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ORIGINAL ARTICLE

Women in Gastroenterology: What Is the Current Situation? Results of an Italian National Survey

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Abstract

Background Many women grow up dreaming of becoming doctors, preferring specialties that allow more focus on time outside the hospital and on family life. Nowadays, specialties, like gastroenterology, have still a significant gender gap.

Methods Based on this known discrepancy, a web-based questionnaire was designed by the Young Component of the Scientific Committee of the Federation of Italian Scientific Societies of Digestive Diseases 2023 (FISMAD) to examine the current situation of female gastroenterologists in Italy. The survey, designed specifically for this study, was sent by email to all female gastroenterologists and residents gastroenterologists, members of the three major Italian societies of Gastroenterology.

Results A total of 423 female physicians responded to the survey: 325 (76.8%) had full-time employment, and only a few had an academic career (7.2%). The main occupations were outpatient clinics ($n = 288$, 68%) and diagnostic endoscopy ($n = 289$, 68.3%); only 175 (41.3%) performed interventional endoscopy. One hundred and forty-seven (34.7%) had the chance to attend a master in advanced or interventional endoscopy, while 133 (31.4%) faced disadvantages that enabled them to attend. Of the 244 (58%) who reported feeling underappreciated, 194 (79.5%) said it was due to gender bias. We found that women doctors considered themselves disadvantaged compared with men doctors due to career opportunities ($n = 338$), salary negotiations ($n = 64$), and training opportunities ($n = 144$).

Conclusions In conclusion, gastroenterology still has a long way to go before approaching greater gender parity.

Keywords Women · Gastroenterology · Endoscopy · Career

Introduction

Many women grow up dreaming of becoming doctors. Still, after years of studying and training, they have to deal with reality and realize how difficult it is, even today, to be a

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woman, a doctor, a mother, and a wife at the same time. In some cases, women prefer specialties that offer more flexibility for time outside the hospital and on family life [1], choosing to put their true passions in the background. Despite almost 50% of medical students being women, in numerous specialties women remain underrepresented, with the smallest percentages, especially in procedure-based ones, including gastroenterology [1]. The gastroenterology specialty has, in fact, a significant gender gap: 82.4% of practicing gastroenterologists are men [2], and only 25–30% of gastroenterologist trainees are women [3]. This gap causes a lack of females even in mentorship, hospital leadership positions, and in academia, which discourages many women from considering them as possible career options [4, 5]. Women are also under-represented at national and international meetings, on boards of medical journals, in publications with high-impact factors, and research trials [6]. This absence of women appears even more evident in gastrointestinal endoscopy fields and, above all, in advanced endoscopy. It results from cultural biases in a male-dominated field, concerns about childbearing and radiation exposure [7], moreover, endoscopic equipment is not ergonomically optimized for women's use, and female physicians report more musculoskeletal injuries than males [8]. Rabinowitz et al. [9] distributed a web-based survey to 403 gastroenterology fellows and practicing gastroenterologists finding that more women experienced gender bias during training and in their careers, causing an impact on their work choices. However, the role of women in gastroenterology is irreplaceable and it should be encouraged. Nearly half of female patients expressed a gender preference for a female endoscopist, whereas less than 5% of males had a preference [10, 11]. Moreover, it is also essential to consider that certain religious and cultural groups require same-gender caregivers [12]. Based on this known discrepancy, a web-based questionnaire was designed by the Young Component of the Scientific Committee of the Federation of Italian Scientific Societies of Digestive Diseases 2023 (FISMAD) (N.L., L.V., F.Z.) to examine the current situation of female gastroenterologists in Italy.

Methods

The survey, designed specifically for this study, was sent by email to all female gastroenterologists and residents gastroenterologists, members of the three major Italian societies of Gastroenterology, SIGE (Italian Society of Gastroenterology), AIGO (Italian Association of Hospital Gastroenterologists and Endoscopists) and SIED (Italian Society of Digestive Endoscopy), accounting for a total of 1.310 female doctors, equally distributed along the Italian regions. The survey was sent from January to March 2023, including three subsequent reminder emails, and comprised 32 questions. The questions were divided into "clusters": demographic data, training, work opportunities, and gender disparities feelings. All responses were kept anonymous, and no personal identifying information was collected; response to the survey was voluntary, and subjects could quit the survey at any time. No incentive for completion of the survey was provided. Before survey distribution, we performed a pilot test of 10 women to assess survey content and duration; no significant changes were needed based on this pilot testing. STATA 11 was used to analyze the results. The categorical variables are expressed as proportions and percentages, and continuous variables as mean.

Results

Demographic Data

A total of 423 female physicians responded to the survey, with a response rate of 32.3%.

Table 1 reports the demographic characteristics of our population: age, family status, geographic distribution, and type of employment contract. Of the 423 respondents, 325 (76.8%) had full-time employment, and only a few had an academic career (7.2%). About half of the respondents came from Northern Italy; most were aged 30–50 and were in a stable relationship (81.6%). More than half (52.9%) had

Table 1 Demographic characteristics of the participants

Parameters	Total number ($n=423$)
Age in years, *n* (%)	
< 30	52 (12.3%)
31–40	169 (39.9%)
41–50	109 (25.8%)
51–60	57 (13.5%)
> 60	36 (8.5%)
Family Status, *n* (%)	
Stable relationship	345 (81.6%)
Single	78 (18.4%)
With children	224 (52.9%)
Geographic distribution, *n* (%)	
North	220 (52%)
Center	103 (24.4%)
South and Isles	100 (23.6%)
Employment type, *n* (%)	
Full time permanent	302 (71.4%)
Full time fixed	23 (5.4%)
Associate professor/professor	18 (4.2%)
University researcher	10 (2.5%)
Residents/research fellow	70 (16.5%)

children, of whom 123 (55%) had to resize and scale down their career projects due to their family needs.

Training and Work Opportunities

The main occupations were outpatient clinics ($n = 288$, 68%) and diagnostic endoscopy ($n = 289$, 68.3%); only 175 (41.3%) performed interventional endoscopy (Table 2).

Table 3 describes the main activities of women in endoscopy practice; we observed that the main endoscopy activity among women were emergency (128, 30.2%) and basic endoscopy, while only few performed more advanced techniques such as endoscopic submucosal dissection (29, 6.8%), endosuturing (3, 0.7%), peroral endoscopic myotomy (3, 0.7%).

To the question "do you carry out scientific research activities?" the answers were similar: yes 132/423 (31.2%), no 137/423 (32.4%), occasionally: 154/423 (36.4%).

Of the 423 responders, 147 (34.7%) had the chance to attend a master in advanced or interventional endoscopy, while 133 (31.4%) faced disadvantages that enabled them to attend.

Only one-third (126, 29.7%) of respondents participated in international scholarships, visiting fellowships, or abroad opportunities. We inquired in detail about the reasons for the negative responses in the questions related to abroad experiences. Of those without experience abroad (297, 70.2%), 44% didn't have this opportunity due to family planning or professional duties; the remaining were not interested.

Gender Disparities Feelings

Responders were asked about their job satisfaction: only 179 (42%) felt valued at work. Of the 244 (58%) who reported feeling underappreciated, 194 (79.5%) said it was due to gender bias. When asked about gender impact on work, only 112/423 (26.4%) respondents had never experienced gender disparities; on the other hand, in a multiple choices question, 163 reported having been discriminated by the chief (38.5%), 96 (22.6%) by colleagues, 177 (41.8%) by patients and 29 (6.8%) by paramedical staff (Fig. 1).

We found that women doctors considered themselves disadvantaged compared with men doctors due to career opportunities ($n = 338$), salary negotiations ($n = 64$), and training opportunities ($n = 144$). The need for more protection measures (compared with men colleagues) was expressed by 58% of women ($n = 247$); of this, 60% in term of parenting needs (coordinating work with childcare, maternity leaves, holidays) and 14% in term of pregnant worker protections (chemicals, ionizing radiation, infectious agents).

Protection laws ("quotas for women or gender quotas") and advocacy, such as Woman in Endoscopy, may be helpful for 69% of the responders, to overcome some of the barriers that have been recently identified: unequal gender representation, less work opportunities, and a few mentorship figures. Figure 2 shows the most frequent answers to the question: "describes in a single word the position of women in gastroenterology."

Table 2 Field of occupations (multiple choices question)

Main occupations	Total number ($n = 423$)
Outpatients clinic, *n* (%)	288 (68%)
Diagnostic endoscopy, *n* (%)	289 (68.3%)
Interventional/advanced Endoscopy, *n* (%)	175 (41.3%)
Wards in GI department, *n* (%)	157 (37.1%)
Ultrasound clinic, *n* (%)	78 (18.4%)

Table 3 Main activities in endoscopy (multiple choices question)

Mains occupations	Total number ($n = 423$)
Emergency endoscopy, *n* (%)	128 (30.2%)
Basic polypectomies, *n* (%)	111 (26.2%)
Variceal band ligation, *n* (%)	109 (25.7%)
Endoscopic mucosal resection, *n* (%)	107 (25.2%)
Enteral tube placement, *n* (%)	104 (24.5%)
Endoscopic retrograde cholangiopancreatography, *n* (%)	55 (13%)
Therapeutic endoscopic ultrasound, *n* (%)	39 (9.2%)
Endoscopic submucosal dissection, *n* (%)	29 (6.8%)
Endosuturing techniques, *n* (%)	3 (0.70%)
Peroral endoscopic myotomy, *n* (%)	3 (0.70%)

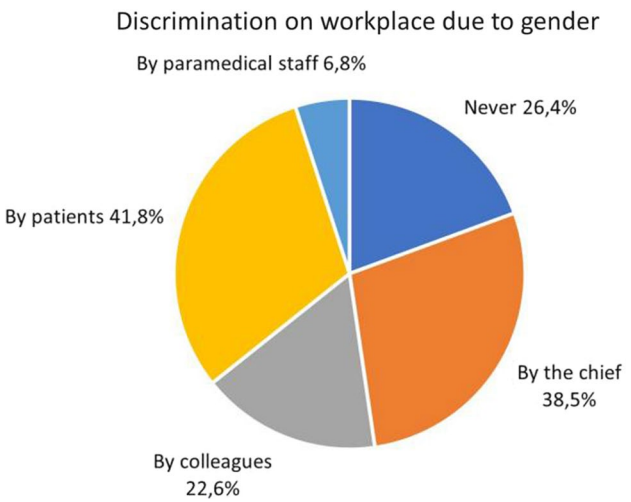

Fig. 1 Gender impact on workplace and discrimination episodes, multiple choices questions

Fig. 2 Most frequent answers to the question: "describes in a single word the position of women in gastroenterology."

Discussion

In recent years there has been a greater interest in the role of women in medicine and their career position. Regarding gastroenterology, a branch combining clinical aspects and operative procedures, only 5% of doctors are women [4]. There is an active debate on the possible reasons for the under-representation in academic careers, leadership positions, mentoring roles, and inequities in the workplace [13]. We conducted this survey to evaluate the Italian reality of women gastroenterologists. Firstly, we found that only 7.2% of the respondents have an academic career. Similarly to our results, the survey conducted by Ciacci et al. [14] evaluated data from 564 respondents and found that out of a total of 113 gastroenterologists in leading role positions, only 26 were women. The same results are obtained abroad; a study conducted in 2021 in the United States (US) on 3655 faculty (professors, researchers, lecturers) members and trainees across 163 academic gastrointestinal programs, found that of the 289 faculty in leadership positions, women comprised 19.4% (56/289) [6]. Another study noted that there is a notable lack of female representation among practicing gastroenterologists, across all levels of leadership and among fellows. Elevating the presence of women in leadership roles correlates with a rise in female program directors and trainee [15]. The gender gap has also been found in the authorship of scientific research [16]. Therefore, the lack of females in mentorship or chief roles can discourage many women from considering them as career options. However, literature shows that men and women desire fair and equal leadership [17]. The gender gap in gastroenterology leadership for women is likely explained by more significant difficulties for women in achieving a leadership role for gender disparities [18]. This result aligns with our results in which 311 women experienced gender disparities (73.6%), mainly from chiefs and colleagues, and 244 reported not feeling unappreciated and ungratified at work. Moreover, we found that Italian women doctors considered themselves disadvantaged in career improvement, salary negotiations, and for training opportunities compared with men doctors. The lack of training opportunities and experience abroad could lead to fewer women practicing advanced endoscopy. The practice of endoscopy could be considered difficult for women for different factors: endoscope dials come in standard sizes, and women with smaller hands have a more challenging time reaching them properly, causing more incredible difficulty when attempting endoscopic procedures. Furthermore, while musculoskeletal injuries are common in endoscopic practitioners, female physicians report more soreness and severe pain than males [8]. In the 2018–2019 academic year, only 12% of incoming advanced endoscopy fellows were women, according to the American Society for Gastrointestinal Endoscopy's matching program [1]. Concerns about pregnancy and radiation exposure [7] could be considered other reasons for this under-representation. We also found that more than half of the respondents with children had to resize and scale down their career projects due to their family needs. Gastroenterologists have frequent on-call nights [13] and work longer hours on average than many other specialties, as reported by the 2004–2005 Community Tracking Survey [19]. Burke et al. showed that women gastroenterologists have, on average, one child and alter their family planning more often than their male counterparts [18]. These data were also confirmed by Arlow et al., who found that female trainees were more likely to choose skills according to family needs than males [20]. Women, significantly more than men (26% vs. 15%), must choose between their careers, marriage, or children [21]. However, women in gastroenterology fill an essential role that is irreplaceable and underappreciated. Many studies have shown that female patients seek female gastroenterologists for outpatient visits and colonoscopy procedures [10] and that as many as 5% of women would refuse a colonoscopy performed by a male operator [11]. Female patients with a history of abuse (physical or emotional) and those from lower income levels showed a gender preference for an endoscopist [22]. This preference for female doctors becomes almost an obligation for some religions. For example, having more women practicing gastroenterology could help close the colorectal cancer screening gap, where approximately one-quarter of adults in the US are not screened as recommended [23]. The need for more female gastroenterologists remains high and all should aim to improve the work environment and facilitate the role of doctor, endoscopist, and mother. Viable solutions proposed by various studies include: considering part-time work, flexible hours, reducing travel times, working closer to home, and taking family leave [7, 24]. However, this alone is certainly insufficient. We strongly believe it's crucial to engage in open dialogue to raise awareness among all colleagues. Holding meetings in both central and peripheral hospitals could facilitate

understanding of current issues and explore potential solutions. For instance, implementing childcare facilities in all hospitals and during conferences would significantly support working women. Additionally, introducing non-standard sized endoscopes and radiation protection devices, along with enhanced training opportunities for women, could further encourage their participation. Our survey obtained a good response rate (32.3%) and it explores several aspects of the gender disparity. Furthermore, the diversity of the responses sheds light on the variability of the women's position in Italy in the different Italian centers. It is undeniable that in our country there are more developed centers that carry out advanced endoscopy, have advanced equipment, and all specialist clinics; conditions that favor a woman's growth path without the need to go outside and give up family commitments. On the other hand, many other centers mostly deal with basic endoscopy and do not deal with all aspects of gastroenterology; consequently, the woman must use other avenues for her professional growth with an important impact on the family sphere. However, only members of the three leading Italian societies were invited to participate, and although it includes most of women gastroenterologists, the experiences of some non-member gastroenterologists should be adequately captured. Furthermore, we need the men's point of view, which will be analyzed in a future survey.

In conclusion, compared to other specialties, gastroenterology still has a long way to go before approaching greater gender parity. In recent years, scientific societies and organizations are encouraging women's participation in committees, boards, and training programs. What we hope for the future is not a numerical equal representation but a spontaneous equal perception of the woman's role in gastroenterology and beyond.

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Data availability The data that support the findings of this study are available on request from the corresponding author

Declarations

Competing interest The authors declare no competing interests.

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