless strikingly relevant to changes

occurring within the United States. Increased participation of women within the medical profession is only the first step towards true gender equity in medicine, which in turn depends critically on supportive social policies and cultures.

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Author Disclosure Statement

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Address correspondence to:
Reshma Jagsi, MD, PhD
Department of Radiation Oncology
University of Michigan
UHB2C490, SPC 5010
1500 East Medical Center Drive
Ann Arbor, MI 48109

E-mail: rjagsi@med.umich.edu

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