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ORIGINAL RESEARCH

Breaking the Glass Ceiling: A Multiregional Study of Mentorship and Leadership in All-Women Surgical Teams

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Background: Globally, billions of people lack access to safe surgical care. Women represent a valuable resource to tackle the healthcare workforce shortage which impedes the delivery of surgery. With women entering the global health workforce at an increasing rate, Operation Smile (OS) launched the Women in Medicine program to create women-led leadership and mentorship opportunities for women healthcare workers to empower them to become leaders in healthcare.

Purpose: This multi-regional study aims to evaluate the experiences of healthcare providers on OS all-women surgical programs and the impact of participation on leadership and mentorship opportunities.

Methods: In 2022, OS conducted four cleft surgical programs with all-women providers in Morocco, Peru, Malawi, and the Philippines. Providers from various specialties participating in the programs were surveyed. Participants were invited to complete the surveys anonymously in the final two days of each program. Analysis involved descriptive statistics and chi-square tests.

Results: Across all programs, 215 providers from 36 countries were surveyed. Ninety-seven percent of participants reported improvement in their technical and non-technical skills. Eighty-two percent reported that the program motivated them to seek leadership positions, despite only 37% having prior leadership experience on an OS program. Participating in an all-women team motivated 96% to seek mentorship from another woman and 99% to mentor others. Overall, 98% of providers across all regions and specialties supported the importance of women leadership, and 95% endorsed women mentorship.

Conclusion: Promoting gender equity is crucial to address the ongoing healthcare workforce shortage and improve access to safe surgical care. This study demonstrates the importance of mentorship between women to advance into leadership positions. Programs that provide women in healthcare with educational, mentorship, and leadership opportunities can effectively equip them with the skills needed to advance their careers and strengthen the global workforce.

Keywords: gender equity, healthcare workforce, surgery, global health

Introduction

Approximately 5 billion people in the world's less resourced areas lack access to safe surgical services and are at risk of facing catastrophic health expenditure.[1] Furthermore, there is an estimated need for an additional 143 million surgical procedures with a specific focus on the world's most resourced constraint countries, which are home to two-thirds of the world population.[1] These statistics are well-established figures with few scalable paths of solution. Nevertheless, providing timely and safe access to surgical services is essential for human health globally.

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Workforce shortages are a major challenge in delivering surgical services, and although women make up half the world's population, in most places they do not make up half its formal workforce. In 2022, the World Bank reported that women's global labor force participation rate was 47.4%, significantly lower than the rate for men of 72.4%.[2] There are several factors that contribute to the participation gap such as unpaid and "invisible" labor, which often falls on women due to societal expectations of women being the homemakers of the family.[3] The World Bank report also notes that when women pursue a career outside the home, they are met with fewer opportunities and more hurdles than men.[4] Gender discrimination and pay inequality also hold women back, limiting the ability of women to enter the formal workforce and trapping them in the cycle of poverty.[5] Worldwide, nearly 1 billion women do not have formal employment, while their participation in the global workforce is projected to have positive impacts on a range of metrics such as gross domestic product (GDP), literacy, access to education, and infant mortality.[4]

Women have been shown to deliver the majority of healthcare, with as high as 80% of nurses and 90% of midwives being women.[6] Although women are entering into leadership positions at a higher rate than before, there still remains a gap between healthcare leadership and delivery. With lack of representation being cited as a barrier to career advancement for women, it is important to continue to focus on improving the mobility of women into leadership positions.[6] As described in the Third Billion Index, improving women's opportunities to participate in workforce leadership requires improved governmental and private sector policies, such as increased maternity leave and access to education.[4] Policy changes such as these could benefit women entering the workforce and improve their desire to seek leadership positions. Additionally, improved policies could more widely benefit the greater workforce, showing that when women win, everyone wins.[4]

The surgical and anesthesia specialties are particularly susceptible to gender inequity, with less than 40% of the surgical workforce comprised of women in most countries.[7] Additionally, women in surgery and anesthesia are often relegated to lower-paid and lower-status roles than their male counterparts.[7] Women may also face unconscious bias, overt discrimination, limited access to professional networks, lack of mentorship, and inflexible work arrangements, which can impede their career advancement and leadership opportunities. Pay and promotion disparities further restrict opportunities for professional development, often leading women to earn a lower salary than their male peers.[7]

In low- and middle-income countries (LMICs), women hold most of the low-paid, unpaid, and/or lower-status positions, such as nursing and midwifery. Being of lower pay or status, however, does not mean lower economic impact: while women in healthcare contribute 5% to GDP, US $3 trillion, annually, almost 50% is unrecognized and unpaid.[8] For example, during the COVID-19 pandemic, over an estimated 6 million women worked unpaid or grossly underpaid in community health roles.[8] Moreover, most women working unpaid are community healthcare workers, but in some countries, women nurses work unpaid as well.[8] Regardless of formality, this invaluable contribution done by women healthcare workers is vital to the communities they serve. They are essential and actively participating in immunization campaigns, family planning, malaria prevention programs, among many other lifesaving services.[3] However, more research must be done to properly equip governments and institutions to advocate for a more equitable and diverse workforce, particularly in LMICs where published literature is scarce.

This multi-region study examined the impact of an all-women surgical program on participant experiences and career aspirations. Specifically, the aim was to determine if an all-women work environment promotes mentorship, leadership development, and empowerment for women in the field of medicine, thus enabling growth of a healthcare workforce that can better meet the needs of patients and communities. Mentorship is defined as a dynamic, mutually beneficial relationship between an experienced healthcare professional and a novice, focusing on mentee career development.[9] Leadership refers to the participation of women in positions of power, influence, management, and decision-making in their workplace.[3,4] This study will be able to support previous literature that proposes interventions for the promotion of women while focusing specifically on healthcare providers from LMICs.

Materials and Methods

An anonymous survey was administered to healthcare workers who participated in at least one of four Operation Smile short-term cleft surgery program consisting of exclusively women providers. Participating providers included surgeons, anesthesiologists, pediatricians, nurses, dentists, child life specialists, and speech-language pathologists. Specialties were group into three categories based on work environment and training: SAPs (surgeons, anesthesiologists, and pediatricians), nurses (post-anesthesia care unit (PACU), ward, and operating room nurses), and comprehensive care providers (dentists, child life specialists, speech-language pathologists). The one-week programs located in Morocco, Peru, Malawi, and the Philippines occurred separately between March and October of 2022.

Each program began with one day focused solely on the education of women by women. Providers participated in lectures and discussions on the global perspective of women in healthcare, leadership, and research. Each specialty was assigned a team leader responsible for management, communication, and coordination of tasks. The programs proceeded with screening and surgery days, throughout which mentorship was available.

During the final two days of each program, participant providers were consented and then asked to complete an anonymous digital or paper survey. The survey was developed through two focus groups: one within OS and another of volunteers independent to those participating in the programs.[10] It was then reviewed by experts and volunteer managers to ensure clarity and cultural relevance. The survey was administered digitally whenever possible, with paper versions used in cases where connectivity issues limited access. The survey included questions surrounding participants' previous experience with women mentors and leaders, as well as their recent experience as part of the all-women provider team.

Survey answers were collected anonymously using REDCap (Vanderbilt University, Nashville, TN, USA). Data analysis included basic descriptive statistics as well as chi-square tests using Excel (Microsoft Corp, Redmond, WA, USA) and R (R Core Team, Vienna, Austria). Statistical significance was defined as $p < 0.05$. Ethical approval for the study was obtained from Children's Hospital Los Angeles (IRB #CHLA 20–00026) and Operation Smile, Inc. (Virginia Beach, VA, USA). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were used to ensure quality reporting of the study.[11]

Results

Descriptive Statistics

A total of 215 healthcare providers participated in the four all-women cleft surgery programs. All participants completed the study survey (100%). Study participants had an average age of 42 years (range: 17 to 75) which significantly differed by country ($p = 0.009$). They included 48 surgeons (22%), 31 anesthesiologists (14%), 18 pediatricians (8%), 81 nurses (38%), and 37 comprehensive care providers (17%) ($p = 0.079$) (Table 1).

Table 1 Participant Demographics

	Morocco (n=60)	Peru (n=64)	Malawi (n=61)	Philippines (n=30)	Total (N=215)	P-value
Age (mean, range)	44, 17–71	49, 26–72	51, 24–67	48, 23–75	42, 17–75	0.009
Region of origin						
Africa	0 (0%)	0 (0%)	50 (82%)	0 (0%)	50 (23%)	<0.001
Asia	1 (2%)	2 (3%)	1 (2%)	18 (60%)	22 (10%)	
Latin America and the Caribbean	6 (10%)	59 (92%)	0 (0%)	3 (10%)	68 (32%)	
Middle East and North Africa	35 (58%)	0 (0%)	0 (0%)	0 (0%)	35 (16%)	
Europe, Canada, and United States	18 (30%)	3 (5%)	10 (16%)	9 (30%)	40 (19%)	

(*Continued*)

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Table 1 (Continued).

	Morocco (n=60)	Peru (n=64)	Malawi (n=61)	Philippines (n=30)	Total (N=215)	P-value
Role on program						
Surgeon	21 (35%)	12 (19%)	9 (15%)	6 (20%)	48 (22%)	0.080
Anesthesiologist	8 (13%)	7 (11%)	9 (15%)	7 (23%)	31 (14%)	
Pediatrician	6 (10%)	7 (11%)	2 (3%)	3 (10%)	18 (8%)	
Nurse[a]	19 (32%)	27 (42%)	25 (41%)	10 (33%)	81 (38%)	
Comprehensive care provider[b]	6 (10%)	11 (17%)	16 (26%)	4 (13%)	37 (17%)	
Prior Operation Smile team leader						
Yes	17 (28%)	31 (48%)	17 (28%)	15 (50%)	80 (37%)	0.020
No	43 (72%)	33 (52%)	44 (72%)	15 (50%)	135 (63%)	
Prior Operation Smile educator						
Yes	22 (37%)	22 (34%)	41 (67%)	12 (40%)	97 (45%)	0.001
No	38 (63%)	42 (66%)	20 (33%)	18 (60%)	118 (55%)	

Notes: [a]Nurses include post-anesthesia care unit, pre-/post-operative (ward), operating room nurses. [b]Comprehensive care includes dentists, child life specialists, speech language pathologists.

Study participants represented 35 different countries across 5 continents. Most participants were from one of the four hosting countries (61%) and attended the program in their home country. The most well-represented geographic regions were Latin America and the Caribbean (LAC), accounting for 32% of participants. Asia was the least represented geographic region, accounting for only 10% of participants (Table 1, Figure 1). All study participants had participated in

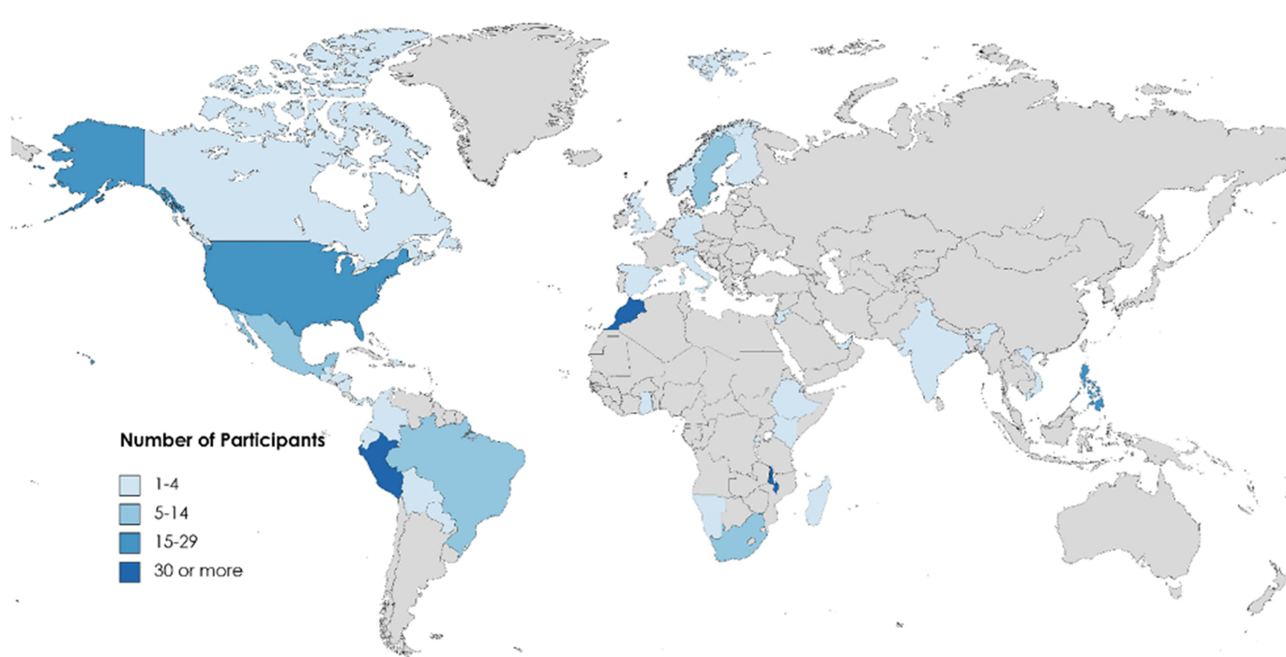

Figure 1 Geographic distribution of healthcare providers participating in all-women surgical programs in 2022.

at least one prior Operation Smile program. Across all four programs, 37% of participants had previous experience as an Operation Smile program team leader (p = 0.02) and 45% have been a designated program educator (p = 0.001) (Table 1). Team leaders are designated prior to the program by the in-country team. There are five team leaders: surgeon, anesthesiologist, clinical coordinator (nurse), pediatrician, and medical records (not included in this study).

Program Influence

After participating in the all-women programs, 97% of participants reported improvement in their technical and non-technical skills. Interestingly, 100% of participants from LAC, the Middle East and North Africa (MENA), and Asia cited improvements in non-technical skills that were significant when analyzed regionally (p = 0.029). The program also motivated 82% of participants to report interest in seeking a leadership position in the future. A similar majority reported that their participation motivated them to seek mentorship from another woman (96%), which was significant when analyzed by region (p = 0.01). All but one subject reported that their participation motivated them to provide mentorship to another woman (99%), although this was not significant by region or role.

Experiences and Beliefs of Mentorship & Leadership

Outside of this experience, a majority of study participants endorsed the importance of having a woman as a mentor in their career (95%) (Figure 2). In terms of geographic origin, participants from Asia had the highest agreement on the importance of women as mentors (100%), while participants from Africa the lowest agreement (93%), but findings were not statistically significant (p = 0.18) (Table 2). In terms of provider role, nurses were most likely to endorse the importance of women as mentors (97%), while comprehensive care providers were the least likely (93%). These differences by provider role were similarly not statistically significant (p = 0.68) (Table 3).

A majority of participants endorsed the importance of having women as senior leaders (98%) with no differences seen by geographic origin or provider role (p = 0.53 and p = 0.64, respectively) (Tables 2 and 3, Figure 2).

Overall, 81% of participants reported having a woman mentor previously, although this was not statistically significant when considered by region or role. Slightly fewer participants (79%) reported previous experience working under a woman in senior leadership. More participants from Asia reported previous experience with a woman mentor,

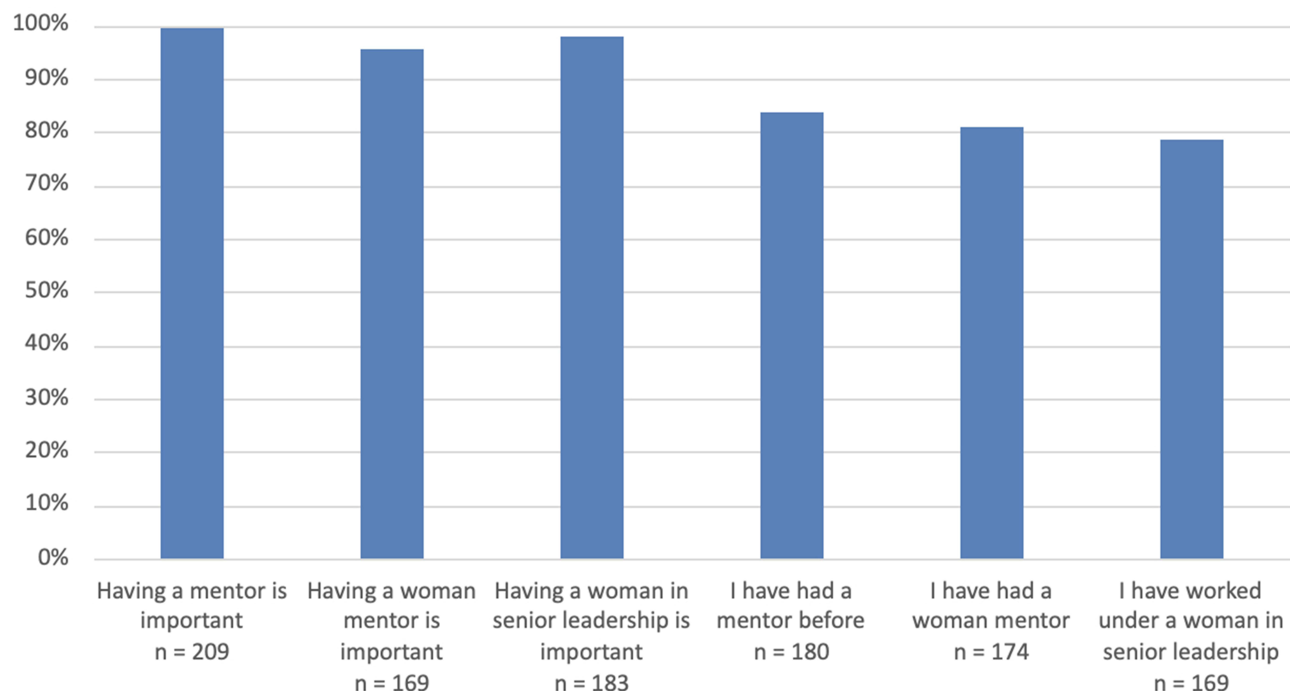

Figure 2 Aggregate experiences and beliefs of participants regarding mentorship and leadership. (p < 0.001).

Table 2 Participant Beliefs and Experience by Region of Origin

	Africa	Asia	LAC	MENA	Europe, US, and Canada	Total	P-value
Having a mentor is important	Yes: 48 (98%) No: 1 (2%)	Yes: 22 (100%) No: 0 (0%)	Yes: 68 (100%) No: 0 (0%)	Yes: 31 (100%) No: 0 (0%)	Yes: 40 (100%) No: 0 (0%)	Yes: 209 (99%) No: 1 (1%)	0.509
Having a woman mentor is important	Yes: 45 (90%) No: 5 (10%)	Yes: 20 (100%) No: 0 (0%)	Yes: 55 (98%) No: 1 (2%)	Yes: 17 (100%) No: 0 (0%)	Yes: 32 (94%) No: 2 (6%)	Yes: 169 (95%) No: 8 (5%)	0.175
Having a woman in senior leadership is important	Yes: 46 (96%) No: 2 (4%)	Yes: 22 (100%) No: 0 (0%)	Yes: 60 (98%) No: 1 (2%)	Yes: 18 (95%) No: 1 (5%)	Yes: 37 (100%) No: 0 (0%)	Yes: 183 (98%) No: 4 (2%)	0.526
I have had a mentor before	Yes: 41 (82%) No: 9 (18%)	Yes: 21 (95%) No: 1 (5%)	Yes: 52 (76%) No: 16 (24%)	Yes: 31 (89%) No: 4 (11%)	Yes: 35 (88%) No: 5 (12%)	Yes: 180 (84%) No: 35 (16%)	0.201
I have had a woman mentor before	Yes: 36 (72%) No: 14 (28%)	Yes: 20 (91%) No: 2 (8%)	Yes: 57 (84%) No: 11 (16%)	Yes: 29 (83%) No: 6 (17%)	Yes: 32 (80%) No: 8 (20%)	Yes: 174 (81%) No: 41 (19%)	0.345
I have worked under a woman in senior leadership	Yes: 38 (76%) No: 12 (24%)	Yes: 20 (91%) No: 2 (9%)	Yes: 47 (69%) No: 21 (31%)	Yes: 31 (89%) No: 4 (11%)	Yes: 33 (83%) No: 7 (17%)	Yes: 169 (79%) No: 46 (21%)	0.083

Abbreviations: LAC, Latin America and the Caribbean; MENA, Middle East and North Africa; US, United States.

Table 3 Participant Beliefs and Experiences by Role on Program

	Surgeons, Anesthesiologists Pediatricians	Nurses	Comprehensive Care Providers	Total	P-value
Having a mentor is important	Yes: 93 (99%) No: 1 (1%)	Yes: 80 (100%) No: 0 (0%)	Yes: 36 (100%) No: 0 (0%)	Yes: 209 (99%) No: 1 (1%)	0.538
Having a woman mentor is important	Yes: 76 (95%) No: 4 (5%)	Yes: 66 (97%) No: 2 (3%)	Yes: 27 (93%) No: 2 (7%)	Yes: 169 (95%) No: 8 (5%)	0.665
Having a woman in senior leadership is important	Yes: 82 (98%) No: 2 (2%)	Yes: 69 (97%) No: 2 (3%)	Yes: 32 (100%) No: 0 (0%)	Yes: 183 (98%) No: 4 (2%)	0.644

(*Continued*)

Table 3 (Continued).

	Surgeons, Anesthesiologists Pediatricians	Nurses	Comprehensive Care Providers	Total	P-value
I have had a mentor before	Yes: 89 (92%) No: 8 (8%)	Yes: 64 (79%) No: 17 (21%)	Yes: 27 (73%) No: 10 (27%)	Yes: 180 (84%) No: 35 (16%)	0.011
I have had a woman mentor before	Yes: 81 (84%) No: 16 (16%)	Yes: 66 (81%) No: 15 (19%)	Yes: 27 (73%) No: 10 (27%)	Yes: 174 (81%) No: 41 (19%)	0.377
I have worked under a woman in senior leadership	Yes: 78 (80%) No: 19 (20%)	Yes: 66 (81%) No: 15 (19%)	Yes: 25 (68%) No: 12 (32%)	Yes: 169 (79%) No: 46 (21%)	0.195

while the least participants from sub-Saharan Africa reported previous experience with a woman mentor. Based on role, SAPs were reported the highest previous experience with a woman mentor, and nurses were reported the highest previous experience working under a woman in senior leadership. Comprehensive care providers were reported the least previous experience with both a woman mentor and woman in senior leadership (Table 3). However, none of these differences were statistically significant by region or role.

The importance of women as mentors was supported less by SAPs from Africa (81%) compared to their colleagues from other regions (average 97%). SAPs from Africa also had the least previous experience with women mentors (75%) compared to their colleagues from other regions (average 85%). Comprehensive care providers from Asia had the lowest agreement on the importance of having a woman mentor (75%) while having the most previous experience with women mentors (100%) (Figure 3). Almost all nurses from all five regions agreed on the importance of women mentors with the lowest agreement from Europe, Canada, and USA (93%). Nurses from Latin America & the Caribbean had the least previous experience with women mentors (75%) compared to their colleagues from other regions (average 91%) (Figure 3). However, none of these differences were statistically significant by region or role.

The importance of women in senior leadership received the least support from SAPs from Africa (88%) and nurses from MENA (89%). All comprehensive care providers from all regions had 100% agreement on the importance of women in senior leadership (Figure 4). SAPs and nurses from LAC reported the least previous experience with a woman in senior leadership (72% and 67%, respectively) compared to their colleagues from other regions. Comprehensive care providers from Europe, Canada, and USA all reported previous experience with a woman in senior leadership (100%) while comprehensive care providers from Africa had the least experience (54%) (Figure 3). However, none of these differences were statistically significant by region or role.

Discussion

While the need for improved access to safe surgery has become a greater conversation, there has not yet been widespread focus on utilizing women to bolster the formal healthcare workforce and, therefore, increase the availability of surgery. Initiatives to improve equity for women globally have increased in the past decades, but there is still a lack of well-researched and implemented interventions, especially in LMICs. This study is the first to evaluate the region- and specialty-specific experiences and beliefs of women from eight medical specialties. Our findings support the critical need for mentorship and professional development opportunities catered to the unique needs of each region and country-context. As of 2020, even though women made up only 38.8% of the formal global workforce,[12] research has identified a correlation between increased GDP and higher participation of women in the formal workforce. This association highlights the universal importance of initiatives that promote and develop women in the workforce.[4] While there is

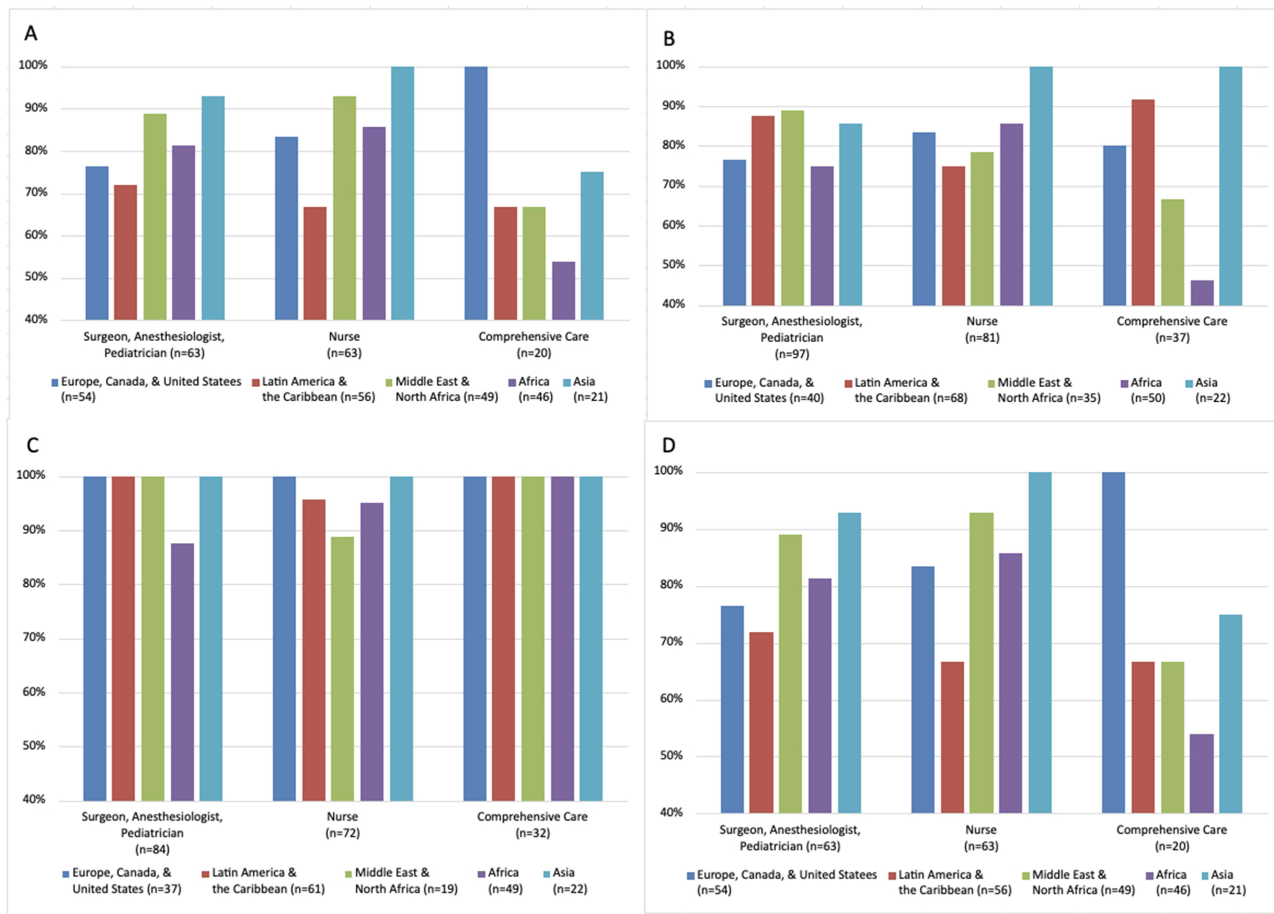

Figure 3 Participants in agreement on experiences with and importance of women mentorship and women leadership by region of origin and specialty group (**A**) Having a mentor is important. (p = 0.219) (**B**) I have had a woman mentor before. (p = 0.289) (**C**) Having a woman in senior leadership is important (p = 0.171) (**D**) I have worked under a woman in senior leadership. (p = 0.384).

a global trend towards increased presence of women in leadership roles, especially in healthcare, these women need to be equipped with tools to succeed in these positions. Investing in women's opportunities to enter and advance in the workforce, particularly in medicine, is an investment into half of the world's population that would bolster the formal workforce and increase the number of trained healthcare professionals globally.

This study found that respondents across all roles and regions feel that it is important to have women in mentorship and leadership positions, supporting previous research by Munabi et al[10,13] However, the current study represents a larger range of previous experience with both mentorship and leadership. Overall, respondents had less previous experience with women in leadership positions compared to women mentors. This finding aligns with previous research by Women in Global Health that women occupy only 25% of healthcare leadership, despite making up about 75% of the healthcare workforce.[6] Previous research indicates that, despite women recognizing the importance of representation, they remain underrepresented in healthcare leadership roles.[14] Most recently, the World Health Organization showed that men are still leading every aspect of global health and hold 69% of leadership positions.[3] Additionally, only 20% of global health organizations were found to have gender parity on their boards, and 25% at the senior management level.[3] Women in Global Health cites a variety of reasons for the lack of women in healthcare leadership, such as inflexible work arrangements, lack of mentorship, and disparities in pay and promotion.[6] Meanwhile, the importance of having women in leadership positions is well documented with studies showing that women leaders can have a positive impact on organizational culture, employee morale, and productivity.[15,16] Additionally, women leaders can help to break down gender stereotypes and create more inclusive workplaces.[17] The results of this study support the need to increase mentorship opportunities in order to improve access to leadership advancement, particularly mentorship between

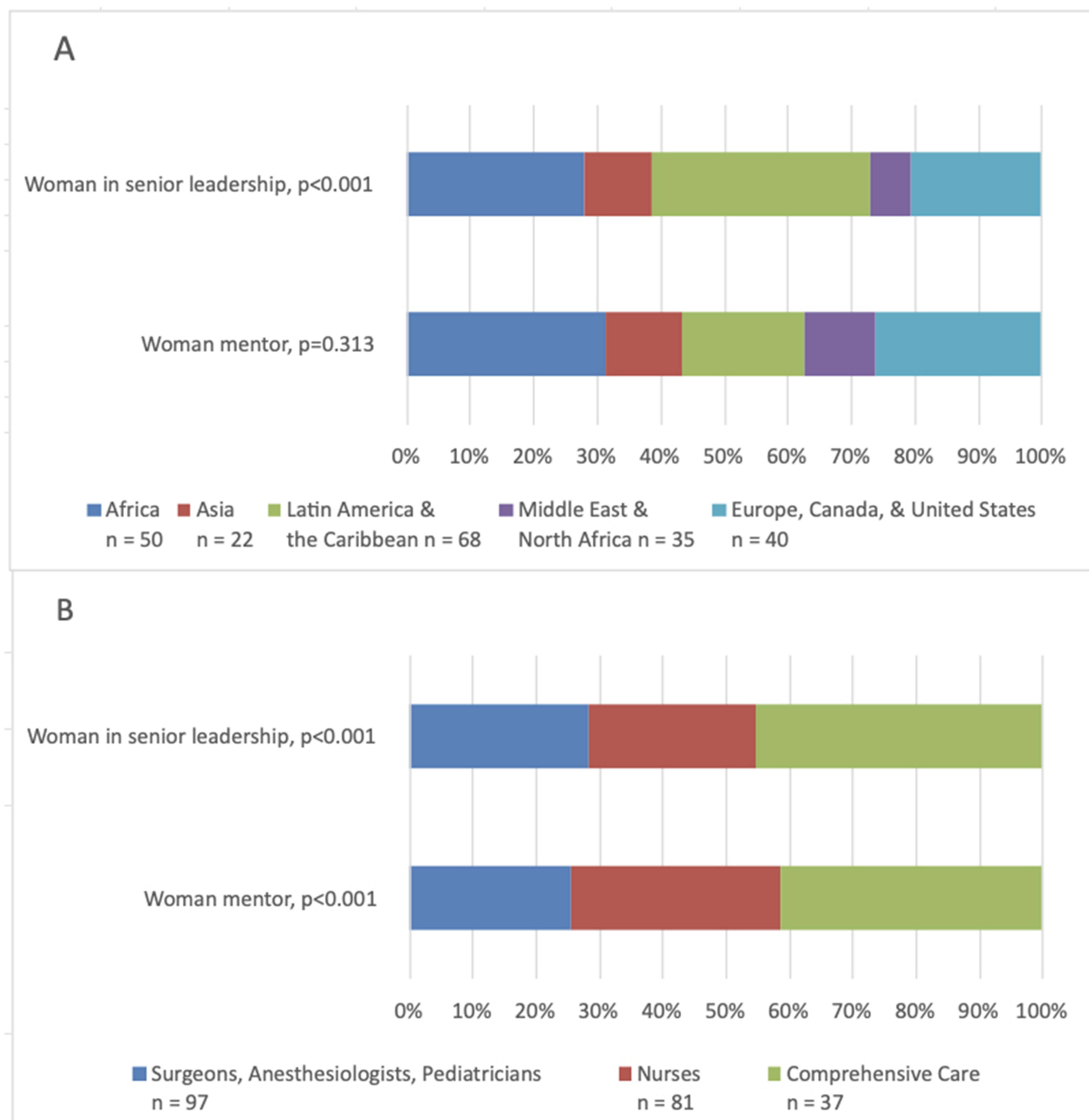

Figure 4 Participants that did not have prior experience with mentorship or leadership from a woman but agreed on its importance (**A**) by region of origin and (**B**) by specialty group.

women since women may be less likely to seek out mentorship and, subsequently, leadership positions due to a lack of role models or mentors in leadership positions.[18] In summary, without women in leadership positions then there are no women who can serve as mentors to younger women, thus tying mentorship and leadership together.

When considering previous experience with women mentorship, there was variance between regions and roles, supporting the need for specifically curated mentorship opportunities that align with the disparities in each region. Africa stands out as the region with the least agreement on the importance of women mentorship while also having the least exposure to women in this role. Regions such as Africa, where exposure to female mentors is particularly low, showcase both the need and the opportunity for impactful mentorship initiatives. The strong desire for mentorship expressed by women in these regions indicates a readiness for change that, if supported through targeted programs, could transform the

landscape of healthcare leadership. For example, comprehensive care providers from Africa have the least experience with a woman mentor; however, a majority expressed the importance of having a woman mentor. Thus, comprehensive care providers in sub-Saharan Africa would be a priority target for opportunities centered around mentorship. Additionally, African SAPs had the least previous exposure to women mentors and were also less likely to endorse the importance of woman mentorship. Similarly, nurses from Latin America & the Caribbean, who lacked prior experience with women mentors were also less inclined to acknowledge the importance of mentorship from a woman. This trend may be linked to the idea "if you can see it, you can be it", which suggests that people are more likely to pursue careers where they see themselves portrayed.[6] Alternatively, women in these regions may not know the value of a female mentor because they have never been exposed to one. Once a woman experiences mentorship from a woman, they may better understand the importance for their professional advancement. There may also be unique cultural factors that play a role in each environment. Nurses in LAC, for example, may not have time for mentorship opportunities and therefore consider it of lower importance. In some settings, there may be a highly competitive environment, especially among women, that is not conducive to mentorship. More research on regional all-women surgical programs with larger cohorts is needed to understand which type of factor is playing the biggest role in each setting.

This study found that women in healthcare are interested in advancing into leadership roles and recognize the value that mentorship can have in their respective careers. The study also reveals that women in male-dominated fields, such as surgery and comprehensive care, are often more aware of the need for female leadership, despite having fewer role models compared to women in more female-dominated fields like nursing. For example, comprehensive care providers who lacked experience with women leaders were more inclined to emphasize the importance of women in leadership, even when compared to nurses who are in a woman-dominated field. This difference was small, but it was still notable. In contrast, all SAPs reported previous experience with women in leadership. This discrepancy underscores the importance of mentorship in breaking down traditional gender barriers and inspiring more women to pursue leadership roles. The variance in experiences between specialties supports the need for specialty-specific initiatives to empower women to overcome the unique barriers faced in their careers. By increasing mentorship opportunities and leadership training specifically for women, healthcare systems can foster more inclusive environments where women can thrive, contribute, and lead. For example, despite having the least previous experience with a woman mentor, a grand majority of comprehensive care providers from Africa expressed the importance of having a woman mentor. Therefore, this group would be a priority for opportunities centered around mentorship.

Limitations

All respondents of this study are women that volunteer for a non-governmental organization which is a unique pool of people whose experiences may not fully reflect the overall experience of healthcare workers. Women have been shown to participate more in heath service volunteerism compared to men, which suggests that they might be biased towards understanding disparities and the position of women globally.[19] For analysis purposes, some specialties were combined and evaluated together, such as surgeons and pediatricians. Although they are both doctors by training, the experiences of each specialty may be unique and not generalizable across the grouping of specialties. Additionally, the regional groupings were solely based on survey participants, who do not represent the region entirely and unique challenges may be faced depending on the culture or context of different countries within a region. Overall, this study cannot be generalized to all women healthcare workers due to the sample size and diversity. A comparison of the regional findings of this study with the previous one by Munabi et al is restricted due to the smaller dataset, which lacks sufficient participants for each region. However, given the limited knowledge available in the literature, this study does add a valuable glimpse into potential underlying causes of the disparities in women mentorship and leadership, which may help with designing future empowerment initiatives that aim to help increase women in healthcare workforce numbers and advocacy for advancement.

Conclusion

This multiregional study provides a foundation for future research and program development aimed at closing the gender gap in healthcare leadership. The study underscores the crucial role of mentorship and leadership in advancing women in

healthcare, particularly within surgical programs. It supports better promotion of women to leadership positions, more opportunities for women to mentor other women, and more inclusive workspaces that are designed to support women. Specifically, it highlights the need for regional and specialty-specific interventions to address the unique cultural, structural, and systemic barriers which prevent women from advancing in their careers. Moreover, strategies implemented by government bodies or international organizations should account for these differences, by actively engaging local healthcare professionals in the design of programs or initiatives. As women enter the healthcare workforce and leadership spaces at an increased rate, it is up to governmental bodies and organizations to provide them with the tools they need to thrive and provide high-quality medical care closer to patients who need it. Ultimately, fostering female mentorship and leadership is an investment in the future of global healthcare that can lead to more equitable, effective, and inclusive systems that benefit all members of society.

Abbreviations

OS, Operation Smile; GDP, gross domestic product; LMICs, low- and middle-income countries; SAPs, surgeons, anesthesiologists, and pediatrician; PACU, post-anesthesia care unit; LAC, Latin America and the Caribbean; MENA, Middle East and North Africa.

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Disclosure

The authors report no conflicts of interest in this work.

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