Geriatric Nursing 62 (2025) 188–193

Contents lists available at ScienceDirect

Geriatric Nursing

journal homepage: www.gnjournal.com

Healthcare's empathy in elderly care: How anxiety, depression, and professional quality of life influence empathic abilities

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ARTICLE INFO

Article history:
Received 2 August 2024
Received in revised form 29 November 2024
Accepted 27 January 2025
Available online xxx

Keywords:
Empathy
Healthcare professionals
Elderly care
Professional quality of life

ABSTRACT

The objective of this descriptive cross-sectional study was to determine the relationship between empathy, anxiety, depression, compassion satisfaction, and fatigue in healthcare professionals working in elderly care centers. A sample of 104 healthcare professionals from nursing homes in Spain completed questionnaires assessing empathic skills, anxiety, depression, and quality of life. The results showed high levels of empathy and compassion satisfaction among participants and significant relationships between empathic skills, anxiety, depression, and quality of life measures. The regression analysis identified interpersonal reactivity, depression, compassion satisfaction, fatigue, and years of experience as significant predictors of empathy in the clinical context. Empathy is of paramount importance in the field of geriatric care, with enhanced empathic abilities exerting a beneficial influence on professional practice. However, the presence of depressive symptoms may hinder empathic abilities and affect the quality of care. Compassion satisfaction emerged as a significant predictor of empathy, highlighting the importance of emotional support and communication skills training in healthcare settings.

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Introduction

Functional independence enables individuals to participate safely in their own context, relying on the interplay of physical, cognitive, and behavioral factors.[1] The physiological and physical changes that occur with advancing age represent a set of risk factors that influence an individual's level of functional independence and their ability to interact with their environment..[2,3] Among older people, changes may lead to greater dependency on long-term care, with varying degrees and types of assistance depending on the evolution of the aging process.

Caring for older people is an important part of the roles of health and social care professionals.[4] Being prepared to meet their needs and understanding and adopting appropriate attitudes towards them is a requirement that can influence the delivery of care services,[5-8] given that, on many occasions, healthcare providers have not begun to experience this aging process.[9] The attitudes of the health care professionals who attend to and care for older people play a special and decisive role in the quality of care.[10] In this care relationship, it is essential to humanize the treatment of older people in order to implement a person-centered practice, considering the patient as a unique person, and treating symptoms and diseases in the context of the life course.[11] Empathy is an essential aspect to be considered, as it is a general skill that allows us to take the other person's perspective, to interpret their feelings and emotions, and to respond to the situation, involving both affective and cognitive processes.[12] In this regard, the cognitive aspects of empathy are associated with attitudes and skills that consider the ability to put oneself in the situation of another person, their circumstances and their thoughts. In contrast, the emotional aspects are related to the abilities to consider personal aspects by identifying the emotions of the other person.

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https://doi.org/10.1016/j.gerinurse.2025.01.033
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Therefore, the quality of care and the relationship with the patient can be positively or negatively influenced by the attitude and approach of the healthcare professional toward the older individual.[10] Previous studies highlight that empathy in healthcare professionals plays a crucial role in significantly improving patient satisfaction and clinical outcomes, and is associated with safer and more effective care, resulting in improved patient experience and overall quality of care.[13-15] In addition, the importance of fostering empathy in medical education is highlighted as a vital step towards optimizing patient care and health outcomes, linking it to improved psychological and physical health as well as enhancing patient safety by fostering better communication and trust.[16-18]

In this context, there has been an increased focus on the development and training of empathy in healthcare professionals. Research suggests that fostering empathy and building strong provider-patient relationships significantly enhance patient engagement and motivation, which are essential for sustaining long-term health behaviors. Furthermore, targeted training programs can have a positive impact on healthcare professionals' empathy levels, especially in the short term, helping them to process emotional responses and promote a more empathetic approach in patient care.[17-21] Empathy training has been shown to strengthen interactions between healthcare professionals and patients, leading to higher patient satisfaction, increased engagement, and enhanced professional competence. Also, higher levels of empathy among healthcare providers are linked to reduced anxiety, depression, and hostility in patients, creating a positive care experience.[21]

Despite these benefits, there is a concerning trend of declining empathy within healthcare settings, which can negatively impact the relationship between healthcare professionals and patients. From this perspective, the presence of other factors, such as compassion satisfaction (CS) and fatigue (CF) can affect the empathic skills of the professional. In this sense, CS reports the positive feelings associated with doing a type of work, while CF is associated with a decrease in the healthcare professional's ability to assist because of repeated exposure to a traumatic experience (e.g., witnessing vulnerable, painful or life-threatening situations.[22] Such experiences, though indirectly experienced by the professional,[23] can facilitate the perception of an inability to meet work-related needs, contributing to the onset of anxiety, depression and even favoring the appearance of professional burnout,[24] when the ability to care for a patient is affected by other work-related factors.[25] It is therefore evident that healthcare professionals require an approach that addresses both skill-building and emotional support in order to effectively manage the emotional difficulties inherent to their work. By enhancing empathy in conjunction with techniques for coping with CS and CF, healthcare professionals may be better positioned to provide compassionate care while maintaining their own well-being.

Given that the development of empathy in healthcare professionals has significant implications for patient care and outcomes, this research aimed to examine the relationship between empathy and factors such as anxiety, depression, compassion satisfaction, and compassion fatigue. Specifically, we sought to explore how these factors affect empathic abilities in healthcare professionals who work in care facilities for older people, contributing to a deeper understanding of the dynamics involved in caregiving.

Material and methods

Participants and recruitment

A descriptive cross-sectional study was designed with a sample of healthcare professionals (nurses, nursing assistants, occupational therapists, doctors, psychologists, and physiotherapists) recruited from four nursing homes: two homes in the Community of Madrid and two homes in the Principality of Asturias. All participants were able to engage in the study during their scheduled work hours, specifically during the morning shift. Their involvement was entirely voluntary and did not entail any form of financial or other benefit or detriment. In order to participate in the project, all participants met the following inclusion criteria: (1) being a healthcare professional, (2) working in the assigned center and having direct contact with the residents and (3) having signed the written informed consent to participate in the study. All questionnaires were securely stored in a locked research cabinet that only the research team members could access. Data were collected solely for academic research and publication purposes. The study was approved by the ethics committee at one of the author's institutions. This study was conducted in accordance with the Declaration of Helsinki, the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) Guidelines for Good Clinical Practice and in full compliance with the relevant regulations (Biomedical Research Act 14 /2007).

Sample size

An a priori power analysis was conducted using G*Power version 3.1.9.7 to determine the minimum sample size required.[26] The results indicated that the sample size required for the multiple linear regression model to achieve 80 % power in detecting a mean effect (f2), with a significance criterion of α = 0.05, was N = 92. The mean total population of health professionals in the selected institutions was 230. The final recruited sample of 104 participants represented 45,21 % of this population. As the sample size was calculated from an appropriate power analysis, we consider the sample to be sufficient for the objectives of the study.

Measurements

Each participant completed an ad hoc document with sociodemographic data to obtain information on the following basic characteristics: date of birth, gender, educational level, place of birth and mother tongue. In addition, information was obtained on length of employment in the institution and years of work experience working with geriatric patients. Subsequently, the following assessment tests were administered:

- ***Davis Interpersonal Reactivity Index (IRI):*** this scale is especially useful in research on the multidimensionality of the empathic process in the general population.[27] It is adapted to Spanish[28] and consists of 28 items distributed in four subscales that measure four dimensions of the integrative concept of empathy: perspective taking, fantasy, empathic concern, and distress or personal discomfort, with seven items each. The perspective taking (dimension 1), and fantasy (dimension 3) subscales assess the more cognitive processes, while the empathic concern (dimension 2) and personal distress (dimension 4) subscales measure people's emotional reactions to the experiences of others. Participants respond to each item on a 5-point Likert scale according to the degree to which the statement describes the subject (0 = Does not describe me well; 1 = Describes me somewhat; 2 = Describes me well; 3 = Describes me fairly well; and 4 = Describes me very well). The four subscales range from 0 to 28, where higher scores on a subscale indicate a greater presence of the trait that subscale assesses. The confirmatory factor analysis of the Spanish adapted version of the IRI showed an acceptable fit (χ2/f=9291; GFI=0.899; Root Mean square Error of Approximation (RMSEA=0.06) as well as good internal consistency for all the dimensions, with Cronbach's alpha values between 0.69 and 0.80.[28]

- ***Jefferson Scale of Empathy - Health Professions version (JSPE-HPS):*** this scale assesses empathy in the context of the clinical relationship from a cognitive approach and from the perspective of emotions and is composed of 20 items within three dimensions: dimension 1 perspective taking, dimension 2 compassionate care, and dimension 3 putting oneself in the patient's place.[29] They are scored according to a Likert scale from one (strongly disagree) to seven (strongly agree). Scores range from a minimum of 20 to a maximum of 140 and the higher the score, the higher the participant's level of empathy. The reliability and validity of the JSPE-HPS has been demonstrated previously.[30-34] Its Spanish validation has shown adequate psychometric properties: Cronbach's Alpha = 0.786; ICC= 0.90 (95 % CI = 0.86–0.93; $p < 0.0001$) and the resulting model has shown an acceptable fit (χ^2/gl= 1.97, $p < 0.001$; the comparative fit index (CFI)= 0.93; Root mean square error of approximation (RMSEA) = 0.05).[35]
- ***Goldberg Anxiety and Depression Scale (GADS)***: this is a self-administered questionnaire used as a screening test for clinical and epidemiological purposes.[36] Not only does it guide the diagnosis toward anxiety or depression (or both in mixed cases), with a sensitivity of 83.1 % and specificity of 81.8 %; but it also discriminates between them and assesses their respective intensities.[36] The cut-off points are set at four or more for the study of anxiety and at two or more for depression, with higher scores indicating more severe problems. It is an effective and simple tool widely used and validated in the Spanish population.[37]
- ***Professional Quality Life Scale: Compassion Satisfaction and Fatigue Subescales V-IV (Proqol-CSF-IV)***: this scale assesses the effect on care workers caring for people in vulnerable situations.[38] This scale consists of 30 questions with Likert-type responses (0-never, 5-always) and comprises three subscales: Compassion Satisfaction (CS), Burnout (BO), and Secondary Traumatic Stress (STS). Each subscale is evaluated separately, and the scores are not aggregated cumulatively. For each of the three domains, a score exceeding 42 is considered high, whereas scores ranging from 23 to 41 are deemed average, and scores of 22 or lower are considered low.

Statistical analysis

For the descriptive statistical analysis of the sample, basic descriptive methods were used. Regarding categorical variables, the number of cases present in each category was calculated, as was the corresponding percentage. In the case of quantitative variables, the mean and standard deviation were computed.

To explore the potential relationship between variables associated with empathic abilities, anxiety, depression, and the quality of life of healthcare professionals, the Pearson linear correlation coefficient (r) was calculated. Subsequently, to determine the potential impact of anxiety and quality of life variables on the empathic abilities of healthcare professionals, a linear regression model was employed, controlling for additional variables such as sex, age, and years of experience.

The statistical analysis was conducted using the SPSS 29.0 program for Windows. Statistically significant differences were defined as those with a p-value of less than 0.05.

Results

The final study sample consisted of 104 health professionals, 87.5 % (n = 91) of whom were women and 12.5 % (n = 13) of whom were men. The age range of the participants was between 18 and 65 years, with an average of 46.1 years (SD = 12.73). Table 1 shows the descriptive analysis of the demographic and occupational variables.

Table 1
Descriptive analysis of the variables and sociodemographic data.

	Mean (SD)	
IRI	88.96 (12.09)	
Empathic Empathy	26,47 (4,36)	
Perspective Taking	30,35 (3,98)	
Fantasy	21,92 (5,04)	
Personal Distress	12,55 (3,62)	
JSE-HPS	118.22 (14.50)	
Perspective Taking	61,69 (6,78)	
Compassionate Care	45,73 (6,75)	
Standing in the Patient's Shoes	11,45 (2,87)	
GADS		
Anxiety	3.95 (2.94)	
Depression	2.27 (2.05)	
Proqol-CSF-IV		
Compassion Satisfaction	40.60 (5.83)	
Burnout	23.21 (5.02)	
Secondary Traumatic Stress	18.60 (6.86)	
	n	**%**
Educational level		
High School	15	14.4
Vocational training	62	59.6
University studies	27	26.0
Marital Status		
Single	26	25.0
Married	53	51.0
De facto union	9	8.7
Divorced	10	9.6
Widowed	6	5.8
Years of work experience		
< 1	10	9.6
1–5	25	24.0
5–10	16	15.4
> 10	52	50.0
Profession		
Nurse	4	3.8
Nursing technician	74	71.1
Occupational therapist	4	3.8
Physical therapist	6	5.7
Physician	4	3.8
Psychologist	3	2.9
Social worker	5	4.8
Others	4	3.8

Table 2 shows the Pearson's linear correlation coefficient between the scales to determine the possible relationship between them. The IRI showed significant relationships with the empathic skills of the health professional and the level of anxiety. Similarly, empathic skills assessed by the JSE-HPS showed a statistically significant relationship with the level of depression and with all the variables assessing the health professional's quality of life.

A stepwise linear regression analysis was conducted to explore empathy in the context of the clinical relationship as the dependent variable and the empathic process in the general population, the anxiety and depression, compassion satisfaction, burnout and fatigue, age and years of experience as predictors. The model (Tables 3 and 4) included interpersonal reactivity (empathic process in the general population), depression, compassion satisfaction, fatigue and years of experience and was able to explain 49 % of the variability of the empathy in the context of the clinical relationship.

Discussion

The main objective of this study was to analyze the relationship and the effect that factors such as anxiety, depression and compassion satisfaction and fatigue have on the empathic skills of healthcare professionals working with the geriatric population. According to our

Table 2
Correlational analysis of variables.

		IRI	JSE-HPS	GADS		Proqol-CSF-IV		
				Anxiety	Depression	Compassion Satisfaction	Burnout	Secondary Traumatic Stress
	IRI	**1**						
	JSE-HPS	0,516**	1					
GADS	**Anxiety**	0,199*	-0.171	1				
	Depression	0,154	-0.266**	0.679**	1			
Proqol-CSF-IV	**Compassion Satisfaction**	0.161	0.397**	-0.205*	-0.215*	1		
	Burnout	-0.039	-0.303**	0.373**	0.407**	-0.525**	1	
	Secondary Traumatic Stress	0.128	-0.244**	0.399**	0.496**	-0.204**	0.607**	1

Note: IRI: *Interpersonal Reactivity Index*; JSE-HPS: *Jefferson Scale of Empathy - Health Professions version*; GADS: *Goldberg Anxiety and Depression Scale*; Proqol-CSF-IV: *Professional Quality Life Scale: Compassion Satisfaction and Fatigue Subscales V-IV.*
*$p < 0.05$; ** $p < 0.01$.

Table 3
Model summary (stepwise method).

Model	R	R^2	Adjusted R^2	Standard Error of the Estimate
1 [a]	0.702	0.493	0.466	10.594

[a] = predictors (constant), interpersonal reactivity, depression, compassion satisfaction, fatigue, years of experience.

results, healthcare professionals showed a high level of empathy and compassion satisfaction.

Empathy is critical in geriatric care, because older patients may face unique physical, emotional and social challenges, requiring healthcare professionals to understand and respond to the needs, concerns and experiences of older patients in a compassionate and effective manner.[39] Studies such as that of Kim and Kwon[40] have found that the empathic skills of professionals who care for older people are related to their attitudes towards their care. Thus, greater empathic skills have a positive effect on their professional practice. Similarly, studies of health professionals, such as that of Sinclair et al.[41] indicate that greater compassion satisfaction is associated with less emotional fatigue and is an important predictor of emotional well-being and job satisfaction.

In our study, interpersonal empathy was significantly related to the level of anxiety. Although no clinical levels of anxiety exceeding the cut-off point were identified, a positive association was observed between anxiety and higher levels of interpersonal empathy. This finding aligns with those of Borges et al.[42] who noted similar trends in healthcare professionals, as well as with Jütten et al.[43] who identified analogous patterns in informal caregivers of older individuals. These results suggest that heightened interpersonal sensitivity, while beneficial for empathy, may also increase susceptibility to anxiety due to the emotional demands of caregiving. Similarly, fostering empathy in healthcare professionals has been shown to improve not only patient satisfaction but also care outcomes, indicating a positive feedback loop that benefits both providers and patients through a strengthened emotional connection.[13,15]

Conversely, health professionals in our study showed levels of depression above the cut-off point, which was positively correlated with empathy skills and affected quality of life measures. This finding highlights the complexity of emotional dynamics within clinical contexts. Depression, as other studies suggest, can impact the cognitive aspects of empathy,[44] and is inversely related to emotional exhaustion and work stress in healthcare settings.[45] The burnout-related scores among participants may indicate difficulties in coping with the work environment, which can lead to progressive detachment from work responsibilities, potentially compromising the quality of care delivered to older patients.[46] This relationship points to a cyclical challenge in healthcare environments: high emotional engagement (essential for empathy) may increase vulnerability to depressive symptoms, which in turn can hinder the capacity for sustained compassionate care.

Table 4
Model coefficients (stepwise method).

	Coefficient	SE	Lower Limit	Upper Limit	p Value
(Constant)	41.602	10.304	21.149	62.056	<0.001
Interpersonal reactivity	0.659	0.092	0.477	0.841	0.000
Depression	-0.702	0.493	-2.640	-0.240	0.019
Compassion satisfaction	0.564	0.173	0.220	0.908	0.002
Secondary Traumatic Stress	-0.372	0.188	-0.754	0.001	0.051
Years of experience	0.288	0.111	0.068	0.508	0.011

Note: SE = standard error.

Regression analysis revealed that general empathic skills, depressive symptomatology, compassion satisfaction, and years of experience are significant predictors of empathy in clinical contexts. The inclusion of interpersonal empathy and compassion satisfaction as predictors emphasizes the importance of interpersonal skills and the capacity to address patients' emotional needs. The literature corroborates that empathy and compassion satisfaction are crucial for the quality of professional interactions in healthcare.[47,48] These findings align with studies advocating for emotional support and communication skills training to enhance empathy and, ultimately, care quality.[49] Developing empathy through structured training may provide healthcare professionals with tools to handle emotional demands while sustaining a compassionate approach.

Conversely, the negative correlation between depression and empathic skills, as observed in our study, underscores the importance of addressing mental health in the workplace. The literature has shown that depression can have a deleterious impact on productivity, job satisfaction, and interpersonal relationships. These factors can contribute to emotional exhaustion and elevate stress levels in caregiving roles.[50,51] Moreover, they can lead to a high level of work-related and emotional stress, which increases the risk of developing depressive symptoms.[52] This can interfere with the ability of professionals to empathize with patients, negatively affecting the quality of care.[53] This insight underscores the need for workplace interventions, including mental health support and resilience training, to help healthcare professionals manage their emotional well-being while maintaining high empathy levels. Given the demonstrated link between empathy and improved patient outcomes,[13] supporting the mental health of caregivers is essential not only for their well-being but also for fostering optimal patient care.

The finding that years of work experience is a significant predictor lends support to the notion that health professionals tend to develop heightened levels of empathy as a result of accumulating work experience and engaging in a greater number of interactions with patients.[47] In this sense, repeated exposure to diverse clinical situations and interaction with patients from different backgrounds may contribute to the development of more refined empathic skills.[54] In

line with these findings, the study by Williams et al.[55] identified that healthcare staff with more years of experience showed higher levels of empathy towards older patients compared to less experienced staff. This is especially relevant, given that the geriatric population has complex chronic conditions that require the professional to understand their needs and concerns.[56]

Lastly, while STS was not a significant predictor in our regression model, it was included due to values close to statistical significance, suggesting potential influence on the empathic skills of healthcare professionals. STS refers to the specific response to trauma resulting from indirect exposure to patients' traumatic experiences. In our study, the relatively low STS scores among participants may be linked to the fact that many healthcare professionals had extensive experience in the field. Prior studies indicate that experienced professionals often exhibit lower STS scores, as maturity and accumulated exposure to patient trauma can foster the development of adaptive coping strategies.[57] This resilience likely contributes to effective management of emotional demands, allowing professionals to maintain empathy without experiencing high levels of distress or negative emotions.

In conclusion, these findings emphasize the interconnectedness of emotional well-being, compassion satisfaction, and experience in fostering empathy within geriatric care settings. Addressing mental health support, especially concerning anxiety and depression, alongside empathy training, could be instrumental in sustaining high-quality, empathic care. Such strategies are essential not only for the benefit of older patients but also for promoting long-term job satisfaction and emotional resilience among healthcare professionals.

Implications for health sciences professionals

Addressing and understanding the empathic skills in healthcare professionals is critical to promoting appropriate patient care. In this sense, knowledge of the factors associated with empathic skills is crucial for improving the quality of care and emotional well-being. The results highlight the importance of promoting intervention strategies aimed at improving empathy and emotional well-being in clinical settings, which in turn could enhance the quality of medical care and both patient and professional satisfaction.

Limitations and recommendations for future study

The study benefits from a relatively large sample, larger than the sample size initially analyzed, which supports the research findings. However, the study does not capture changes in the empathic skills of the professionals since the beginning of the research. In addition, although the participants are from two different provinces and work in similar resources, the sampling was done by convenience, which may limit the understanding of the results in other residential or care settings for older people with different characteristics and care structures than those of the present study. Furthermore, the cross-sectional design of the study limits the generalizability of the results and does not allow us to establish a causal relationship.

Future studies should aim to cover a wider range of geographical areas that would also allow for a larger sample size to support greater generalizability of the research findings. A longitudinal or qualitative study design could be used to deepen the understanding of empathic skills and their determinants to provide insight into the perception of the health professional caring for older people.

Conclusions

The main results of this study provide a comprehensive view of the factors influencing empathy and emotional well-being of health professionals and can be summarized as follows: (1) health professionals show adequate levels of empathy. (2) Depression, compassion satisfaction, burnout and secondary traumatic stress were significantly correlated with the JSE-HPS of healthcare professionals. (3) Interpersonal reactivity and compassion satisfaction emerged as the most significant predictors of empathy skills, followed by depression and years of experience.

Declarations

Ethics approval and consent to participate. The study was conducted according to the Declaration of Helsinki and approved by the Ethics Committee of Universidad Rey Juan Carlos. All participants were informed of the procedures and signed a written informed consent to participate in the study.

Consent for publication

Not applicable.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Sergio Serrada-Tejeda: Writing – review & editing, Writing – original draft, Formal analysis, Data curation. **Fernando Martínez-Cuervo:** Supervision, Resources, Project administration, Methodology, Data curation, Conceptualization. **Marta Pérez-de-Heredia-Torres:** Writing – review & editing, Methodology. **Rebeca Montes-Montes:** Writing – original draft, Formal analysis. **Paula Obeso-Benítez:** Resources, Writing – review & editing. **Domingo Palacios-Ceña:** Supervision, Formal analysis. **y Rosa M Martínez-Piédrola:** Resources, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization.

Acknowledgments

The research team is grateful for the involvement of the participants from the four nursing homes that collaborated in this study.

Funding Statement

The researchers received private funding for this project from the Social Observatory of the La Caixa Foundation..

Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.gerinurse.2025.01.033.

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