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ORIGINAL RESEARCH

Unveiling Patient Perspectives: A Multinational Cross-Sectional Analysis of Patient Experiences Undergoing Cleft Care by All-Women Surgical Teams

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Background: Although women provide approximately 75% of healthcare globally, they are underrepresented in healthcare leadership, surgery, and anesthesia. Patient- provider gender concordance has been shown to improve patient experience in high-income settings; however, patients in low-and middle-income countries often lack the opportunity to choose the gender of their provider and there is a paucity of literature on the importance of women healthcare providers in these settings.

Aim: To assess the experiences and provider gender preferences of patients with cleft and their caregivers before and after receiving care from an all-women surgical team in a Women in Medicine (WIM) surgical program.

Methods: This cross-sectional study is based on an anonymous survey administered to patients 15 years or older or their caregivers after receiving care from an all-women surgical team during four distinct cleft surgery programs in Morocco, Peru, Malawi, and the Philippines throughout 2022. Analysis included quantitative, descriptive statistics, chi-squared and f-tests.

Results: Before the program, 20% of participants had never received care from women physicians and only 35% preferred women as their healthcare provider. After the program, 66% preferred women as their healthcare provider ($p<0.001$) with the highest proportion in Morocco (90%) and lowest in Malawi and the Philippines (55%). Across all education levels, most participants preferred women after the program (64%) and 98% were satisfied or more than satisfied with the care received. The three most influential characteristics for preferring women were their understanding, patience, and communication.

Conclusion: Participation in the WIM program provided some patients with their first opportunity to experience receiving care from a woman. This exposure may influence their preference for a healthcare provider, which has been shown to enhance patient experience. Programs like this are imperative to increasing visibility of women in surgical and healthcare leadership roles, improving patient experience, and increasing access to care.

Keywords: cleft lip, patient satisfaction, health services accessibility, workforce diversity

Introduction

Globally, women make up the majority of the world's health workforce but remain critically underrepresented in certain medical specialties such as surgery and anesthesia, with less than 40% of the surgical workforce comprised by women in most countries.[1] For instance, Brazilian medical students have been predominantly women since 2010, but 16 of 18 surgical, anesthesia, and obstetrics (SAO) specialties are still dominated by men. Women make up less than 10% of some specialties such as neurosurgery, urology, and orthopedic surgery, and it could take approximately 24 years for the SAO

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workforce of Brazil to achieve gender parity.[2] In terms of the anesthesia workforce, women compromise 32% in low-income countries and are least represented in the African and Eastern Mediterranean World Health Organization (WHO) regions.[3] Additionally, as of 2023 women compromise only 25% of healthcare leadership positions yet recent studies have shown a promising increase in women representation following the COVID-19 pandemic.[4,5]

Meanwhile, there are an estimated 5 billion people globally that lack access to safe, affordable surgical care.[6] In some LMICs, shortage of surgical providers is a major cause of this need. For example, there are 3.66 surgical providers in Morocco per 100,000 inhabitants,[1] which falls well below the Lancet Commission target of 20 SAOs providers per 100,000 population. Other barriers to care include cultural factors that may influence a patient's willingness to seek care and the financial burden.[6] Increasing the number of women SAO providers helps support the goal of expanding global access to high-quality surgical care, and it is important to understand the perceptions of patients towards women as healthcare providers as an early step toward achieving this objective.

When it comes to patient preference for the gender of their provider, previous research has been inconclusive.[7,8] Studies have reported gender concordant preference when it comes to urologic, gynecologic, and breast surgery.[9,10] Literature out of Jordan and Lebanon has shown that the majority of survey respondents did not have a preference for the gender of their surgeon. Of those who did, male providers were preferred at higher rates particularly for cardiovascular, orthopedic, and neurosurgical subspecialties[11] while female providers were preferred in obstetrics, plastic, and breast surgery.[12] An Indian study examining gender preference in four otorhinolaryngology subspecialties found that female providers were preferred in the pediatric subspecialty while the male providers were preferred in head and neck endo-surgery.[9] Overall, findings from recent studies emphasize the importance of recognizing and accommodating patient provider gender preferences to foster trust, enhance comfort, and improve satisfaction.[10,13]

In high-income settings, the literature has shown that sex concordance between surgeon and patient is associated with less adverse events while discordance is associated with more adverse events, especially for women patients treated by male surgeons.[12] In contrast, surgical patients in LMICs are often limited in their choice of provider due to already restricted number of SAO providers and high male predominance; for this reason and in light of existing cultural barriers to care, it is important to consider how the gender of a healthcare provider further influences these patients' perceptions of care.[8] While more research is needed to understand gender bias, provider gender preference, and outcomes by provider gender in LMIC settings, greater focus should be placed on breaking down the stereotypes that might cause patients to perceive the quality of care differently depending on the gender of their provider.

In 2022, Operation Smile (OS), a not-for-profit organization delivering surgical care to children with orofacial clefts in low and middle-income (LMIC) countries, expanded their Women in Medicine (WIM) Initiative with a series of short-term surgical programs offered by all-women comprehensive cleft teams. This study aims to evaluate these programs' impact on patient perceptions and outcomes and identify influential factors such as respondent demographics and provider attributes.

Methods

From March through October 2022, four OS-sponsored short-term surgical programs were hosted in Malawi, Morocco, Peru and the Philippines. The four countries represent geographically, socioeconomically, and culturally distinct regions and medical volunteers were primarily recruited from the respective regions where the programs were hosted. The programs offered comprehensive cleft care to patients with orofacial cleft from all-women medical teams consisting of surgeons, anesthesiologists, pediatricians, dentists, nurses, speech therapists, child life specialists, nutritionists, biomedical engineers, and student volunteers. Patients underwent pre-surgical screening and post-surgical care per Operation Smile's Global Medical Standards.

This was a cross-sectional cohort study with voluntary response sampling. Participants were asked to complete an anonymous survey administered in their native language after hospital discharge to prevent biased responses. Included participants were patients aged 15 years or older who had undergone surgical care during the WIM surgical program and were accompanied by their caretaker. Accompanying caretakers of patients who were 14 years of age or younger were also included. Exclusion criteria included not receiving surgical care during the WIM program and not being accompanied by a caretaker at the time of survey administration.

The survey consisted of 13 multiple-choice questions (4 for demographic information, 1 for educational background, 2 for prior exposure to women in medicine, 1 for current exposure to women in medicine, 1 for program satisfaction, and 4 for preferences for provider gender pre and post program). Responses were ranked on a 5-point Likert scale for prior exposure (always, often, sometimes, rarely, and never) and satisfaction (more than satisfied, very satisfied, satisfied, partly satisfied, not satisfied). Responses for preferences were in the form of yes, no, and prefer not to respond.

Informed consent was obtained from either legal caretakers of all minors or patients themselves who were of consenting age per country law. This study conformed to principles in the Declaration of Helsinki. Ethics approval was obtained from the Institutional Review Board at Children's Hospital Los Angeles (IRB #CHLA 20–00,026) and Operation Smile Inc. (Virginia Beach, VA). In country approvals from all required stakeholders including hospital officials and local foundation officials were obtained. Data collection occurred from March 5^{th}-12^{th} for the Morocco program, March 7–18^{th} for the Peru program, September 9^{th}-17^{th} for the Malawi Program, and October 10^{th}-17^{th} for the Philippines program. Data were collected anonymously using REDCap software (Nashville, TN) and statistical analyses were conducted using Microsoft Excel (Redmond, WA). Data analysis included descriptive statistics, Chi-square tests, and F-tests (where Chi-square tests were not possible). Data were considered statistically significant if $p < 0.05$. Missing data was excluded from analysis where applicable.

Patient and Public Involvement

Although patients were not directly involved in the design of the study, Operation Smile patient coordinators who work directly with patients at a local level were instrumental in various aspect of the study- ensuring the patient perspective was considered. Operation smile has always been committed to meeting patient needs and the study was intrinsically informed by their priorities. Our study questions ascertained patient perspectives and preferences with the goal of improving their healthcare experience and increasing access to safe affordable care.

Results

Out of 280 patients who underwent surgical intervention across the four programs, 242 participants completed the survey with an 86% response rate, of which 12% were male and 88% were female. Self-reporting patients accounted for 5% of study participants. The remaining 95% were patient caretakers, among whom 82% were patient mothers, 7% were patient fathers, 4% were patient grandparents, and 1% other relatives. The distribution between respondent sex, relationship, patient age, and respondent education all differed significantly by country ($p < 0.05$) (Table 1). Overall, 45% of male respondents reported having never received care from a woman doctor before the WIM program and 10% reported having rarely received care from woman doctor (Table 2).

After receiving care as part of the women-led surgical programs, most respondents (98%) reported satisfaction with the care they received. Satisfaction levels ranged from very satisfied (62%) to partly satisfied (1%). Overall, respondents' preference for women as providers increased significantly from 35% before the program to 66% after the program ($p<0.001$). Among male respondents, the preference for women providers increased significantly from 31% before the program to 58% after the program ($p=0.039$). Similarly, the preference for women providers among female respondents significantly increased from 35% before the program to 62% after program participation ($p<0.001$) (Figure 1).

Respondents with no education were more likely to prefer women as providers before participating in the WIM program (55%) compared to those with primary (39%) and secondary education or higher (26%). Respondents with secondary or higher education were slightly more likely to prefer men (5%) as providers before the program compared to no (3%) and primary (3%) education. There was marginal significance for respondents with primary and secondary or higher education levels ($p= 0.072, 0.013, < 0.001$ respectively, Figure 2). 42% of respondents with primary education reported a gender preference for their provider before the program. After the program, 61% of respondents with primary education showed an increase in their preference of provider's gender. Similarly, 31% of respondents with secondary education or higher showed a preference for a provider's gender before the program compared to 63% of the respondents after the program. Across all education levels, most respondents preferred women after the program (64%) (Figure 2).

When examining survey responses by program, some variability was noted (Figure 3). 59% of respondents from Morocco preferred women providers before the program, while most respondents from the other three countries had no

Table 1 Respondent Demographics

	Program Country				Overall (N=242)	P-value
	Morocco (n=51)	Peru (n=70)	Malawi (n=80)	Philippines (n=41)		
Respondent sex						
Female	48 (94%)	68 (97%)	66 (85%)	30 (73%)	212 (88%)	0.001
Male	3 (6%)	2 (3%)	12 (15%)	11 (27%)	28 (12%)	
Respondent's relationship to patient						
Mother	43 (84%)	65 (93%)	63 (80%)	27 (66%)	198 (82%)	<0.001
Father	0 (0%)	1 (1%)	7 (9%)	10 (25%)	18 (8%)	
Self	3 (6%)	1 (1%)	7 (9%)	1 (2%)	12 (5%)	
Grandparent	5 (10%)	3 (5%)	0 (0%)	2 (5%)	10 (4%)	
Other	0 (0%)	0 (0%)	2 (2%)	1 (2%)	3 (1%)	
Patient age (mean, range)	3 years, 7 months (0.5–23)	3 years, 7 months (0.33–28)	5 years, 7 months (0.5–44)	1 year, 8 months (0.42–7)	3 years, 11 months (0.33–44)	0.004
Respondent's highest education level						
None	16 (31%)	1 (1%)	20 (25%)	1 (2%)	38 (16%)	<0.001
Primary school	15 (29%)	12 (17%)	45 (56%)	5 (12%)	77 (32%)	
Secondary school or higher	20 (40%)	57 (82%)	15 (19%)	35 (86%)	127 (52%)	

Table 2 Respondent's Previous Experience With Women Healthcare Providers

			Morocco	Peru	Malawi	Philippines	Total	P-value
I have had a woman doctor before								
Respondent sex	Female (n=208)	Yes	39 (80%)	54 (79%)	57 (86%)	21 (84%)	171 (82%)	0.699
		No	10 (20%)	14 (21%)	9 (14%)	4 (16%)	37 (18%)	
	Male (n=20)	Yes	0 (0%)	0 (0%)	8 (73%)	3 (50%)	11 (55%)	0.163
		No	1 (100%)	2 (100%)	3 (27%)	3 (50%)	9 (45%)	
I have had a woman nurse before								
Respondent sex	Female (n=208)	Yes	37 (77%)	60 (88%)	53 (82%)	23 (92%)	173 (84%)	0.251
		No	11 (23%)	8 (12%)	12 (18%)	2 (8%)	33 (16%)	
	Male (n=20)	Yes	0 (0%)	1 (50%)	9 (75%)	5 (100%)	15 (75%)	0.043
		No	1 (100%)	1 (50%)	3 (25%)	0 (0%)	5 (25%)	

preference (70% in Peru, 68% in Malawi, and 68% in the Philippines). After the program, a majority of respondents from all countries expressed a preference for female providers with the highest proportion in Morocco (90%) and lowest in Malawi and the Philippines (55%). The magnitude of change in gender preference from before and after the program was significant for all countries.

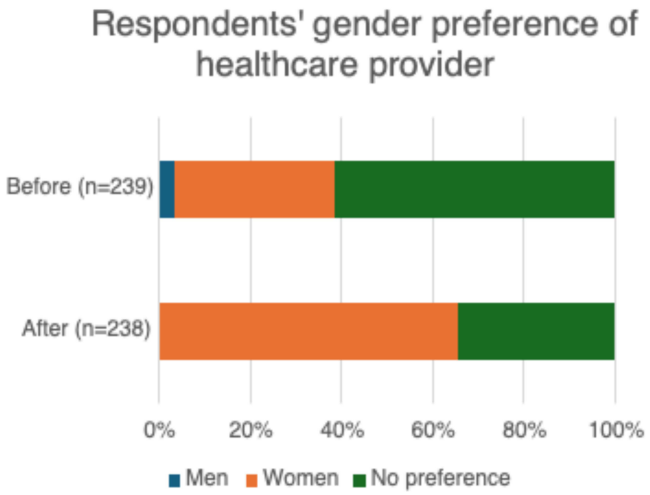

Figure 1 Respondents' gender preference for a health provider gender before and after the program, by respondent sex.

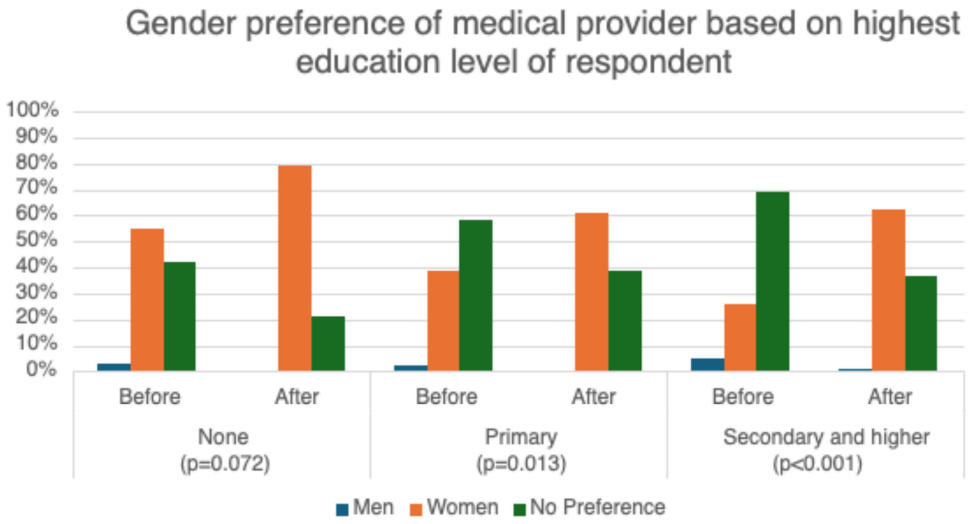

Figure 2 Respondents' provider gender preference based on their education level before and after WIM program.

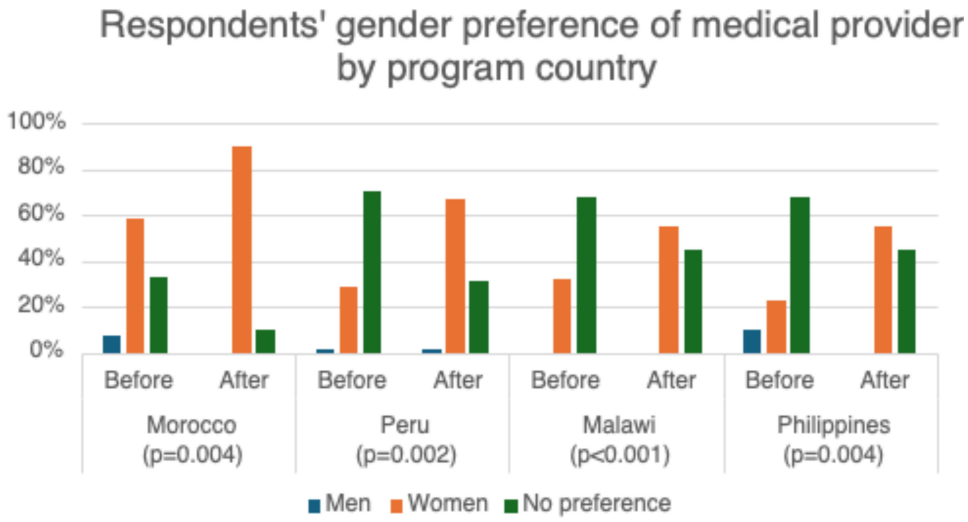

Figure 3 Respondent's provider gender preference by country.

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Table 3 Respondents' Provider Gender Preference After WIM Program

	Program Country					
	Morocco (n=51)	**Peru (n=70)**	**Malawi (n=80)**	**Philippines (n=39)**	**Overall (N=240)**	**P-value**
After this experience, I am more confident in women as healthcare providers.						
Yes	50 (98%)	70 (100%)	69 (87%)*	36 (95%)	225 (95%)	0.209
No	1 (2%)	0 (0%)	4 (5%)	2 (5%)	7 (3%)	
After this experience, I would prefer a man as a medical provider for me or my family member.						
Yes	1 (2%)	11 (16%)	32 (40%)	7 (18%)	51 (21%)	<0.001
No	45 (90%)	56 (80%)	44 (55%)	31 (78%)	176 (73%)	
It is important for more women to work in healthcare.						
Yes	50 (98%)	66 (94%)	75 (94%)	38 (97%)	229 (95%)	0.598
No	1 (2%)	4 (6%)	5 (6%)	1 (3%)	11 (5%)	
I am satisfied with the care provided on this program.						
Yes	51 (100%)	69 (86%)	78 (86%)	38 (97%)	236 (90%)	0.009
No	0 (0%)	11 (14%)	13 (14%)	1 (3%)	25 (10%)	

Note: *Percentages may not add to 100% due to individuals who preferred not to answer (number missing can be found in difference between overall minus yes/no).

Respondents who preferred women providers before and after the program identified understanding (64% and 69%, respectively), patience (39% and 54%, respectively), and communication skills (38% and 47%, respectively) as reasons for their preference. Respondents who preferred male providers before the program (4%) identified communication (33%) and intelligence (22%) as the reasons for their preference. After the program, respondents who preferred male providers (<1%) identified understanding (100%) as the reason for their preference, although none of these reasons were statistically significantly different before and after the program.

Most respondents reported being confident in receiving healthcare from women after being exposed to the WIM program in Morocco (98%), Peru (100%), Malawi (87%) and Philippines (95%) (Table 3). A minority of respondents preferred to receive healthcare from men after the WIM program in Morocco (2%), Peru (16%), Malawi (40%) and Philippines (21%). Most respondents agreed that it is important to have more women in healthcare (94% and higher) in all four countries.

Discussion

Operation Smile's Women in Medicine programs delivered high-quality cleft care to hundreds of patients in four countries (Morocco, Peru, Malawi and Philippines) with an all-women medical team, while cultivating a positive experience for patients and their caregivers. This study demonstrated that participation in these programs positively affected patient perceptions of and preferences for their healthcare provider. Hence, affirming that visibility of women providers can aid in supporting the goal of expanding global access to high-quality surgical care.

Since most healthcare is provided by women globally, it is crucial for patients to trust that they can receive quality care from women providers. As countries continue to grow their surgical workforces and women fill these roles, programs like this can help to ensure the gender of the provider is not a deterrent to receiving care by addressing misperceptions about the quality of care provided by women and increasing patient satisfaction.

Gender Concordance

Our study shows high levels of satisfaction with gender concordant care, that is, patients receiving care from a medical provider of the same gender. Factors such as gender concordance, race, ethnicity, and language influence a patient's preference for their healthcare provider.[14] In a study of 200 US children, 78% of boys and 80% of girls said they would prefer a women physician over a male physician to perform their sutures in an emergency department, revealing a gender concordance preference among female patients. The parents, however, mostly preferred male physicians (60%) over a female or the "best" physician, reflecting the opposite trend.[7] A more recent study of over 2000 adult respondents found that both male and female patients seeking a primary care provider preferred to see a same-gender doctor, especially for men.[15] The alignment of characteristics between patients and providers holds significant importance as patients actively seek out healthcare providers with whom they feel a sense of connection and trust. Furthermore, patients have cited greater ease, comfort, and adherence to medical advice when receiving care from a provider of the same gender. While findings in the literature present a mixture of perspectives on patient-provider gender concordance,[7,8,16] most suggest a neutral or positive impact on patient experience and outcomes.[17]

In our study, most female respondents with gender-concordant preference reported "understanding" and "patience" as their reasons for preferring a female provider after experiencing the WIM program. Interestingly, male respondents had a greater preference for women providers after participating in the WIM program (31% before and 58% after the program). While there is limited comparative literature examining patient preferences in low- and middle-income contexts, one study from Benin found that patient-provider concordance was preferred especially for obstetricians, gynecologists, and pediatricians. Female patients that preferred women providers cited mostly social reasons, such as body exposure, which is a common theme in the literature. Male surgeons, however, were preferred to women surgeons by all respondents due to perceived "greater technical competence and suitability of their greater physical strength".[8]

Since the soft skills that respondents in our study cited as reasons for their preference for women providers can be evident in both men and women, it is important to highlight that gender concordance may not be the only factor affecting patient comfort and therefore preference in our study population. Prior exposure to women in healthcare, socioeconomical factors, cultural norms, and media representation are other possible influences.[18] For example, a Pakistani study evaluating gender preferences for surgical providers found that half of the 1604 respondents did not have a preference based on gender, but those who did, preferred same-sex surgeons in specialties with historic predominance of male surgeons.[18] Therefore, a possible avenue to mitigate socio-cultural factors influencing misconceptions of gender roles in medicine is through enhanced exposure to women surgeons.[8] Addressing cultural nuances that may otherwise remain undisclosed becomes more feasible within the framework of patient-provider concordance. This necessitates a multifaceted challenge to the healthcare profession, prompting a reassessment of our dedication not only to meeting patients' needs but also to empowering patients themselves in defining those needs.

Respondent Education and Provider Preference

Respondents with no formal education were the only group in our study with a preference for female healthcare providers before participating in the WIM program, whereas most respondents with primary education or higher had no preference. A similar finding was reported in a study examining gender preference of birth attendants in Ethiopia which found that participants with no formal education preferred female attendants significantly more than those with primary education or higher. The authors attributed this to the possibility that individuals with less education were more likely to adhere to traditional gender norms, which often views women as more nurturing and approachable in caregiving roles.[19] Likewise, studies examining gender preferences for gynaecologic patients in the Middle East have reported an inverse relationship between education level and preference for gender concordant providers.[20,21] In our study, respondents with some level of formal education showed a significant increase in their preference for women providers after receiving care from an all-women team, while respondents with no formal education had a marginally significant increase in preference. Overall, the higher the education level, the less preference respondents had for women providers prior to the program. After the program, respondents with more education were more likely to prefer female providers. This could mean that satisfaction and exposure are more important driving forces for preference formation in respondents with more education.

Communication was a significant factor cited by respondents in our study for preference of women providers. A systematic review in 2012 examining gender preference for obstetricians and gynaecologists also found that patient-centered communication was one of the key factors influencing preference for female providers.[22] Patient-centered communication involves acknowledging the whole person, including their social determinants of health and education level, to communicate in a way that assures shared understanding of the disease process and treatment plan.[23] Since respondents with less education may require more patient-centered communication, it is possible that prior experiences with women providers who have communicated in a way that suits their needs influenced their preferences prior to experiencing the WIM program.

Country-Specific Factors

Prior to the program, female respondents from Morocco showed a preference for women physicians, in contrast to the other three countries where most respondents had no preference. This inclination may be due to the predominant Muslim community in Morocco, where women feel more comfortable disclosing sensitive health matters and undergoing examinations when cared for by female providers.[24] In certain conservative communities, male doctors may require a communication conduit to obtain clinical information from female patients, usually through their male chaperones.[24] Hence, it is not surprising that female patients in Muslim communities may express preference for female providers.

Conversely, in countries like Malawi, Peru, and the Philippines, cultural norms and societal attitudes towards healthcare providers differ. While gender roles and expectations vary across these regions, the influence of colonialism, indigenous traditions, and socioeconomic dynamics have shaped perceptions of healthcare systems and influenced preferences for providers. In some cases, access to services and provider availability may also play a role in shaping preferences, particularly in rural or underserved areas where access to care may be limited.

Additionally, historical, and contemporary factors, including patterns of migration, globalization, and the influence of western healthcare models, can contribute to variations in healthcare-seeking behaviors across countries. Ultimately, understanding the nuanced interplay of cultural, religious, socioeconomic, and historical factors is essential in comprehending why preferences for women healthcare providers may vary among low- to middle-income countries like Morocco, Malawi, Peru, and the Philippines. Regardless of education, sex, and country, respondents expressed an increased preference for women providers after the WIM program underscoring the power of exposure on preference formation. Based on our experience, increased exposure can not only change patient perceptions of women in medicine rooted in misconceptions from lack of representation, but it can also increase the women in healthcare workforce through enhanced mentorship and visibility. Future work should focus on policy change that results in diversifying the physician workforce in all medical subspecialties and leadership positions. Advocacy for increased women representation in global healthcare leadership is pivotal in reshaping societal perceptions, moving away from gender or race-linked connotations traditionally associated with the terms “doctor” and “nurse”.

Limitations

This study has several limitations. First, there was a limited number of male respondents, potentially skewing the representativeness of this study. Moreover, the absence of a control group comprising exclusively male providers hinders our ability to discern which groups yielded superior outcomes or garnered higher patient favorability and limits the study’s generalizability. The small proportion of self-reporting participants (15 years of age or older) amplified the representation of the caregivers’ preferences rather than the individual patients’ preferences. Additionally, the circumstances under which data were collected, particularly in situations involving free medical care, may have influenced participants to withhold their true preferences due to the high stakes involved. Furthermore, the exclusively women composition of the surveyors might have influenced participant responses, introducing a gender-related bias into our results. Overall, while these limitations warrant consideration, they do not diminish the significance of the findings and the valuable contributions they make to the existing body of literature on patient-provider interactions and preferences.

Conclusion

Through four surgical programs with all-women medical teams, this study was able to assess the perception of care and role of gender through the lens of patients and their caregivers. There was an increase in preference for women medical providers with a high level of satisfaction of the care received across all countries and education levels. The positive perception of care

delivered by the all-women medical teams highlights the evolving role of gender in healthcare provision and the power of exposure, emphasizes the importance of diverse representation in medical teams and challenges traditional gender norms within healthcare settings. Providing patients with a choice of their medical provider that aligns with their preferences, gender or otherwise, can enhance their healthcare experiences. Hence, efforts should be made to promote equitable gender representation in healthcare settings, both in terms of healthcare providers and leadership roles. Continued support and expansion of initiatives like the WIM program can contribute to breaking down gender stereotypes and fostering a more inclusive and diverse healthcare workforce.

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Disclosure

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