REUE | Original Article

Perception of gender gaps in emergency services in Spain

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BACKGROUND AND OBJECTIVE. Health science professions in general and those related to urgent and emergency care have progressively employed an increasing number of women. The aim of this study was to detect the perception of gender bias among the various professionals working in emergency care in Spain.

MATHERIAL AND METHODS. Online survey of physicians, nurses, and other responders working in Spanish urgent and emergency care services. The survey collected responses between March 2019 and March 2022. A variable termed "problem awareness" referred to any inequality the participants believed created a gender gap they could sense in their workplace, delivery of care, or career advancement.

RESULTS. A total of 886 surveys were returned; 62.4% of the respondents perceived situations in which a gender gap existed. The percentage was higher in women, at 64.3% ($P < .001$). Detection of inequality was 2-fold more likely in women, 3.5-fold more likely in respondents between the ages of 25 and 34 years, and 2-fold more likely in those who had at least 1 child under their care.

CONCLUSION. This study of gender bias perception reveals a need to address in urgent and emergency care. The findings have implications for human resources and health systems management.

Keywords: Woman. Gender gap. Urgencies and emergencies.

Percepción de brechas de género en los servicios de urgencias y emergencias en Spain

OBJETIVO. Las profesiones sanitarias en general y las relacionadas con las urgencias y emergencias presentan una progresiva feminización. El objetivo de este trabajo es conocer la percepción de sesgo de género en las profesionales que trabajan en servicios de urgencias y de emergencias (SUREM) en Spain.

MATERIAL Y MÉTODOS. Encuesta en línea dirigida a los colectivos de medicina, enfermería y técnicos sanitarios con desarrollo profesional en los SUREM españoles, realizada entre marzo de 2019 y marzo de 2022. Se incluyó la variable "detección de problemas", en referencia a cualquier desigualdad que los participantes considerasen como brecha de género en su entorno profesional, actividad asistencial o desarrollo curricular.

RESULTADOS. De las 886 encuestas, el 62,4% identificaron situaciones de brecha de género, siendo esto más frecuente en las mujeres (64,3%, $p < 0,001$). Ser mujer multiplicó por 2 la posibilidad de detectar más brecha de género, una edad entre 25 y 34 años por 3,5 y el tener al menos un hijo, por 2.

CONCLUSIÓN. El estudio de la brecha de género constituye una necesidad en urgencias y emergencias, teniendo en cuenta sus implicaciones en los recursos humanos y en la gestión del sistema de salud.

Palabras clave: Mujer. Brecha de género. Urgencias y emergencias.

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Introduction

The incorporation of women as health care professionals began in the last 30 years of the 19th century.[1] Three evolutionary periods can be distinguished: the origins (1872–1959), the years of professionalization and scientific development (1960–1990), and the period of consolidation and expansion (1991–2022).[2]

According to the Labor Force Survey, women now hold more than 70% of positions in the Spanish health care sector.[3] Moreover, a future predominance of women in health care is expected, as evidenced by data showing that in the 2021–22 academic year, 4,453 women (66.7% of the total) obtained a degree in Medicine, and 81.3% obtained a degree in Nursing.

The gender gap refers to the differing positions of men and women and the unequal distribution of resources, access, and power within a given context. It represents the difference between male and female rates within a specific variable, calculated as Female Rate – Male Rate. Thus, the smaller the gap, the closer the situation is to gender equality.[4]

In 2018, The Harvard Medical School Women in Emergency Medicine Consortium was created, identifying for the first time within the specialty of Emergency Medicine in the United States the need to study and develop gender as an area of special relevance, both in clinical care and in research.[5] That same year, the Spanish Society of Emergency and Emergency Medicine (SEMES) established a working group, *MUEjeres,* dedicated to the study and development of gender as an important area within SEMES. One of its objectives is to analyze the professional development of women working in the field of Emergency and Urgent Care across different professional categories—medicine, nursing, and emergency medical technicians.[6]

Since women take over more than half of the positions in Spain's Emergency and Urgent Care (SUREM) services, the objective of this study was to assess the perception of possible existing gender gaps in these health care services and to identify the factors associated with them.

Material and methods

We conducted an observational, cross-sectional study using an online survey aimed at physicians, nurses, and health care technicians working in Spanish SUREM services (Table 1). The questionnaire was disseminated through SEMES's social media channels and emailed to the 17 regional SEMES presidencies to distribute within their corresponding SUREM services. The survey remained open from March 9th, 2019 through March 9th, 2022.

Variables included: sex (male/female), age (18–25, 25–35, 35–45, 45–50, 50–55, > 55 years), workplace (emergency department, emergency service, or both), leadership position (none, head/coordinator of service, management/executive role), profession (medicine, nursing, health care technician), having at least 1 child (yes/no), and geographical region (north, center, or Mediterranean coast). The northern region included Galicia, Asturias, Cantabria, Basque Country, La Rioja, and Navarre. The central region included Extremadura, Castile and León, Madrid, and Castile-La Mancha. The Mediterranean coastal region included Catalonia, Valencia, Murcia, Balearic Islands, Andalusia, Canary Islands, and the autonomous cities. The dependent variable was "problem detection," referring to any inequality perceived by participants as a gender gap in their professional environment, clinical activity, or career development (Yes/No).

Ethical aspects

Survey completion was anonymous; therefore, informed consent was not required. The study was conducted in full compliance with the principles outlined in the Declaration of Helsinki, and data collection complied with the guidelines of the Spanish Organic Law on the Protection of Personal Data (LOPD 15/1999).

Statistical analysis

All variables were qualitative and expressed as absolute and relative frequencies (%). Relationships across variables were analyzed using the chi-square test or Fisher's exact test when more than 20% of cells had expected frequencies < 5. To identify variables associated with gender gap perception, a logistic regression model was constructed, with β parameters estimated using the maximum likelihood method. A P value < .05 was considered statistically significant. Statistical analysis was performed using SPSS version 27.0 (IBM, Armonk, NY, USA).

Results

A total of 1,000 professionals responded to the survey, with 886 valid questionnaires: 810 (91.4%) from women and 76 (8.6%) from men. Table 1 illustrates the sample description and gender gap detection. Women participated more frequently in the 18–44-year age group, whereas men predominated from 45 years onward. A statistically significant difference was found in the variable "problem detection," with women identifying gender-related issues more frequently (64.3% vs 42.1%, P < .001). The remaining variables did not reach statistical significance; however, among those holding leadership positions (heads of service or management/executive roles), the percentage of men was higher.

Table 2 shows the geographical distribution of participants, revealing a significantly higher proportion of women in the northern and central autonomous communities.

Regarding the logistic regression analysis adjusted for all variables studied (Table 3), it can be observed that being a woman doubled the likelihood of detecting a gender gap vs men. Similarly, being between 25 and 34 years of age increased this likelihood by 3.5 times, and having at least 1 child doubled it. The remaining variables included in the adjustment were found to be independent factors related to the detection of problems in SUREM services.

Discussion

This study provides insight into the current situation of SUREM services regarding the perception of gender bias affecting professionals working in the field of Emergency

Table 1. Demographic characteristics and detection of gender gap

Variables	Total N = 886 n (%)	Women N = 810 n (%)	Men N = 76 n (%)	*P*
Age (years)				.001
18–24	11 (1.2)	11 (1.4)	0 (0.0)	
25–34	216 (24.4)	203 (25.1)	13 (17.1)	
35–44	358 (40.4)	336 (41.5)	22 (28.9)	
45–49	145 (16.4)	129 (15.9)	16 (21.1)	
50–54	79 (8.9)	70 (8.6)	9 (11.8)	
≥ 55	77 (8.7)	61 (7.5)	16 (21.1)	
Workplace				.804
Emergency services	65 (7.3)	60 (7.4)	5 (6.6)	
Emergency department	603 (68.1)	553 (68.3)	50 (65.8)	
Both (emergency and hospital)	218 (24.6)	197 (24.3)	21 (27.6)	
Professional position				.722
Staff physician	572 (64.6)	526 (64.9)	46 (60.5)	
Nurse	206 (23.3)	187 (23.1)	19 (25.0)	
Resident (MIR)	30 (3.4)	28 (3.5)	2 (2.6)	
Technician	78 (8.8)	69 (8.5)	9 (11.8)	
Position held				.058
Management	9 (1.0)	7 (0.9)	2 (2.6)	
Head of service	60 (6.8)	51 (6.3)	9 (11.8)	
Clinical position	817 (92.2)	752 (92.8)	65 (85.5)	
Children				.233
No children	360 (40.6)	334 (41.2)	26 (34.2)	
Has children	526 (59.4)	476 (58.8)	50 (65.8)	
Problem detection				< .001
No problems detected	333 (37.6)	289 (35.7)	44 (57.9)	
Problems detected	553 (62.4)	521 (64.3)	32 (42.1)	

and Prehospital Medicine. Such understanding is considered fundamental from both clinical and administrative perspectives, particularly in management terms—not only to identify existing gender gaps in emergency departments (EDs) and emergency medical services (EMS), but also to determine which groups perceive them. Based on our findings, being a woman doubles the likelihood of perceiving

Table 2. Autonomous Community of origin of participants

Variables	Total N = 886 n (%)	Men N = 810 n (%)	Women N = 76 n (%)	*P*
Autonomous Communities				< .001
Andalusia	201 (22.7)	179 (22.1)	22 (28.9)	
Canary Islands	12 (1.4)	10 (1.2)	2 (2.6)	
Cantabria	15 (1.7)	15 (1.9)	0 (0.0)	
Castile-La Mancha	65 (7.3)	57 (7.0)	8 (10.5)	
Castile and León	40 (4.5)	40 (4.9)	0 (0.0)	
Catalonia	107 (12.1)	94 (11.6)	13 (17.1)	
La Rioja	6 (0.7)	5 (0.6)	1 (1.3)	
Community of Madrid	111 (12.5)	104 (12.8)	7 (9.2)	
Chartered Community of Navarre	37 (4.2)	29 (3.6)	8 (10.5)	
Valencian Community	43 (4.9)	43 (5.3)	0 (0.0)	
Basque Country	35 (4.0)	33 (4.1)	2 (2.6)	
Extremadura	59 (6.7)	59 (7.3)	0 (0.0)	
Galicia	75 (8.5)	72 (8.9)	3 (3.9)	
Balearic Islands	24 (2.7)	18 (2.2)	6 (7.9)	
Principality of Asturias	37 (4.2)	36 (4.4)	1 (1.3)	
Region of Murcia	12 (1.4)	11 (1.4)	1 (1.3)	
Autonomous Cities	7 (0.8)	5 (0.6)	2 (2.6)	
Grouped Autonomous Communities				.021
North	205 (23.1)	190 (23.5)	15 (19.7)	
Center	275 (31.0)	260 (32.1)	15 (19.7)	
Mediterranean Coast	406 (45.8)	360 (44.4)	46 (60.5)	

Table 3. Odds ratios of variables included in the adjustment related to problem detection that were statistically significant

	OR (95% CI)	*P*
Being a woman		.003
No	1 (reference)	
Yes	2.13 (1.30-3.50)	
Age		
18–24 years	1 (referencia)	
25–34 years	3.65 (1.01-13.19)	.048
35–44 years	2.37 (0.65-8.55)	.189
45–49 years	1.63 (0.44-6.05)	.465
50–54 years	1.48 (0.38-5.72)	.569
≥55 years	0.80 (0.20-3.10)	.741
Having children		< .001
No	1 (reference)	
Yes	2.05 (1.46-2.87)	

OR: Odds ratio; CI: Confidence interval of the OR.
Values in bold indicate statistical significance (*P* < .05).

gender bias, and this probability increases by 3.5 times during the fertile period. Thus, women are disadvantaged merely by virtue of being women within a highly feminized sector. This feminization of health care in Spain is a well-established reality. According to the Spanish Ministry of Health (2020–2021), 53.5% of physicians and 81.3% of nurses were women. While no official gender data exist for Emergency Medical Technicians (EMT), the trend toward feminization is clear within this group of 13,527 professionals.[7] Therefore, studying the gender gap has become an urgent necessity, given its implications for human resources and health care system management.

Moreover, this work focuses on SUREM services, health care units where the intrinsic characteristics of daily clinical practice may influence both professional and personal development for women.[8] Among these distinctive aspects are shift work, night shifts,[9] teaching involvement,[10] and research activities,[11] all carried out under high clinical workload and stress conditions.[12,13]

On the other hand, the age groups with the highest participation were 25–35 years and 35–45 years. These age ranges not only correspond to greater awareness of gender inequality in social and professional contexts[14] but also coincide with women's reproductive years,[15] a critical period in their professional development in Emergency and Urgent Care. Motherhood represents a turning point in women's academic productivity, teaching activity, and ability to maintain rotating shifts.[16]

The caregiving role has historically been associated with the condition of being a woman.[17,18] This role, both within and outside the home, has evolved according to labor conditions and became a recognized fundamental right in the 20th century. Its maximum expression occurs during motherhood but also extends to the care of relatives and parents. As a result of this long-standing association, women tend to prefer professions related to caregiving rather than careers in fields such as technology, science, or mathematics, which are still perceived as less accessible in some cases.[19]

In the study by Lee *et al.*,[5] the experience of establi-

shing a consortium of female academic emergency physicians in the United States was described. The authors identified gender inequalities in medicine, attributed to institutional policies unfavorable to family life, lack of promotion strategies, insufficient female leadership models, and institutional biases. This group of women—professors of Emergency Medicine across hospitals and age groups—developed gender-focused programs that included leadership, negotiation, and career advancement seminars. Through a pyramid-like model, they promoted networks among hospitals and universities, emphasizing the need to advance in hiring, retaining, and promoting female talent. They identified as key areas of interest: career development skills, leadership, mentoring and sponsorship, research, peer support and counseling, and work–life integration strategies.[20]

This study presents several limitations. First, the long period during which the survey remained open could have led to variability over time. Second, demographic limitations included low male participation, limited representation of EMT, and uneven age and geographic distribution. The regional groupings established by the researchers could be revisited in future studies, potentially incorporating factors such as regional GDP as an association variable. Finally, responses to the independent variable "problem detection" may have contained a subjective component, as this item was not defined more precisely. Nevertheless, we believe this study serves as an important starting point for investigating gender gaps in Emergency and Urgent Care in Spain, acting as a hypothesis-generating and sample size–estimating study for future research.[21]

The future of health care depends on the human resources that sustain it, and the data presented here suggest that the professional development of young women may be jeopardized by gender inequities. The existence of gender bias in clinical practice threatens the equity, efficiency, and sustainability of our professionals and, ultimately, of the health care system itself.[22] Further studies are needed to analyze existing gender gaps and explore strategies to eliminate them, thereby contributing to the sustainability and excellence of a health care system whose foundation is, fundamentally, female.

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