

Quality of Professional Life and Empathy of Healthcare Workers in an Emergency Department of General Hospital: A Cross-Sectional Study

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Introduction: The well-being of healthcare workers (HW) affects both their psycho-physical state, and the quality of care provided. In Emergency Department (ED), overcrowding, long work shifts and the criticality of patients can affect the professionals' quality of life and empathy.

This empirical study aims to evaluate the HWs' professional quality life and empathy in an ED.

Methods: With a cross-sectional design, we administered the "Jefferson Scale of Empathy" (JSE) and the "Perception of the quality of professional life" (ProQOL) to 70 HWs in a General Hospital ED and collected demographic and work variables of participants. We statistically analyzed data.

Results: We collected responses from 16 doctors, 39 nurses, and 15 healthcare assistants, with a response rate of 70%. The JSE score (111.13 ± 11.75) showed high empathy levels in all professions. The PROQOL burnout (23.73 ± 5.53 ; chi-squared = 8.80; $p = 0.012$) and compassion fatigue (43.73 ± 9.49 ; chi-squared = 10.48; $p = 0.005$) scores showed statistically significant differences between the three HWs. Doctors were the profession most affected by stress (23.12 ± 6.47 ; chi-squared = 5.70; $p = 0.058$), burnout (27.62 ± 5.97 ; chi-squared = 8.80; $p = 0.012$) and compassion fatigue (50.75 ± 10.6 ; chi-squared = 10.48; $p = 0.005$) compared to other HWs. At multiple linear regressions, JSE score, as dependent variable, was associated with ProQOL burnout (Coeff: -0.88 ; $p = 0.021$) and stress (Coeff: 0.76 ; $p = 0.048$), whereas secondary traumatic stress score, as dependent variable, was positively associated with HWs' years of employment (Coeff: 0.38 ; $p = 0.040$).

Discussion: Stress and burnout were higher among physicians than among other HWs, but empathy was high among all HWs, with no sex difference. These findings may inform future training programs and organizational policies aimed at improving the HWs professional quality of life, suggesting that support for HWs are essential for quality of care.

Keywords: burnout, stress, satisfaction, empathy, fatigue

Introduction

The quality of professional life and the empathy of healthcare workers play an important role in patients' health as well as in the psychological and physical well-being of the workers themselves.

The Emergency Department in a General Hospital

Emergency services are departments that admit patients in a "critical condition of extreme severity" that requires immediate treatment within minutes, as well as in urgent situations, described as a "condition requiring prompt intervention" that should be addressed within a few hours.¹ ED includes Emergency Room (ER) and Intensive



Observation Unit (IOU). “These services have special characteristics, and their quality is measured through various dimensions, including accessibility, safety, acceptability, efficiency, performance effectiveness, and continuity or duration of service”.² The main challenge in an ED is managing complex and delicate situations, often aggravated by the need for effective time management. As reported by a recent review, the significant challenges in ED include crowding, staffing shortages, and complex ethical dilemmas, such as decisions surrounding end-of-life care. These challenges are especially prominent for nursing staff and doctors, who play vital role in managing patient flow, providing frontline care, and ensuring patient safety.³ ED healthcare workers must ensure accuracy and speed in procedures, avoid errors, focusing on the needs and requests of patients, but at the same time they often must deal with the problem of overcrowding of patients.⁴ A significant challenge for those workers is the management of equipment and department supplies, which are sometimes very costly and must be used efficiently.^{5–7} Another challenge for ED healthcare workers is represented by the long and grueling shifts they are often required to work. With shifts lasting up to 12 hours at a time, there is significant sleep deprivation, sleep disturbances, fatigue, and an increased tendency to make mistakes. In fact, 8- or 9-hour shifts, with regular rest periods, are preferred to allow for better rest and maintain a high level of concentration.⁸

Furthermore, ED health workers often must deal with episodes of violence by patients or their families towards them: over 50% of emergency room staff have experienced at least one episode of verbal abuse, while 25% have experienced physical violence.^{9–11} These episodes of violence, especially if repeated over time, can lead staff to leave the workplace, generate or reinforce trauma, and create feelings of anger, all factors that can have harmful effects on the care process.¹⁰

The challenges of ED work, in addition to the violence episodes, create significant difficulties in recruiting staff. Fewer and fewer professionals are applying to staff these services.¹⁰ This, combined with the negative effects on service quality due to staff shortages, creates significant concerns among ED services. In particular, the shortage of nurses is linked to a lower level of quality of patient care, long waiting lines and excessive workload.¹²

In ED, the limited therapeutic time that professionals have with individual patients can be another problem. Given the short length of the patient’s stay in the emergency department, it becomes more difficult for nurses to establish a deep relationship of care and trust with the patient. Therapeutic time spent with the patient favors the development of a good therapeutic relationship and makes nursing care more effective, helping to avoid errors that could prove fatal.^{12,13} In addition to the overall workload, its fragmentation and the limited therapeutic time available, another crucial factor for the success of treatment is the level of stress experienced by the healthcare team in the service.¹⁴ In the context of emergency, stress can be caused by the number of seriously ill patients, the heterogeneity of medical conditions and the complex rescue interventions, which subject nurses to significant pressure and psychological stress.¹⁵ These situations raise the question of how emergency medicine professionals manage to work in such a complicated environment and what effects this has on their professional quality of life. To ensure the best quality of care, constant updating of scientific knowledge is essential.

Nurses and all other healthcare professionals, with their specific skills, rapid response, and experience in the field, should contribute to maintaining greater patient satisfaction and a higher level of care, helping to improve the overall quality of care in the ER. Furthermore, maintaining a constant nurse-patient ratio would allow for personalized care.¹²

Well-being, quality of life, empathy and burn-out of healthcare workers in ED “Highly stressful working conditions, limited opportunities for recreation, and exposure to severe human suffering and misery over long periods”: this is how emergency environments are described in a 2023 study, which analyzes how professionals are used to working closely with traumatic incidents and emergency situations.¹⁶ These conditions lead individuals who work in these services to develop mental and physical health problems over time, such as musculoskeletal pain, gastrointestinal problems, or chronic migraines.^{17,18}

Quality of Professional Life

In general, health professionals are the most vulnerable to work-related health problems among all professions.¹⁹ “Quality of professional life is the quality one feels in relation to one’s helping work”.¹⁹ This includes not only the feelings experienced at work, but also everything that healthcare workers tend to take home from their work, such as the challenges of clinical cases and the suffering of patients and their families. Quality of professional life includes several subgroups, such as secondary traumatic stress (the impact that traumatic situations experienced by others have on the

individual) and burnout, both negative dimensions. However, it also includes compassion satisfaction, a positive dimension that represents the degree of fulfillment one feels in helping others.²⁰

Each of these aspects should be investigated to assess the quality of life of healthcare professionals, to assess their well-being and, if necessary, find ways to improve at low or moderate levels. A 2023 study suggested several activities that could help improve the quality of life of emergency and urgent care staff, such as offering access to a ward psychologist, recommending increased physical activity and a healthy and balanced diet, conducting regular check-ups and annual screenings, and taking care of both body and mind.^{16,21} In addition, good workplace communication with other staff is also recommended, including monthly debriefings to discuss the ward situation and any common or personal difficulties.

ED work relies on collaboration and communication within the healthcare team, which helps maintain a good level of performance and well-being within the organization.²² Gimenez et al observed that both healthcare professionals and patients exposed to traumatic experiences benefit from a welcoming and collaborative environment.²³ Furthermore, for a good quality of professional life, it is important to have an environment that encourages professionals to continuously improve their knowledge and relationships within the team. Emergency personnel are therefore encouraged to participate in clinical case discussion groups and attend training courses to improve their knowledge. In this way, it becomes easier to maintain a good relationship with their work and not be overwhelmed by emotions and critical situations.^{24,25}

Many studies highlight how the quality of professional life of nurses is positively influenced by a good level of personal empathy and negatively by factors related to burnout.^{13,24,26} Emergency care staff are not only required to perform manual tasks and practical procedures, but must also support the patient, who is often distressed and anxious about his or her illness. They provide emotional care while the patient is in an unfamiliar environment and reassure family members by addressing their needs and concerns. Therefore, healthcare professionals must feel empathy for the patient while maintaining an adequate emotional distance from his or her anxieties to help him or her effectively.²⁷

Psychological Dimensions Related to Quality of Professional Life

Empathy can be divided into two components: cognitive and affective. The former plays an extremely positive role in the life of professionals: it improves quality of life, helps individuals stay longer in their jobs, reduces stress levels, and decreases the likelihood of developing burnout. On the other hand, affective empathy has negative consequences on the quality of life and well-being of nurses.²⁸ These effects arise due to three main components: understanding, communication, and an appropriate response. Communication is considered a valuable indicator for evaluating the quality of care and nursing life. Poor communication is often regarded as the leading cause of errors in healthcare settings.²⁸

Empathy can be influenced by both intrinsic and extrinsic factors. Examples of extrinsic factors include the type of service one works in and the type of contract signed (permanent or temporary). Moreover, uncertainty about job security can increase stress levels, which in turn can affect empathy if the coping model used is not appropriate.²³ It has also been shown that working conditions, especially the levels of stress to which staff is exposed, have a significant impact on empathy. In stressful conditions, empathy can be reduced by as much as 27%.²⁹

Empathy is the foundation of the operator-patient relationship, playing a crucial role in nursing care and therapy adherence. Low levels of empathy from healthcare providers can lead to patients refusing care and treatment.²⁹ Cognitive empathy, defined as “the ability to recognize and understand emotions”, plays a stronger mediating role in the relationship between personality and workplace engagement compared to emotional empathy.²⁸ The latter, on the other hand, makes it more challenging to manage emotions when feelings of sadness and distress arise in the workplace. Since empathy is a skill, it can be practiced and enhanced.²⁸ Many courses are offered to promote the development of higher levels of empathy, especially among healthcare professionals and those working closely with the public.

Empathy is indeed composed of a cognitive component, which improves job satisfaction, increases personal commitment, and leads to a lower tendency to leave the profession.²⁸ This factor therefore has a positive impact on the nurse’s quality of life, reducing stress and protecting the individual from the development of burnout. However, the protective ability of the cognitive component of empathy against burnout is severely challenged by the conditions in emergency care services.²⁸ High levels of empathy can be protective against burnout development, which in turn may reduce empathy.³⁰

Burnout, or more precisely the Burnout Syndrome, is defined, following the historical work of Maslach and Jackson, as a response to chronic work-related stress.³¹ It is considered a syndrome because it includes a set of symptoms and signs that coexist simultaneously and have both physical and mental repercussions on the individual. Traditionally, burnout is understood as consisting of three main dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment.

Recent literature suggests that burnout is primarily composed of two main dimensions: emotional exhaustion and depersonalization, while reduced personal accomplishment might be either a precursor to or a consequence of burnout syndrome.³² Furthermore, the same literature highlights how these two dimensions tend to reinforce each other, creating a cyclical pattern that exacerbates the condition.

The burnout syndrome develops through a process with distinct stages, defined as subtypes, in which the individual tries to develop adequate coping styles, but which leads to significant consequences that ultimately direct them toward burnout syndrome:³²

- Frenetic subtype, typical of fast-paced work environments, where the person tends to become more involved and dedicated to their work. This, in turn, leads to high levels of burnout and neglect of personal life and health.
- Under-challenged subtype, typical of monotonous and repetitive/mechanical tasks, where individuals are not satisfied with their work, become bored and are not motivated to improve their skills or role.
- Worn-out subtype, typical of the desperate worker who no longer finds satisfaction in their job and often abandons everything, with feelings of guilt and incompetence.

The percentage of nurses experiencing burnout is high, which affects not only their ability to provide care at work but also their private and professional quality of life.^{18,33,34} Nurses are more frequently affected by this syndrome compared to other professionals due to the specific nature of nursing work, which requires both physical and mental effort, along with a profound emotional involvement and proximity to death.^{18,25}

Burnout and psychological disorders are common among healthcare professionals, particularly among workers in ED, where the rate of burnout is higher than in other specialties, with about 26% of nursing professionals suffering from it.³⁵ Recent studies, have also highlighted how nurses and emergency room doctors are constantly exposed to stress factors that can, over time, affect their performance, patient safety, and the quality of care.^{5,36,37} In addition to the nature of the work in emergency care departments, an increase in aggression towards healthcare staff also contributes to burnout and to increased secondary traumatic stress.³⁵ One study found that ER work-related stress negatively impacts spouse/partner well-being, couple relationships, and domestic violence.³⁸

ED professionals are often exposed to critical incidents, defined by Mitchell and Everly as “any event with enough impact to produce significant emotional reactions in people now or in the future”.³⁹ Over time, these can lead healthcare staff to periods of absenteeism from work and, in more extreme cases, to self-harm. It is important for the healthcare organization itself to support the maintenance of a good quality of life for its professionals, but it is equally important for healthcare professionals to show mutual attention.⁴⁰ Due to the level of empathy required by the profession, they are able to perceive situations of difficulty and discomfort not only in patients but also in their colleagues.

Other authors, however, highlighted an issue regarding this aspect: through questionnaires administered to medical students and, later, also to doctors, the authors report a medium-low level of empathy, generally not sufficiently developed.⁴¹ Moreover, the same authors suggest that compassion and empathy among doctors tend to decrease with training and improve through humanities disciplines during the academic program, interaction with patients, and participation in arts such as theater, music, and painting.

The criticality of these results lies in the fact that, in the medical profession, good levels of empathy enable better communication with the patient, improved prognosis, satisfaction, and therapy adherence. The professional relationship in healthcare consists of both work-related and interpersonal components. The former contributes to clinical outcomes by only 15%, while the latter contributes a much greater value, accounting for 85%, according to a study by Kellergis.⁴²

Nurses are professional figures who are required to have higher levels of empathy compared to other professions, as they spend the most time with patients and must confront the patient’s suffering, accept it, and at the same time contain it. However, in certain departments, such as ED, the level of empathy is strongly influenced by critical situations and urgency.²⁹ A study conducted at the University of Lleida showed a correlation between empathy and burnout, with high

levels of empathy being associated with lower levels of burnout.⁴³ This emphasizes how healthcare professionals' empathy can provide protection against the harmful effects of burnout. "There is a cost to caring. Professionals who listen to the stories of fear, pain, and suffering of their clients may experience similar fear, pain, and suffering because they care and are concerned".⁴⁴ This difficult and overwhelming condition arises from a traumatic event that is not personally experienced, but rather by others. Hence, the term "secondary stress" because the knowledge of pain and trauma occurs indirectly. Secondary traumatic stress (STS) is a condition that develops over time, linked to caring for people in precarious and traumatic situations, and is determined by the "transmission" of trauma. STS leads to high levels of stress and anxiety accompanied by sadness. A professional affected by STS tends to avoid situations of danger that remind them of the traumatic events or are like it. The individual experiences extreme pain, almost similar to primary exposure to the traumatic event, which hinders their ability to perform tasks and utilize their skills effectively. Often, these sensations are not expressed and remain within the professional, increasing worries and discomfort, which continue to grow until a psychological and physical breakdown occurs. Secondary traumatic stress shares some aspects with post-traumatic stress disorder as described by the DSM-5-TR: avoidance of situations, people, places, and conversations that remind the individual of the traumatic event, recurring and intrusive memories or images, and loss of interest in activities that were once central to their routine.⁴⁵

Helping others also generates a particular type of satisfaction, called compassion satisfaction, which improves the quality of professional life. It refers to the pleasure of caring for others and the satisfaction of doing good, increasing job satisfaction and the sense of personal accomplishment.⁴⁶

As the literature on the well-being of healthcare workers shows, the same factors that can lead to job satisfaction can also cause stress due to excessive workload or make caring for others feel exhausting, creating a precarious situation. Therefore, the well-being of healthcare workers comes down to a constant and challenging balance between compassion fatigue and compassion satisfaction.⁴⁶ The more satisfied one is with their work and productive on the job, the more energy is spent on achieving and maintaining that satisfaction and on avoiding being overwhelmed. However, it is of primary importance to identify the factors that can help healthcare professionals protect their levels of "compassion satisfaction" while simultaneously reducing levels of compassion fatigue.

Issues Concerning Professional Quality of Life in Relation to Empathy, Stress, and Burnout

The effects of age on individuals' well-being are unclear in scientific literature. Some studies indicate that burnout symptoms vary depending on the worker's age, while others find this variable insignificant or hardly relevant.^{47–50}

In research on burnout and personal satisfaction, sex is a significant factor. A study found that men and women respond differently to workplace stressors, with women at higher risk of burnout and lower personal satisfaction. Burnout levels are particularly elevated in women aged 20–35 and over 55, mainly due to external factors such as intra-family and work-related conflicts and caregiving responsibilities. In contrast, stress levels tend to be lower in women under 20 and between 35–55, likely due to greater stress adaptation and better knowledge derived from extended work experience. For men, burnout levels generally decrease over time as they develop better manual and behavioral skills alongside increased professional expertise.⁵¹

According to Moreno-Poyato et al, empathy is considered an essential skill for nursing as it allows nurses to understand patients better and address their health needs, strengthening trust with healthcare providers.⁵² Trust also improves the doctor-patient relationship, improving communication and enabling healthcare professionals to focus on the primary health needs of the patient.⁵³ Wu et al support this claim, stating that 80% of issues in the doctor-patient relationship stem from the patient's perception of a lack of empathy from the physician.⁵³

However, in the emergency departments, healthcare providers appear to be particularly affected by burnout and secondary traumatic stress due to the frantic pace and overcrowding that characterize the workplace. These critical issues affect all professionals working in the emergency field, but the impact is different depending on their role.¹⁴ In fact, according to a study by Moukarzel et al, medical doctors are the most exposed to burnout, while nurses appear to be the

most stressed category.¹⁴ In the end, burnout and stress levels are higher in healthcare professionals in emergency settings than those in other wards.¹⁴

Several studies correlate the years of work with burnout and personal satisfaction. Indeed, a recent study found a strong link between years of service as a healthcare professional and the incidence of burnout and low satisfaction. The paper highlights that senior nurses tend to show less enthusiasm in trying to improve their working positions than those with less than two years of experience because of a “decline in motivation” due to many years of service. This occurs because, over time, workers face greater stress and increased workload that led to professional fatigue, physical exhaustion, and emotional burnout.⁵⁴

“Working in emergency departments involves high job pressure and stress due to human suffering and the unpredictable nature of the work”.³⁵

In fact, ED healthcare professionals work in a peculiar situation as they are constantly under stress due to the numerous cases they deal with daily, the difficulty of the procedures they perform, and the emotional burden they must bear. However, healthcare professionals in ED learn to “thrive in the same stressful environment” by employing coping strategies that enhance stress adaptation and reduce overall stress levels.⁵⁵

Healthcare professionals are frequently exposed to traumatic events, workplace pressures, and critical clinical cases. All these factors negatively affect their physical and psychological well-being. Consequently, the DSM-5-TR⁴⁵ recently revised some diagnostic criteria, specifically including certain professions that are at high risk for mental health problems, such as healthcare workers in Emergency Departments.⁵⁶

In a fast-paced environment where patients might die, staff often encounter memories of past episodes that trigger negative emotions, resulting in feelings of devaluation as both healthcare professionals and individuals.⁵⁶ Sometimes, the care team is dissatisfied with its performance and shows frustration toward colleagues. Occasionally, healthcare workers may even express anger and indifference toward patients.³² Therefore, preventing burnout and other psychological problems is crucial for promoting a positive work environment.³² Prevention not only provides support to professionals but also ensures adequate care delivery and proper attention to patients’ needs, placing them at the center of the care process. According to Aryankhesal et al, some strategies to monitor healthcare workers’ well-being levels include debriefing sessions with the department staff, appropriate coping strategies, and effective communication.⁵⁷ Despite the proposed strategies, the various factors influencing healthcare workers’ well-being in Emergency Departments and their specific impacts are still unclear.

Study Objectives and Hypotheses

The first objective of the study is to assess the professional quality of life and empathy levels of healthcare professionals working in the Emergency Department of a general hospital.

The study’s second objective is to correlate participants’ levels of stress, burnout, compassion and empathy with selected variables to identify which factors influence these dimensions.

The research question for this study is: What factors influence the quality of professional life and the empathy levels of professionals who work in an ED?

Hypothesis 1: Professional experience in ED may influence levels of stress, burnout, and empathy in healthcare workers.

Scientific literature suggests that more experienced professionals tend to have lower burnout and stress levels due to greater experience and better emotional control. Over time, they learn to face stressful situations with appropriate coping strategies.^{54,58}

Hypothesis 2: Stress, burnout, and empathy levels differ between sexes, as men and women handle work-related stress in different ways.

Women tend to use four main coping strategies: instrumental support (positive and emotional coping, which includes actions such as listening or offering help), emotional support (focusing on emotions and looking for external or internal

causes), venting, and self-distraction (a temporary escape from stress that does not effectively reduce its level). In contrast, men do not have fixed coping strategies but tend to vary subjectively.⁵⁹

Hypothesis 3: Stress, burnout, and empathy may correlate with each other.

Empathy plays a crucial role for healthcare professionals, especially for doctors and nurses, as it is the foundation of the professional-patient relationship and an essential means to achieve better clinical outcomes and establish trust with the patient.⁶⁰ In a study by Zenasni et al,⁶¹ several correlations between empathy and burnout were identified:

1. High levels of burnout reduce empathy, making individuals emotionally distant. Professionals tend to avoid expressing empathy to prevent being overwhelmed by patients' suffering.
2. High levels of empathy increase burnout. The healthcare worker may become excessively involved in the relationship with the patient, increasing the risk of stress and emotional exhaustion.
3. High levels of empathy are correlated with low levels of burnout. Empathy can act as a shield against burnout, helping the professional to manage emotions in clinical settings.

Given the complex relationship between these two aspects, it is challenging to evaluate the real effect of empathy on healthcare workers' well-being.⁶⁰

Materials and Methods

Study Design and Period

This study was observational, monocentric, and cross-sectional. It was conducted between August and October 2024.

Setting: Emergency Department in General Hospital

The ED is in the General Hospital of Baggiovara in Modena (Italy), which was inaugurated in 2005 and was designed to provide auxiliary support to the existing University Hospital of Modena. ED includes the Emergency Room (ER), Intensive Observation Unit (IOU) and Emergency Medicine Ward in hospital settings, where the following professionals work: 51 nurses, 26 healthcare assistants and 23 physicians.

ER responds to all health emergencies, except for gynecological-obstetric and pediatric ones, of a population of about 700.000 people. ER carried out 39,709 emergency interventions, with a prevalence of green and blue codes, in 2021. In ER, nurses perform triage activity, codifying the emergencies in different colors according to the need for urgent clinical activities and/or the severity of clinical conditions before sending patients to the ER physician for diagnostic evaluation and treatments. IOU is considered a filter area for monitoring patients with specific conditions (eg chest pain and head trauma) for 6–24 hours. Here, diagnostic tests are performed, and vital parameters are monitored to determine the most appropriate care plan (hospital admission or safe discharge). Emergency Medicine Ward admits patients following a brief stay in ER and/or IOU in urgent clinical conditions.

Work shifts of healthcare workers are divided into morning (from 7 AM to 1 PM), afternoon (from 1 PM to 8 PM), and night (from 8 PM to 7 AM), with staff trained to rotate between the ER and inpatient emergency areas.

Sample and Data Collection

We asked all healthcare workers in ED to complete two assessment scales and one demographic and work form, where selected variables were collected.

Participants were informed that they could withdraw from the study at any time, that their data would not be used for other purposes, and that there were no risks in participating in the study. Data were used exclusively by the researchers, who ensured anonymity by assigning an alphanumeric code to each participant. Initially, participants were provided with various documents: Information Sheet containing detailed information about the study procedure, Informed Consent Form to accept enrollment in the study, and Privacy Notice.

Then, participants were provided with questionnaires (two scales and one demographic and work form) to complete and were assigned an alphanumeric code to maintain their privacy. The estimated time to complete the administered scales was 10–15 minutes, allowing professionals to fill them out at their workplace.

Selected Variables

The following demographic and work variables were collected from each participant: age, sex, profession, years of employment, and years of employment in ED.

Assessment Scales

Jefferson Scale of Empathy (JSE)

The Jefferson Scale of Empathy is a fundamental tool for measuring empathy levels and was administered to the participants of this study. Two studies were conducted to validate the JSE: the first involved 223 third-year medical students from Sidney Kimmel Medical College, and the second involved 41 internal medicine doctors affiliated with Jefferson Thomas University Hospital.⁶² The scale consists of 7 levels of agreement per item that range from 1 (strongly disagree) to 7 (strongly agree). It generates numerical data that can be easily used in statistical analyses, and it shows reliable psychometric properties. After further exploratory analyses, the final number of items in the validated Jefferson Empathy Scale was reduced to 20 items, making it suitable for medical students and all healthcare professionals.⁶² Three factors of Perspective Taking, Compassionate Care, and Walking in Patient's Shoes emerged in an exploratory factor analysis.⁶³

Three different versions of the Jefferson scale were then developed:

1. HP-Version, the Jefferson Empathy Scale for doctors and healthcare professionals (used in this study).
2. S-Version, for medical students only.
3. HPS-Version, for all healthcare students except for doctors.⁶²

When completing the questionnaire, respondents must answer at least 16 (80%) of the 20 statements; otherwise, the form is considered incomplete and excluded from data analysis. If four or less items are not answered, the missing values should be replaced with the average score calculated from the completed items. The time to complete the scale is estimated to be between 5 and 10 minutes.⁶¹

The JSE has been translated into Italian and validated in a sample of nurses.⁶⁴ The JSE version used in this study includes an equivalent number of questions with direct and inverse scoring for a total of 20 questions. The empathy score ranges from a minimum of 20 to a maximum of 140 points: a lower score indicates lower empathy, while a higher score indicates greater empathy.⁶²

Unlike multiple studies indicating higher empathy scores in women, the Jefferson Scale has demonstrated that the score does not depend on sex but rather on the specific group studied.⁶²

Professional Quality of Life (ProQOL)

The ProQOL scale, or "Professional Quality of Life" was developed by Stamm and is used to assess the level of professional quality of life.²⁰ The ProQOL 5 is the latest version of the scale, with only minimal changes from the previous one.²⁰ This scale is commonly used to monitor the positive and negative aspects of work for individuals regularly exposed to stressful events. The scale was originally written in English, but the official website has since provided validated translations in several languages.²⁰ ProQOL has been translated into Italian and validated, suggesting that the theoretical, three-dimensional structure of the scale proposed by the author is confirmed also in the Italian version.⁶⁵

ProQOL is not supposed to be a diagnostic means as its purpose is only to highlight latent issues, which should be investigated using appropriate and recognized diagnostic tools.²⁰

The ProQOL scale consists of 3 dimensions: (1) compassion satisfaction, (2) burnout, and (3) secondary traumatic stress. Burnout and secondary traumatic stress together form "compassion fatigue" which encompasses the feelings of

anger, frustration, and depression typical of burnout and the negative emotions stemming from fear and work-related trauma.²⁰

The scale includes 30 questions, with each dimension consisting of 10 items. Responses, which are summed to provide the values for each dimension, are rated on a 5-point Likert scale. If the sum for a dimension is lower than 22, the dimension has a low value; if the sum is between 23 and 41, the dimension has a moderate value; if the sum is 42 or higher, the dimension has a high value.²⁰

Participants are asked to reflect on how frequently they have experienced the issues listed in the scale in the past 30 days.²⁰

Statistical Analysis

For continuous variables, the mean and standard deviation were analyzed. We compared the variables between the three professional groups using Kruskal–Wallis due to the different sample sizes with different variance. We reported the mean and standard deviation of scale scores and we compared them between the three professional groups using Kruskal–Wallis since they represent ordinal data. Categorical variables regarding the different frequency of the two sexes were analyzed using percentages and subsequently compared by means of Pearson chi-squared test.

The internal consistency of the scales was evaluated through Cronbach's alpha.

We evaluated the correlation between the scales through the Spearman's Rho test.

In order to estimate the impact of selected variables on empathy, burnout, secondary traumatic stress, compassion fatigue and compassion satisfaction, we applied two multiple linear regression models (hierarchical nested regression) between the JSE score (dependent variable) and the other selected variables and between the score of each PROQOL subscale (dependent variable) and the other selected variables (independent variables).

At our power analysis to determine the minimum sample size needed for a statistically significant effect, given a desired level of power (0.80) and significance (0.05) with a medium size effect (0.5), we obtained a sample size of 42 individuals (G*Power).

The statistical significance level was set at $p < 0.05$. Data were analyzed using STATA-12 software.

Ethical Considerations

This study complies with the Declaration of Helsinki, which adheres to the ethical principles for medical research involving human subjects. This study was approved by the Emilia-North Area Vasta Ethics Committee. (Prot AOU 0018361/24 of June 19, 2024) and was authorized by AUSL-Modena (Decision 1899 of July 17, 2024).

Results

The professionals who agreed to participate in this study and completed the questionnaire were 70% of our sample (70/100 professionals currently in service at the ED of the General Hospital of Baggiovara, as shown in [Table 1](#)). In particular, 39 nurses out of 51 total (76.5%), 16 doctors out of 23 total (69.6%) and 15 healthcare assistants out of 26 total (57.7%) completed the questionnaires. Males and females were equally represented, with a slight majority of women (n=36, 51.4%) over men (n=34, 48.6%). The average age of all participants was 40.85 years (SD 9.84). The mean number of years of employment of the sample was 14.31 years (SD 9.79). Considering the years of employment in the same department (ED), the mean for all participants was 8.88 years (SD 8.43).

The average score on the JSE was 111.13 (SD 11.75). Regarding the ProQOL scale, it is necessary to consider the average score in the different domains: it was 23.73 (SD 5.53) on the burnout, 20.00 on the secondary traumatic stress (SD 5.25), 43.73 on the compassion fatigue (SD 9.49), and 37.91 on the compassion satisfaction domain (SD 6.11).

The internal consistency of the scales was evaluated through Cronbach's alpha. For the Jefferson Scale of Empathy, a Cronbach's alpha value of 0.83 was reported. Meanwhile, for the ProQOL, Cronbach's alpha was calculated for the individual domains: for burnout it was 0.90, for secondary traumatic stress 0.91, and for compassion satisfaction 0.97.

Table 1 Variables Divided by Profession

Variables	Nurses n=39 (76.5%)	Doctors n=16 (69.6%)	Healthcare Assistants n=15 (57.7%)	Total n=70 (70%)
Age				
Years, m ± SD	38.55 ± 8.79	43 ± 10.68	45.08 ± 10.57	40.85 ± 9.84
	Nurses vs doctors: chi-squared = 0.37; p = 0.539; Kruskal–Wallis Doctors vs healthcare assistants: chi-squared = 1.37; p = 0.242; Kruskal–Wallis Nurses vs healthcare assistants: chi-squared = 3.06; p = 0.080; Kruskal–Wallis			
Sex, n (%)				
Men	22 (56.4%)	7 (43.7%)	5 (33.3%)	34 (48.6%)
Women	17 (43.6%)	9 (56.3%)	10 (66.7%)	36 (51.4%)
	Pearson chi-squared = 2.50; p = 0.286			
Years of employment				
Years, m ± SD	14.25 ± 9.74	14.94 ± 11.47	13.78 ± 8.58	14.31 ± 9.79
	Nurses vs doctors: chi-squared = 0.92; p = 0.336; Kruskal–Wallis Doctors vs healthcare assistants: chi-squared = 0.45; p = 0.50; Kruskal–Wallis Nurses vs healthcare assistants: chi-squared = 0.11; p = 0.744; Kruskal–Wallis			
Years of employment in ED				
Years, m ± SD	8.84 ± 8.32	9.12 ± 8.66	8.7 ± 9.02	8.88 ± 8.43
	Nurses vs doctors: chi-squared = 0.001; p = 0.974; Kruskal–Wallis Doctors vs healthcare assistants: chi-squared = 0.39; p = 0.534; Kruskal–Wallis Nurses vs healthcare assistants: chi-squared = 0.84; p = 0.358; Kruskal–Wallis			

Analysis of Demographic Variables

Demographic Data in the Three Different Professions

Our sample did not present a normal distributed at Skewness/Kurtosis tests for Normality concerning the variables age ($p=0.0270$), years of employment ($p=0.0034$) and years of employment in ED ($p=0.0001$). Regarding the mean age, in descending order, we found healthcare assistants, with a mean age of 45.08 years (SD 10.57), doctors, with a mean age of 43.00 years (SD 10.68) and nurses, with a mean age of 38.55 years (SD 8.79) (Table 1).

Most nurses who completed the questionnaires were male ($n=22$, 56.4%) over 17 female (43.6%). Meanwhile, among doctors and healthcare assistants, women were more represented: a total of 9 female doctors (56.3%) over 7 male (43.7%) and a total of 10 females (66.7%) over 5 males (33.3%) for healthcare assistants (Table 1).

We found that the mean number of years of employment was similar between doctors (14.94 years, SD 11.47) and nurses (14.25 years, SD 9.74), whereas it was slightly lower for healthcare assistants (13.78 years, SD 8.58). Concerning the mean number of years of employment in the same department, it was higher for doctors (9.12 years, SD 8.66) compared to nurses (8.84 years, SD 8.32) and healthcare assistants (8.70 years, SD 9.02) (Table 1).

Demographic Data in Male and Female Healthcare Workers

In this sample, both sexes were equally represented: 34 men (48.6%) and 36 women (51.4%) completed the questionnaires (Table 2). Men appeared to be older than women, with a mean age of male participants of 41.81 years (SD ± 10.07) years, while the mean age of female participants was 39.94 years (SD ± 9.69) (Table 2). Both the mean number of years of employment and the mean number of years of employment in the same department were higher for men (respectively 15.78 years, SD ± 9.64 and 10.8 years, SD ± 9.76), rather than for women (respectively 12.96 years, SD ± 9.88 and 7.10 years, SD ± 6.65) (Table 2). We did not highlight any significant difference between males and females regarding the demographic and work variables, as shown in Table 2.

Table 2 Variables Stratified by Sex

Variables	Men n=34 (48.6%)	Women n=36 (51.4%)	Probability Statistical Test
Age			
Years, m ± SD	41.81 ± 10.07	39.94 ± 9.69	chi-squared = 0.68; p = 0.408; Kruskal–Wallis
Years of employment			
Years, m ± SD	15.78 ± 9.64	12.96 ± 9.88	chi-squared = 1.96; p = 0.162; Kruskal–Wallis
Years of employment in ED			
Years, m ± SD	10.81 ± 9.76	7.10 ± 6.65	chi-squared = 2.59; p = 0.107; Kruskal–Wallis
Jefferson Scale of Empathy			
Score, m ± SD	111.77 ± 10.9	111.45 ± 12.60	chi-squared = 0.64; p = 0.424; Kruskal–Wallis
ProQOL scores			
Burnout, m ± SD	24.68 ± 4.07	22.83 ± 6.56	chi-squared = 2.82; p = 0.092; Kruskal–Wallis
Secondary Traumatic Stress, m ± SD	18.88 ± 4.26	21.06 ± 5.90	chi-squared = 2.41; p = 0.120; Kruskal–Wallis
Compassion Fatigue, m ± SD	43.56 ± 6.97	43.89 ± 11.47	chi-squared = 0.015; p = 0.901; Kruskal–Wallis
Compassion Satisfaction, m ± SD	37.74 ± 5.25	38.08 ± 6.89	chi-squared = 0.43; p = 0.510; Kruskal–Wallis

Analysis of JSE and ProQOL Scale Score

JSE and ProQOL Scale Score in the Three Different Professions

On the Jefferson Scale of Empathy (JSE), the mean empathy score appeared similar for nurses (111.97, SD 10.48) and doctors (112.53, SD 10.88), while it was lower for healthcare assistants (106.20, SD 16.00) (Table 3, Figure 1). The

Table 3 ProQOL and JSE Scores Divided by Professions

Variables	Nurses n=39 (76.5%)	Doctors n=16 (69.6%)	Healthcare Assistants n=15 (57.7%)	Total n=70 (70%)	Statistical Test Kruskal–Wallis Probability
ProQOL scores					
Burnout, m ± SD	23.23 ± 4.53	27.62 ± 5.97	20.87 ± 5.5	23.73 ± 5.53	chi-squared = 8.80; p = 0.012
	Nurses vs doctors Doctors vs healthcare assistants Nurses vs healthcare assistants				chi-squared = 5.89; p = 0.015 chi-squared = 7.33; p = 0.007 chi-squared = 1.11; p = 0.293
Secondary Traumatic Stress, m ± SD	19.38 ± 4.34	23.12 ± 6.47	18.27 ± 4.92	20 ± 5.25	chi-squared = 5.70; p = 0.058
	Nurses vs doctors Doctors vs healthcare assistants Nurses vs healthcare assistants				chi-squared = 3.97; p = 0.046 chi-squared = 4.31; p = 0.038 chi-squared = 0.84; p = 0.359
Compassion Fatigue, m ± SD	42.62 ± 7.30	50.75 ± 10.6	39.13 ± 9.57	43.73 ± 9.49	chi-squared = 10.48; p = 0.005
	Nurses vs doctors Doctors vs healthcare assistants Nurses vs healthcare assistants				chi-squared = 5.98; p = 0.014 chi-squared = 9.02; p = 0.003 chi-squared = 2.21; p = 0.137
Compassion Satisfaction, m ± SD	38.69 ± 5.34	35.94 ± 5.52	38 ± 8.22	37.91 ± 6.11	chi-squared = 2.41; p = 0.299
	Nurses vs doctors Doctors vs healthcare assistants Nurses vs healthcare assistants				chi-squared = 2.09; p = 0.148 chi-squared = 1.65; p = 0.199 chi-squared = 0.03; p = 0.870
Jefferson Scale of Empathy					
Score, m ± SD	111.97 ± 10.48	112.53 ± 10.88	106.20 ± 16.00	111.13 ± 11.75	chi-squared = 1.05; p = 0.592
	Nurses vs doctors Doctors vs healthcare assistants Nurses vs healthcare assistants				chi-squared = 0.05; p = 0.813 chi-squared = 1.05; p = 0.592 chi-squared = 0.06; p = 0.805

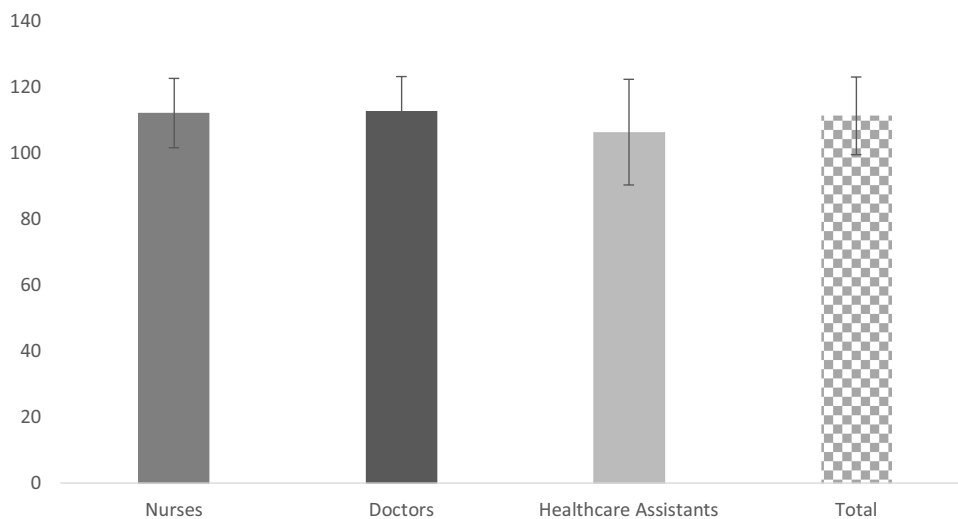


Figure 1 Jefferson Scale of Empathy: The Three Professions and Total Score (m ± SD bars).

comparison between the JSE scores in the three groups did not evidence any statistically significant difference. JSE score presented a normal distribution at Skewness/Kurtosis tests for Normality (p = 0.203).

Through the ProQOL scale, we investigated burnout, secondary traumatic stress, compassion fatigue and compassion satisfaction. ProQOL scores presented a normal distributed at Skewness/Kurtosis tests for Normality concerning burnout (p = 0.433), secondary traumatic stress (p = 0.284), compassion satisfaction (p = 0.364) and compassion fatigue (p = 0.168). The data that we found, shown in Table 3 and Figure 2, reveal that doctors scored the highest in burnout, stress, and compassion fatigue, while nurses showed the highest score in compassion satisfaction. Between doctors and nurses, we found that burnout levels were statistically significantly higher (chi-squared = 5.89; p = 0.015, Kruskal–Wallis) in doctors who showed higher stress levels (chi-squared = 5.70; p = 0.058, Kruskal–Wallis) and compassion fatigue levels (chi-squared = 10.48; p = 0.005, Kruskal–Wallis) compared to nurses (Table 3). Regarding the relationship between doctors and healthcare assistants, burnout levels were statistically significantly higher (chi-squared = 7.33; p = 0.007, Kruskal–Wallis) in doctors who showed statistically significant higher stress levels (chi-squared = 4.31; p = 0.038, Kruskal–Wallis) and compassion fatigue levels (chi-squared = 9.02; p = 0.003, Kruskal–Wallis) compared to healthcare

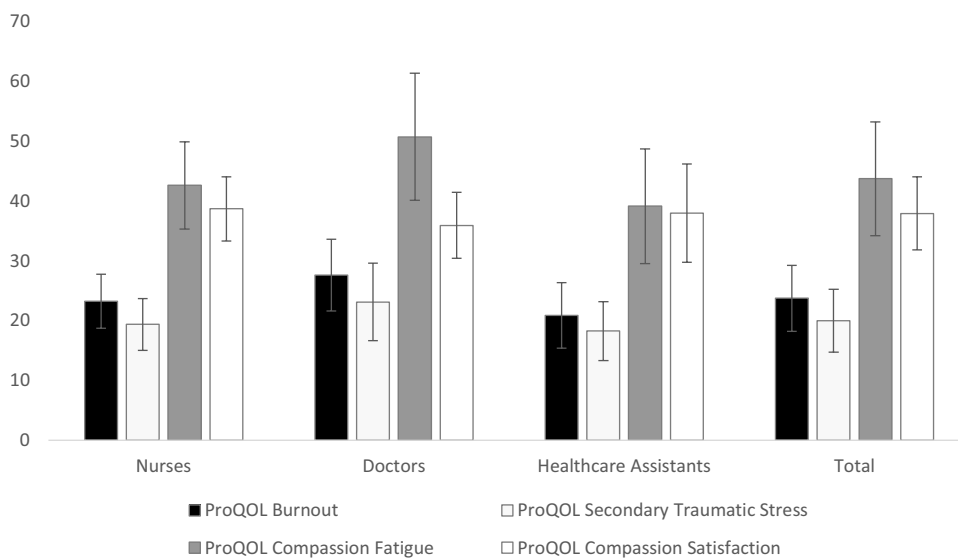


Figure 2 ProQOL scores in the Three Professions (m ± SD bars).

assistants. Finally, between nurses and healthcare assistants no statistically significant differences were found in the ProQOL subscales (Table 3).

JSE and ProQOL Scale Score in Male and Female Health Workers

The mean JSE score was 110.77 ± 10.90 SD in men and 111.45 ± 12.60 SD in women (Table 2, Figure 3).

Analyzing the ProQOL data, women showed higher secondary traumatic stress (21.06 , SD ± 5.90) and compassion satisfaction scores (38.08 ± 6.89 SD) than men (respectively 18.88 ± 4.26 SD and 37.74 ± 5.25 SD) (Table 2 and Figure 3). Instead, men had higher burnout score (24.68 , SD ± 4.07) compared to women (22.83 ± 6.56 SD) (Table 2 and Figure 4). Both sexes presented similar compassion fatigue score (43.56 ± 6.97 SD in men vs 43.89 ± 11.47 SD in women) (Table 2). The comparison of JSE and ProQOL scores between men and women did not show any statistically significant difference, as shown in Table 2.

Correlation Between JSE and ProQOL

The ProQOL compassion fatigue was positively correlated with secondary traumatic stress (Rho=0.859, $p = 0.000$) and burnout (Rho=0.850, $p = 0.000$), burnout was also positively correlate with secondary traumatic stress (Rho=0.496, $p =$

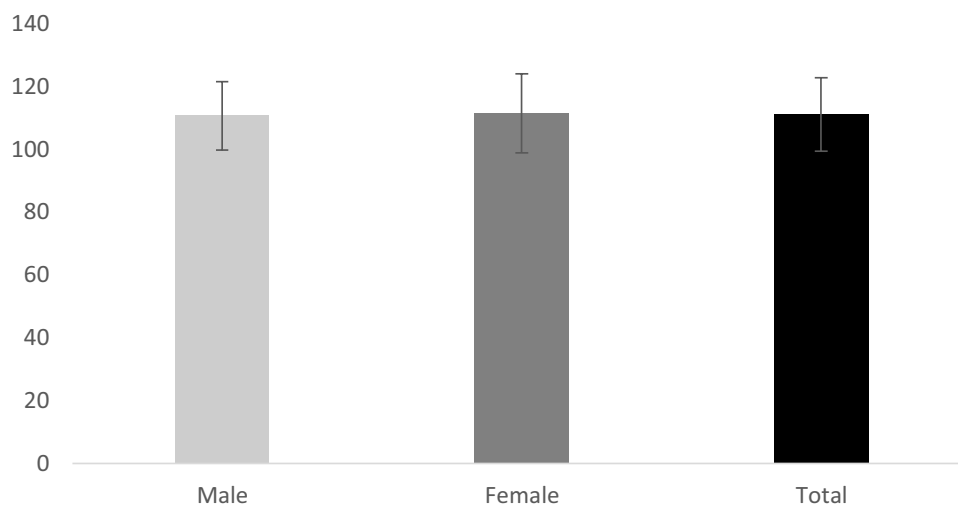


Figure 3 Jefferson Scale of Empathy scores (m ± SD bars).

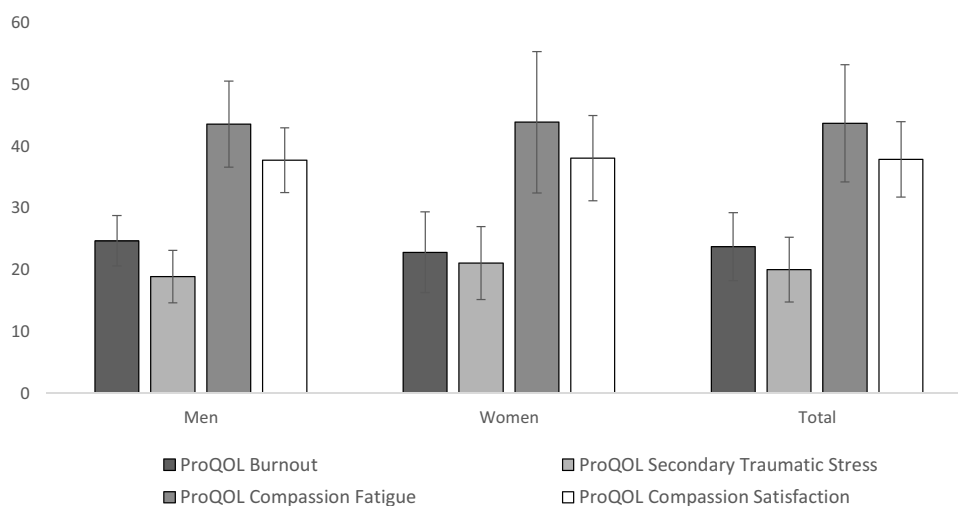


Figure 4 ProQOL scores (m ± SD bars).

0.000), whereas ProQOL compassion satisfaction was negatively correlated with burnout (Rho=0.859, p = 0.000) and compassion fatigue (Rho = -0.277, p = 0.020), as shown in Table 4.

Multiple Linear Regressions Model

At multiple linear regressions, JSE score, as dependent variable, was negatively associated with burnout (Coeff: -0.88; p = 0.021) and stress (Coeff: 0.76; p = 0.048) scores of ProQOL, whereas ProQOL secondary traumatic stress score, as dependent variable, was positively associated with years of employment (Coeff: 0.38; p = 0.040).

At multiple linear regression, between the JSE score and the other selected variables as independent variables, we observed a negative statistically significant association with burnout (Coeff: -0.88; p = 0.021) and stress (Coeff: -0.76; p = 0.048) subscale scores of ProQOL (Table 5).

At the second multiple linear regression between the ProQOL scores, as dependent variables, and the other selected variables, as independent variables, secondary traumatic stress score, as dependent variable, was positively associated with years of employment (Coeff: 0.38; p = 0.040), and compassion fatigue, as dependent variable, was positively associated with years of employment at the limits of statistical significance (Coeff: 0.66; p = 0.054) (Table 6).

Table 4 Correlation Between ProQOL and JSE Scores (Spearman’s Rho)

	JSE	ProQOL-Burnout	ProQOL-Secondary Traumatic Stress	ProQOL-Compassion Fatigue	ProQOL-Compassion Satisfaction
JSE	I				
ProQOL-Burnout	-0.138	I			
ProQOL-Secondary Traumatic Stress	0.1689	0.496*	I		
ProQOL-Compassion Fatigue	0.064	0.850*	0.859*	I	
ProQOL-Compassion Satisfaction	0.064	-0.493*	0.017	-0.277**	I

Notes: * p = 0.000: ** p = 0.020.

Table 5 Multiple Linear Regression Between JSE Score (as Dependent Variable) and Independent Variables Statistically Significantly Associated

Variables	Coefficient	Confidence Interval	Probability
Burnout	-0.88	-1.63; -0.14	p = 0.021
Stress	0.76	0.01; 1.51	p = 0.048

Table 6 Multiple Linear Regression Between ProQOL Scores as Dependent Variables and Independent Variables Statistically Significantly Associated

Independent Variables	Coefficient	Confidence Interval	Probability
Secondary Traumatic Stress			
Years of employment	0.38	0.02; 0.75	p = 0.040
Compassion Fatigue			
Years of employment	0.66	-0.01; 1.33	p = 0.054

Discussion

Our study analyzed the quality of professional life and empathy in healthcare workers in ED of a General Hospital.

Our sample is characterized by an equal gender representation; more than half of healthcare professionals who work in ED participated in the study, with the highest response rate among nurses (76.5%). Regarding the HW sex distribution in our sample, we emphasize that it was representative of the gender distribution of healthcare professionals in our emergency department, but differed from that of other national or international emergency departments due to the prevalence of males.⁶⁶ According to the literature, healthcare professionals in the emergency department are predominantly male, with men representing over 72% of emergency physicians, compared to 65% of physicians across all medical disciplines.⁶⁷ Male gender is more common among emergency professionals, as evidenced by a study of emergency workers in Italy, which found that 71.3% of the sample was male.⁶⁸ While men remain a minority in the nursing profession globally, a consistent pattern emerges from the literature: a significant percentage of male nurses and nursing students express a preference for intensive care and other technologically intensive or highly autonomous specialties.⁶⁹

We did not find any statistically significant difference in both years of employment and in years of employment in ED among the three professions, whereas the age of doctors and healthcare assistants was higher than nurses. Additionally, men showed higher age, years of professional experience and experience in ED compared to women.

Jefferson Scale of Empathy

The analysis of the results of the JSE for all participants highlights a high level of empathy, with an average score of 111.13 out of the maximum of 140. These findings are in contradiction with literature, particularly with the study by Ghaedi et al, which states that in departments characterized by a fast work pace and high urgency demands, such as Emergency Department, empathy levels tend to be low because healthcare professionals do not have enough time to build an empathic relationship with patients.²⁹

When comparing empathy levels among different professions, doctors appeared to be the most empathetic in ED, with a score of 112.53, followed by nurses and healthcare assistants. However, there are no statistically significant differences between the three professional categories regarding empathy. Again, these findings differ from literature. A 2022 study reports that empathy levels among medical students decrease as they progress through the university course and only increase with humanities courses that enhance empathy.⁴¹ Nurses also exhibited high levels of empathy, in line with the literature stating that empathy is fundamental to nursing and often leads to clinical improvements.²⁹ Empathy enables nurses to better understand patients, to fulfill their health needs and to build a trusting relationship with them.⁵² Even though the healthcare assistants show lower empathy scores than nurses and doctors, their level is still high, describing sensitivity and empathy as key qualities of the healthcare and social assistant role.

No significant differences in empathy levels are found between men and women, as both males and females reported high scores. Literature suggests that in high-stress environments, such as Emergency Care Units, women tend to exhibit more empathetic behaviors than men. However, this response is influenced by different coping styles used by each sex.⁷⁰ Our findings do not support our initial hypothesis, which was based on literature data suggesting a gender difference in empathy. Therefore, we may interpret that the high empathy levels across all three healthcare professions we highlighted, similarly high in men and women, could reflect a general work environment attitude, which privileges an empathetic approach to patient needs.

ProQOL Analysis: Burnout, Stress, and Compassion Satisfaction

The ProQOL scale results show that burnout and compassion satisfaction levels among participants are moderate, meanwhile secondary traumatic stress levels are low. Referring to the literature, healthcare professionals working in ED experience higher burnout levels than those in non-urgent inpatient wards.⁶⁶ This is in good agreement with our results. However, the same study reports similar stress levels and moderate professional satisfaction, which are slightly different from our findings.⁷¹ Interestingly, our study highlights that the medical profession was the most affected by burnout and secondary traumatic stress, although at moderate levels, whereas nurses reported moderate burnout but low

secondary traumatic stress levels and healthcare assistants showed low levels of both dimensions. All professions presented moderate levels of compassion satisfaction. These results differ from another study, which describes nurses as the most affected by burnout, likely due to greater patient contact, workload, and organizational difficulties in the ward.¹⁸ Another study confirms that nurses experience the highest burnout and stress among healthcare professionals.⁷² In a Chinese study, nurses of tertiary hospitals showed high scores in the dimensions of compassion satisfaction, burnout and secondary traumatic stress, suggesting poor professional quality of life.⁷³ Conversely, our findings are consistent with another research, which highlights that burnout is increasingly becoming a major issue for doctors, especially those in emergency care settings, due to the work overload and the increasing complexity of medical procedures.⁷⁴ This result is consistent with the notable trend of decreasing interest in emergency medicine among medical students according to AAMC data.⁷⁵ This decline is occurring despite increasing overall medical school enrollment. Many medical students express concerns about the demanding and stressful nature of emergency medicine, citing potential burnout and the toll it takes on physicians. Some students are hesitant about the high-pressure environment, long hours, and potential exposure to violence or trauma in emergency departments.

The challenging nature of emergency medicine can exacerbate mental health issues, leading students to seek specialties with potentially less intense or more predictable schedules.

In recent years, even in Italy, a decline in enrollment in some medical schools have seen, primarily in emergency medicine, with a 30% reduction in contracts.⁷⁶

In our study, doctors, despite reporting moderate satisfaction, show lower levels of satisfaction than nurses and healthcare assistants. This confirms previous findings in literature stating that burnout leads to decreased job satisfaction, which can negatively impact patient care quality.⁷⁷ In contrast to this, other authors report higher satisfaction levels among doctors than nurses, attributing to nurse dissatisfaction primarily to staff shortages.⁵⁵

Our findings underscore that both men and women show moderate burnout levels, in contrast with literature which suggests that women experience higher burnout and secondary traumatic stress levels. Historically, Cinnamon & Rich stated that women are more affected by burnout and stress due to societal expectations requiring them to manage both work and family responsibilities, partially in agreement with our second hypothesis.⁷⁷ However, it is necessary to observe that burnout and stress are influenced by various personal and external factors.⁵¹

Regarding the Compassion Satisfaction, our results are in line with literature indicating that sex does not affect satisfaction levels.⁷⁸

Our study suggests that burnout is directly proportional to both the level of secondary traumatic stress level and compassion fatigue and inversely proportional to satisfaction levels. This result is in line with previous literature.⁷⁹

Concerning compassion satisfaction, it may be influenced by multiple personal and professional aspects. Rocha et al suggest that work dissatisfaction is a predictive symptom of burnout. Stress experienced by emergency professionals can lead to burnout and, consequently, increased compassion fatigue, a dimension increased by secondary traumatic stress and burnout.^{79,80}

Moreover, our study highlights that stress levels are directly proportional to both empathy and burnout levels, supporting our third hypothesis. According to Crumpei & Dafinoiu, empathy is a “double-edged sword”, meaning that an empathetic approach to patients can lead to increased secondary traumatic stress among healthcare professionals, especially in those who work in ED.⁸¹ The authors explain that a work method based on empathy and emotions may benefit the patient but simultaneously harm the healthcare professional who is constantly exposed to the patient’s suffering.⁸¹ Ramírez-Elvira et al clarify that the burnout-stress relationship can induce physical and emotional exhaustion, further increasing stress.⁸²

In our study, a statistically significant relationship between compassion fatigue and the medical profession has been highlighted, as supported by Sonmez & Gul, which suggests that doctors in ED experience the highest levels of stress and burnout, which can lead to compassion fatigue.⁷⁴ These findings could be explained by the work overload combined to highly specialized tasks. This result is in line with those highlighted by an Israeli study, which reported that residents and hospital physicians presented significantly less healthy lifestyles, lower perceived health status and higher stress levels, compared with senior and community physicians.⁸³

Another interesting finding consists of the statistically significant correlation between burnout and empathy levels, which are inversely correlated. This result is in line with literature which shows how burnout represents an obstacle to an empathetic approach to patients. Conversely, if burnout levels decrease, empathy improves, allowing a better approach to patients.⁶¹ This result supports our third hypothesis. Our results underscore that stress is directly related to empathy as highlighted by Gleichgerrcht & Decety, who state that prolonged stress can improve emotional regulation, increasing empathy.⁸⁴ This finding could be explained considering that empathy includes also empathetic concern for the patient, which is directly correlated to stress: when stress levels increase, empathetic concerns intensify. Lastly, compassion satisfaction appears to be inversely related to burnout (as burnout decreases, satisfaction increases), confirming Zhang et al, which highlights that reducing burnout can improve satisfaction.⁸⁰ Training programs and psychological techniques represent support in this regard.

Limitations and Advantages of the Study

This study presents some limitations. First, the sample size, although adequate for the analyses conducted, should be increased to better represent the population. Second, this is a single-center study, therefore a complete generalization of the results is not possible. Another point is that intrinsic differences in the nature of the scales used can expose the study to two types of bias: an operator-dependent bias and a social desirability bias related to the respondent. In the latter case, the bias can be due to either self-deception, which consists of the natural tendency to view oneself favorably, or impression management, which refers to the situational desire to present oneself in a positive light.⁸⁵ Finally, the data were collected through self-assessment (lack of external evaluation).

Regarding the scales used we have to put in evidence that, although the JSE is a valuable tool for measuring empathy, especially in healthcare settings and medical education, as it provides insights into the role of empathy in patient care and professional development, it has limitations. The JSE may not fully capture the nuances of empathy, particularly emotional empathy, and may be influenced by cultural and social factors. Furthermore, some studies suggest potential ceiling effects, in which individuals with high empathy scores may not be effectively screened.⁸⁶

Among the advantages, we can enumerate the high response rate, which makes the sample representative of the operational unit where the study was conducted; the comparison between three healthcare professions within the same team, allowing us to assess differences and similarities, highlighting a common working approach; the use of reliable tests, already validated in Italian and widely used in clinical research and the in-depth analysis of dimensions such as empathy and quality of professional life, which require constant monitoring to ensure the well-being of healthcare professionals and, indirectly, of patients.

Conclusion

This study belongs to the research field whose aim is investigating and understanding the quality of life and empathy of professionals working in an Emergency Department. In recent years, burnout and stress levels among hospital professionals have significantly increased due to multiple factors such as overcrowding, the growing number of assaults on healthcare workers and long work shifts. In order to analyze these aspects, two scales validated in Italian were used: the Jefferson Scale of Empathy and the ProQOL. The former measures professionals' empathy considered a fundamental quality in healthcare work and the foundation of the professional-patient relationship. The latter, instead, assesses levels of burnout and secondary traumatic stress, both negative aspects which can increase compassion fatigue, and compassion satisfaction (positive aspect).

This study reveals that healthcare professionals perform a job that is both stressful and rewarding, enabling them to maintain high levels of empathy. While physicians report the highest levels of stress and burnout, all three categories of healthcare professionals show a similarly high level of empathy. This finding demonstrates that empathy, which is the foundation of the healthcare professional-patient relationship, characterizes the entire unit's working approach and contributes to a positive work environment.

The importance of research like this lies in providing healthcare organizations with insights into their professionals' well-being, as it directly affects the quality of patient care and clinical outcomes. We Emergency professionals, if not supported by healthcare organizations through appropriate measures, such as monthly debriefings, psychological support,

and effective communication among all professional figures, may face burnout and work-related stress. Future research on nurses' well-being in Emergency settings could incorporate interviews with nursing staff to better understand the specific sources of compassion fatigue and how to manage them effectively.

In conclusion, this study provides novel data on the topic of professional quality of life in healthcare workers and emphasizes the crucial role of empathy in patient care. These aspects should be considered in the future to improve working conditions for healthcare workers and facilities in emergency departments.

The findings of this study may inform future training programs and organizational policies aimed at improving the professional quality of life of healthcare workers. In particular, this study provides new insights into professional quality of life and emphasizes the crucial role of empathy and burnout among professionals, suggesting that ongoing monitoring and support for healthcare workers are essential to ensuring both their well-being and the quality of patient care.

Abbreviations

DSM-5-TR, Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision; ED, Emergency Department; ER, Emergency Room; HW, Healthcare Workers; IOU, Intensive Observation Unit; JSE, Jefferson Scale of Empathy; m, mean; ProQOL, Perception of the quality of professional life; SD, Standard Deviation; STS, Secondary Traumatic Stress.

Ethics Approval and Informed Consent

This study received approval from the Ethical Committee of Area Vasta Emilia Nord (Prot AOU 0018361/24 of June 19, 2024) and was authorized by AUSL-Modena (Decision 1899 of July 17, 2024).

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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