Brief Report

A Brief Report on the Correlation between Empathy and Gender Sensitivity among Italian Medical University Students

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A Brief Report on the Correlation between Empathy and Gender Sensitivity among Italian Medical University Students

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Abstract: Background: Gender stereotypes and biases can influence perceptions of competence and suitability for certain medical specialties. Empathy is an important component of an optimal doctor-patient relationship. The scope of our study is to verify the correlation between "empathetic" behavioral style with attention and sensibility to the gender differences of patients of the medical students. Methods: An online survey was conducted using the Jefferson Scale for Empathy (JSE), to measure empathy in the context of health professions education and patient care; and the Nijmegen Gender Awareness in Medicine Scale (N-GAMS), which measures attitudes and assumptions about gender. A total of 234 students (52.1% M; mean age: 22.68±2.48) from Medicine and Surgery at the University of Salerno (Italy) participated, of whom n° 175 were third-year students and n° 59 were fifth-year students. Results: The JSE score shows that male students have higher scores (77.29±12.38) than females (75.91±10.39). Conversely, female students have higher perspective-taking (JSE Factor 1: Male= 51.26±11.84; Female= 52.72±11.88). In addition, third-year students are much more empathetic than their fifth-year colleagues (JSE Score: 3°ys= 77.35±11.46; 5°ys= 74.49±11.33). With reference to the GS, we found that male students have greater sensitivity than their female colleagues (GS: Male= 2.67±0.68; Female= 2.37±0.48); conversely, they have higher scores of gender stereotype towards patients (GRIP: Male= 2±0.88; Female= 1.59±0.61) and doctors (GRID: Male= 1.88±0.89; Female= 1.64±0.63). Also, the third-year students compared to their fifth-year colleagues are characterized by greater gender sensitivity (GS: 3°ys= 2.57±0.62; 5°ys= 2.42±0.57), less bias with respect to patients (GRIP: 3°ys= 1.77±0.79; 5°ys= 1.90±0.78) but, on the other hand, show more stereotypes and prejudices towards doctors (GRID: 3°ys= 1.77±0.81; 5°ys= 1.75±0.74). Conclusions: Humanistic attitudes, including empathy, should be instilled, and evaluated among trainees as an essential part of their postgraduate medical education.

Keywords: gender awareness; medical university students; empathy; gender stereotypes; medical-patient relation

1. Introduction

Medicine, from its origins, has had an androcentric focus, relegating interests in female health to specific aspects related to reproduction. Since the 1970s it has become increasingly evident that the development of medicine has taken place through studies conducted predominantly on male subjects, in the mistaken belief that, apart from the different sexual and reproductive systems, men and women were equivalent. From the 1990s onwards, traditional medicine has undergone a profound evolution through an innovative approach that aims to study the impact of biological, environmental, cultural, psychological, and socio-economic variables determined by gender on the physiology, pathology, and clinical characteristics of diseases [1].

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The term "gender medicine" was first used in 1991 when a cardiologist, Bernardine Healy, published an article in the New England Journal of Medicine describing discrimination against women in the management of cardiovascular diseases [2]. Healy had found in her clinical practice that women who entered the ward were less likely to be hospitalized than men, at the same time they were less likely to undergo invasive diagnostic investigations (e.g. coronagraphy), and the more specific and more intensive interventions were also less frequently contemplated in women's care.

In Italy, we began to talk about gender medicine in 1998 with the Ministry of Health's project "A Woman-friendly Health" and, as the years went by, it became increasingly central to the health debate. In fact, in 2008, the ministerial project "Gender Medicine as a strategic objective for public health" was created; in 2015, the Italian National Institute of Health established the "Reference Centre for Gender Medicine"; in 2012-2016, gender medicine was included in the socio-health plan; in December 2016, gender-oriented medicine was included in all the teaching courses of the medical schools of Italian universities.

Finally, in 2019, the Ministry of Health formally approved the "Plan for the implementation and dissemination of Gender Medicine in the national territory" [3].

Prejudice based on gender in any field, including medical education, is a serious concern that can have significant implications for both individuals and society.

Gender stereotypes and biases can influence perceptions of competence and suitability for certain medical specialties [4]. For example, there may be a tendency to assume that women are more suited to certain fields like pediatrics or family medicine, while men are more suited to surgery or emergency medicine. Such assumptions can limit opportunities for individuals to pursue their preferred specialties or lead to biased evaluations.

Efforts are being made to address gender prejudice in medical education. Medical institutions are increasingly recognizing the importance of diversity and inclusion and implementing policies to promote equality. Organizations and individuals are advocating for equal opportunities, fair evaluations, and supportive work environments for all medical students, irrespective of their gender [5].

The representation of patients' gender in medical students refers to how medical students perceive and interact with patients of different genders. Medical professionals need to be able to provide compassionate and unbiased care to patients of all genders.

Medical schools often aim to train students to be sensitive to the unique healthcare needs and concerns of diverse patient populations, including gender. This may involve incorporating gender-related content in the curriculum, emphasizing cultural competency, and promoting respectful communication and behavior [6].

Gender medicine, also known as sex and gender-based medicine, is a field that focuses on understanding and addressing the impact of biological and sociocultural factors related to sex and gender on health and disease. It recognizes that men and women may have different experiences of health and illness due to physiological, psychological, and social differences.

Biological differences between males and females can influence the risk, presentation, progression, and response to treatments for various diseases. Gender-related factors, including societal expectations, roles, and behaviors, can also affect health outcomes.

Gender medicine seeks to improve research methods and clinical practices by considering sex and gender as variables. It emphasizes the inclusion of both males and females in research studies to generate evidence that is representative and applicable to diverse populations.

Gender medicine investigates sex and gender differences across a wide range of health conditions, including cardiovascular disease, cancer, mental health, autoimmune diseases, and more. It aims to identify disparities, develop gender-specific diagnostic tools and treatments, and enhance patient care.

Understanding sex and gender differences can contribute to personalized medicine approaches. Tailoring medical interventions to individual characteristics, including sex and gender, can lead to improved outcomes and patient satisfaction.

2. Gender Sensitivity and Empathetic Behaviors

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Gender medicine promotes the integration of sex and gender considerations into health policy, clinical guidelines, and medical education. It aims to reduce gender disparities in healthcare access, quality, and outcomes [7].

In recent years, there has been an increasing recognition of the importance of considering gender-specific factors in medicine. For example, studies have shown that women may experience different symptoms or side effects from certain medications compared to men. Additionally, hormonal fluctuations in females may affect the efficacy or safety of certain drugs.

To improve patient care, healthcare providers are encouraged to consider gender-related factors when prescribing medications. However, it's important to note that individual variation within genders can be significant, and decisions should be made based on an individual's specific circumstances rather than solely relying on gender.

The doctor-patient relationship is a crucial aspect of healthcare that significantly influences the effectiveness of medical care and patient outcomes. A key element that plays a fundamental role in this relationship is empathy [8].

Empathy in the doctor-patient relationship refers to the ability of healthcare professionals to understand and share patients' feelings, concerns, and perspectives. It involves showing compassion, being attentive, and recognizing the emotional aspects of the illness in addition to treating the physical symptoms.

Empathy fosters trust between doctor and patient. Patients are more likely to trust and open up to healthcare professionals who show understanding and interest. Effective communication is essential for accurate diagnosis, treatment planning, and patient compliance. Empathy enhances communication by creating a supportive environment in which patients feel comfortable expressing their thoughts and concerns.

Empathic care contributes to higher levels of patient satisfaction. When patients feel heard and understood, they are more likely to be satisfied with their overall healthcare experience. Positive experiences can improve patient cooperation, and adherence to treatment plans and even help improve health outcomes.

Many medical conditions have emotional and psychological repercussions. Empathy helps healthcare professionals deal not only with physical symptoms but also with the emotional and psychological aspects of the patient's experience. Supporting patients emotionally can improve their coping mechanisms, reduce stress, and contribute to a better overall quality of life.

Many studies [9–11] have shown that empathic communication by healthcare professionals can positively influence patient outcomes. Patients may be more likely to follow treatment plans and engage in healthier behaviors when they feel understood and supported.

The emotional bond established through empathy can help improve doctor-patient collaboration, leading to more effective health outcomes and creating an atmosphere of care and support.

Patients who feel that their concerns are acknowledged and validated are likely to experience less anxiety, which can have a positive impact on their overall well-being.

Empathy is a fundamental component of the doctor-patient relationship. It improves communication, builds trust, and contributes to patient satisfaction and general well-being. Healthcare professionals who prioritize empathy create a more positive and effective care environment for their patients.

In medical settings, the style of medical students should adhere to professional and ethical standards, regardless of the gender of their patients. Medical professionals, including students, are expected to maintain a respectful and non-discriminatory approach toward all patients, ensuring that the patient's dignity, privacy, and confidentiality are protected.

When interacting with patients, medical students should focus on providing high-quality care and maintaining open communication. This includes actively listening to patients, addressing their concerns, and explaining medical procedures and treatments clearly and understandably.

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Medical students need to recognize and respect the diversity of their patients, including gender identity and expression. Sensitivity and cultural competence should guide their interactions with patients from different backgrounds, including individuals who identify as bisexual.

Another crucial aspect of the medical-patient relationship is gender sensitivity which involves recognizing and addressing the influence of gender on health and healthcare experiences [4,5]. A gender-sensitive approach ensures that healthcare providers are attuned to the unique needs, concerns, and experiences of individuals based on their gender.

Different genders may have unique perspectives on health, illness, and well-being. Healthcare providers need to be sensitive to these diverse viewpoints to ensure that patients feel understood and respected. Acknowledging and respecting diverse gender identities is also crucial in providing inclusive and non-discriminatory care.

Gender sensitivity is closely linked to cultural competence in healthcare. Understanding how cultural norms and expectations related to gender can impact health behaviors and beliefs is essential for effective communication and care [12].

Men and women may respond differently to certain treatments, medications, or interventions due to biological and hormonal variations. Gender sensitivity involves tailoring treatment plans to account for these differences: for example, certain medications may have different efficacy or side effects in men and women, and healthcare providers should be aware of these nuances.

Gender-sensitive communication includes being mindful of the potential discomfort or sensitivity around discussions related to reproductive health, sexual health, and other gender-specific issues. Respecting patient privacy and confidentiality is paramount, particularly when discussing sensitive topics that may be influenced by gender identity or sexual orientation.

In summary, the style of medical students should be professional, respectful, and inclusive, regardless of the gender identity or sexual orientation of their patients. Medical professionals need to provide equitable care and create a safe and welcoming environment for all individuals seeking medical assistance [13].

On these promises, the scope of our study is to verify the correlation between “empathetic" behavioral style with attention and sensibility to the gender differences of patients of medical students.

3. Materials and Methods

3.1. Procedure

Students attending the third and fifth years of the degree course in Medicine and Surgery of the Department of Medicine, Surgery and Dentistry “Scuola Medica Salernitana” of the University of Salerno (Southern Italy). The Google Modules platform was used and the link to the questionnaire was made available in an e-mail sent to the students.

The link also included a section on the context and purpose of the survey, informed consent, and the processing of personal data, which were anonymized and used in aggregate form. The estimated time to complete the survey was approximately 10 minutes.

3.2. Materials

The participants completed two standardized scales:

1) The Jefferson Scale of Empathy – JSE [14] is a widely used tool in medical education and research to measure empathy among healthcare professionals, particularly medical students, and physicians. The JSE consists of a self-report questionnaire that assesses an individual's perspective-taking ability, compassionate care, and the ability to understand and communicate with patients. It is designed to measure both cognitive and affective components of empathy and respondents rate their level of agreement or disagreement with each statement using a Likert scale.

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Scores on the JSE can range from low to high empathy, providing insights into an individual's empathic orientation and capacity to relate to others' experiences. The scale has been widely used in medical education and research to assess the impact of empathy training programs, evaluate healthcare professionals' empathic qualities, and explore the relationship between empathy and patient outcomes.

This inventory consists of 20 items, which are responded on a seven-point Likert scale with 1 (strongly disagree) and 7 (strongly agree) for positively responded items and 1 (strongly agree) and 7 (strongly disagree) otherwise. Therefore, the scores ranged from 20 to 140. Higher scores indicate greater empathy. It has been categorized into three subscales, including perspective taking (10 positively responded items), compassionate care (eight negatively responded items), and walking in the patient's shoes (two negatively responded items).

2) Nijmegen Gender Awareness in Medicine Scale (N-GAMS) [15] is a psychometric tool developed to assess the level of gender awareness among medical professionals. The N-GAMS consists of a questionnaire that measures various dimensions of gender awareness, including knowledge, attitudes, and skills related to gender-sensitive healthcare. This scale is divided into three subscales: (1) gender sensitivity (GS): the degree to which health care professionals/medical students are sensitive and sympathetic to the impact of gender in medical practice (14 items); (2) gender-role ideology towards patients (GRIP): health care providers' stereotypical views towards male and female patients (11 items); and (3) gender-role ideology towards doctors (GRID): health care providers' stereotypical views towards male and female doctors (7 items). Answers are assessed on a 5-point Likert scale ranging from 1 ("totally disagree") to 5 ("totally agree").

3.3. Participants

A total of 234 students (52.1% M; mean age: 22.68±2.48) from Medicine and Surgery of the Department of Medicine, Surgery and Dentistry "Scuola Medica Salernitana" of the University of Salerno (Southern Italy) participated, of whom n° 175 were third-year students and n° 59 were fifth-year students.

3.4. Data analysis

Descriptive analyses were carried out for all the variables: continuous variables (age, JSE, and N-GAMS scores) were expressed as mean and standard deviation (M ± SD).

To evaluate differences between groups defined by gender and year of the university course, Fisher's exact tests were calculated.

Correlation analyses between the age and gender variables and the subscale scores of the N-GAMS were carried out using Pearson's coefficient r.

All analyses were performed with the statistical software IBM SPSS v.23.

4. Results

4.1. Empathy among medical students

The analysis of the results shows that about levels of empathy, male students have higher scores than females (JSE Score: Male = 77.29±12.38; Female = 75.91±10.39) also concerning the subscales "compassionate care" (JSE Factor 2: Male = 19.93±7.61; Female = 17.57±6.09) and "walking in patient's shoes" (JSE Factor 3: Male= 3.56±1.39; Female= 3.38±1.34). Conversely, female students have higher perspective-taking (JSE Factor 1: Male= 51.26±11.84; Female= 52.72±11.88). Comparing the average scores between the students of the two years, it emerges that third-year students are much more empathetic than their fifth-year colleagues (JSE Score: 3°ys= 77.35±11.46; 5°ys= 74.49±11.33), also regarding the subscales "perspective-taking" (JSE Factor 1: 3°ys= 52.57±11.76; 5°ys= 50.15±12.05) and "compassionate care" (JSE Factor 2: 3°ys= 18.87±7.18; 5°ys= 18.61±6.53). Whereas about the "walking

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in patient's shoes" sub-scale, both groups of students have the same level (JSE Factor 3: 3°ys= 3.47±1.40; 5° ys= 3.47±1.27) (see Table 1).

Table 1. Scores of JSE subscales: differences about gender and year of degree course.

Variables	Factor 1 - *perspective-taking*	Factor 2 - *compassionate care*	Factor 3 - *walking in patient's shoes*	JSE score
Male	51.26±11.84	19.93±7.61	3.56±1.39	77.29±12.38
Female	52.72±11.88	17.57±6.09	3.38±1.34	75.91±10.39
3° years	52.57±11.76	18.87±7.18	3.47±1.40	77.35±11.46
5° years	50.15±12.05	18.61±6.53	3.47±1.27	74.49±11.33

4.2. Gender Sensitivity and Stereotypes

Regarding the gender sensitivity (GS) dimension, we found that male students have greater sensitivity than their female colleagues (GS: Male= 2.67±0.68; Female= 2.37±0.48); conversely, they have higher scores of gender stereotype towards patients (GRIP: Male= 2±0.88; Female= 1.59±0.61) and doctors (GRID: Male= 1.88±0.89; Female= 1.64±0.63). Regarding differences in gender bias between students of different years, the data show that third-year students compared to their fifth-year colleagues are characterized by greater gender sensitivity (GS: 3°ys= 2.57±0.62; 5°ys= 2.42±0.57), less bias for patients (GRIP: 3°ys= 1.77±0.79; 5°ys= 1.90±0.78) but, on the other hand, show more stereotypes and prejudices towards doctors (GRID: 3°ys= 1.77±0.81; 5°ys= 1.75±0.74) (see Table 2).

Table 2. Scores of N-GAMS subscales: differences about gender and year of degree course.

Variables	Gender sensitivity (GS)	Gender role ideology towards patients (GRIP)	Gender role ideology towards doctors (GRID)
Male	2.67±0.68	2±0.88	1.88±0.89
Female	2.37±0.48	1.59±0.61	1.64±0.63
3° years	2.57±0.62	1.77±0.79	1.77±0.81
5° years	2.42±0.57	1.90±0.78	1.75±0.74

4.3. Correlation

The correlation analysis showed a negative statistical significance between the variable "sex" and "compassionate care" (JSE Factor 2, p=-.169), as well as with the subscales of the N-GAMS (GS, p= -.244; GRIP, p= -.261; GRID, p= -.149).

Furthermore, significant correlations emerged between empathy levels and NGAMS subscales. Specifically, Factor 1 "perspective-taking" correlates with GS (p= -.157), GRID (p= -.379), and GRIP (p= -.354). Factor 2 "compassionate care" correlates with GS (p= .363), GRIP (p= .511), and GRID (p= .482). Factor 3 "walking in patient's shoes" correlates with GS (p= .149) and GRID (p= .131).

5. Discussion

The analysis of the results shows that regarding the level of empathy, male students are higher than females in the subscales "compassionate care" and "walking in the patient's shoes"; female students have a higher perspective. Comparing the averages of the two-year course students shows that the third-year students are significantly more empathetic than their fifth-year counterparts in the subscales "perspective taking" and "compassionate care". Regarding the Gender Sensitivity (GS) dimension, we found that male students are more sensitive than their female counterparts. Correlation analysis showed significant correlations between empathy levels and NGAMS subscales: factor 1 "perspective taking" and factor 2 "compassionate care" were correlated with gender sensitivity (GS), gender role ideology towards patients (GRIP), and gender role ideology towards doctors (GRID); factor 3 "walking in the patient's shoes" correlates with GS and GRID.

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Empathy is an essential quality for medical professionals, including medical students. It refers to the ability to understand and share the feelings of another person, in this case, patients. Empathy allows healthcare providers to establish strong doctor-patient relationships, communicate effectively, and provide compassionate care [16].

Our research has explored empathy in medical students, focusing on factors that may influence its development and expression. Literature studies [17,18] have shown that medical students generally exhibit a decline in empathy throughout their training and our results confirm this trend.

Several factors can affect empathy in medical students, including individual characteristics, educational approaches, and the clinical environment. Personal traits such as personality, emotional intelligence, and prior experiences with illness or suffering can influence the development of empathy. Additionally, teaching methods that emphasize patient-centered care, communication skills, and reflective practices have been found to foster empathy in medical students.

Regarding the gender of patients studied, research in medical education and healthcare has explored potential differences in empathy based on patient gender. However, it is important to note that findings in this area are mixed and not definitive.

The qualitative study conducted by Brown et al. [19] analyses the experiences of 32 medical students from different UK medical schools regarding gender bias in their education to identify possible patterns of such bias. Analysis of the data revealed that gender biases have a noticeable presence during medical student training and, more importantly, impact career aspirations.

Some studies [20,21] suggest that medical students may exhibit differences in empathetic responses when interacting with male and female patients. For example, it has been proposed that female patients may elicit more empathetic responses from medical students compared to male patients.

However, it is crucial to interpret these findings with caution. Empathy is a complex construct influenced by various factors beyond patient gender, such as individual differences, context, and cultural factors. Additionally, research in this area is ongoing, and new studies may provide additional insights into empathy and its relationship with patient gender.

In summary, empathy is an important quality for medical students, and its development can be influenced by various factors. While research has explored potential differences in empathetic responses based on patient gender, the findings are not conclusive, and the topic continues to be studied. Ultimately, fostering empathy in medical students involves a multifaceted approach that includes personal attributes, educational strategies, and creating a supportive clinical environment.

6. Conclusions

Gender Medicine makes it possible to improve health policy, ensuring equity of access and use of care for the two sexes. It also makes it possible to identify appropriate disease screening in different age groups in the two sexes and to ensure therapeutic appropriateness. The clinical approach characterizing Gender Medicine is not only interdisciplinary and transversal covering every branch and specialty but above all multi-dimensional. According to a global vision of the concept of health, the provision of appropriate care presupposes taking charge of the 'person sick person, assessed not only based on the biological and clinical characteristics of the disease but also on the basis of all the personal, cultural and social factors that characterize their “experience”.

By exploring the experience of the patient, it is possible to grasp the aspects that characterize and define gender, from the management of daily life, with treatments, to the impact of the disease on the relationship between the person and the social context.

In this sense, the application of narrative medicine according to the Italian National Institute of Health guidelines [22], represents an appropriate and recommended modality in all areas, from the training of health professionals for the acquisition of narrative skills, to the development of research projects to evaluate the introduction of innovative clinical and care methodologies. The "centrality" of the patient, the acquisition of the awareness for participation in the construction of the care pathway, and the protection of the care relationship, now represent a reference clinical care model,

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responding to cultural and social evolution, dictated by regulatory and governance guidelines and on the quality of care.

Empathy in the doctor-patient relationship is a crucial element in providing effective patient-centered care. The physician can understand and share the patient's emotions, concerns, and experiences, helping to establish a relationship of mutual trust [6]. Key aspects regarding empathy in medical practice include active listening, using clear and reassuring language that is understandable to the patient, acknowledging the patient's emotions so that they feel understood and supported, and being aware of patients' cultural and social differences. Furthermore, having a good awareness of oneself, one's own emotions and prejudices, and trying to manage them so that they do not interfere with the ability to provide empathic support, not only improves the patient experience but can also positively influence adherence to treatment and overall clinical outcomes. The systematic practice of empathy is fundamental to building trusting relationships and fostering patient-centered care.

A study conducted by Bartz et al. [23] describes itself as a guide to help physicians consider sex and gender in the practice of precision medicine. The underlying characteristics of sex and gender involve endogenous and exogenous factors that change throughout life. The study highlighted that physicians should consider incorporating sex and gender into their decision-making process to practice precision medicine that integrates the fundamental components of patient individuality. However, this clinically relevant knowledge has yet to be incorporated into healthcare systematically. Gender sensitivity promotes an inclusive and welcoming healthcare environment for individuals of all genders. This is particularly important for transgender and non-binary individuals who may face unique challenges in healthcare settings.

Healthcare providers should use gender-affirming language, respect chosen gender identities, and create a safe space for patients to express their gender-related concerns.

Therefore, developing a soft skills empowerment intervention program for undergraduate medical students requires a careful and targeted design to address the specific challenges of this field. Such an intervention could be adapted to the specific needs of the university context by focusing the program on specific objectives such as: a) development of communication skills [12], b) enhancement of empathy [10], c) stress management and resilience, d) implementation of training courses on narrative medicine, e) implementation of training courses on gender medicine [18], and f) collaboration and teamwork.

In conclusion, gender sensitivity in the medical-patient relationship is fundamental for providing patient-centered and equitable healthcare. By recognizing and addressing the influence of gender, healthcare providers can enhance communication, build trust, and tailor care to meet the diverse needs of individuals of all genders. This approach contributes to a more inclusive and effective healthcare system.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author (GS), upon reasonable request.

Conflicts of Interest: The authors declare no conflicts of interest.

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