Original Article

The Impact of Empathy and Emotional Intelligence on Quality of Care and Mental Health: A Systematic Review of Studies in Intensive Care Unit Professionals

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Abstract
Aim: To examine the potential impact of empathy and emotional intelligence on quality of care in Intensive Care Units (ICUs) and on ICU healthcare workers' mental health.
Methods: A systematic review of the literature was carried out in Scopus, PubMed, and Web of Science, searching for related studies published between 2015- 2025. The PRISMA statement was followed for study inclusion. The quality appraisal of the studies was carried out using The Joanna Briggs Institute Critical Appraisal Checklist.
Results: Ten studies were included (2 on empathy and 8 on emotional intelligence). Empathy was positively associated with person-centered care and negatively correlated with distress among ICU nurses. As for emotional intelligence, it was associated with improved levels in clinical decision-making, better coping strategies, lower levels burnout, and enhanced patient care outcomes. The studies quality was generally medium.
Conclusions: Emotional intelligence and empathy have an important role for ICU healthcare workers' mental health and for the quality of care. Yet, since only two studies were found for empathy, this consists a field of interest for future studies. Even though more research is needed to strengthen the evidence, the current data indicate that empathy and emotional intelligence training of ICU healthcare professionals is warranted.

Key-words: empathy; emotional intelligence; intensive care unit; mental health; quality of care

Introduction

A vital question arising from the theoretical and research progress in Psychology is whether intelligence consists a one-dimensional or a multi-dimensional concept. Gardner (1983) through its multiple intelligence theory supported that intelligence is multi-dimensional, referring to seven distinct types of intelligence. Even though Gardner did not directly refer to emotional intelligence, thanks to his contribution it became obvious that specific sub-sets of intelligence have to be studied, leading to an interest regarding emotional intelligence (Millon, 2004). Emotional intelligence has been defined by Salovey & Mayer (1990, p. 189) "*as the subset of social intelligence that involves the ability to monitor one's own and*

others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions". Emotional intelligence is of most importance for the modern workplace, leading to high levels of collaboration and to increased organizational effectiveness (Khalili, 2012).

Empathy is another concept that has gained increased attention during the last decades. According to Salovey & Mayer (1990, p. 194), empathy can be defined as *'the ability to comprehend another's feelings and to re-experience them oneself''*. Empathy has a positive correlation with emotional intelligence (Hajibabaee et al., 2018). It has also been recognized as of most importance for modern workplace, helping in interpersonal communication and in building strong relationships (Klare et al., 2014).

Health professionals face several stressors in their workplace, due to the continuous experience of suffering and loss (Cole & Carlin, 2009). Their mental health needs must get increased attention, due to the negative impact on their quality of life and their work performance (Letvak et al., 2012; Ribeiro et al., 2021). The COVID-19 pandemic lead to increasing attention for those needs, with the public becoming more aware of the strains that health professionals experience in their workplace (Schwab and Malleret, 2020).

When examining different hospital units, it is obvious that working in Intensive Care Units (ICU) could be considered as an extremely stressful experience. The physical environment of ICUs is an important strain due to overcrowding, auditory alarms and noises and unfriendly lighting (Alameddine et al., 2009). In addition, working in ICUs promotes the experience of negative emotions, such as grief, sadness and anger (Costa & Moss, 2018). For that reason, working in ICUs could be regarded as a quite challenging experience.

Due to the conditions of working in ICUs, health professionals experience severe mental health consequences. According to a relevant meta-analysis, the pooled prevalence of depression or depressive symptoms for nurses working in ICUs is 24.99% (Huang et al., 2022). Due to the extremely stressful

environment, it is estimated that 42% of physicians and 45% of nurses experience burnout (Papazian et al., 2023), with burnout rates being higher compared to those not working in ICUs (Costa & Moss, 2018). In addition, the constant hyperarousal of ICU workers and the continuous experience of traumatic events contributes to the development of Post-traumatic Stress Disorder (PTSD) (Levi et al., 2021). Hence, the experience of working in ICUs might have important mental health consequences.

Based on the aforementioned data, emotional intelligence and empathy could have a protective effect for those working in ICUs. In that context, the research questions of this study were the following: 1) Which is the impact of ICU workers' empathy and emotional intelligence on their mental health? 2) Which is the impact of ICU workers' empathy and emotional intelligence on the quality of care?

Methods

Study design: This study was a systematic review of the literature, which is applied to depict and organize the current state of knowledge on a field (Rys et al., 2009).

Literature search: A literature search was used for papers published from 15.03.2015 to 15.03.2025, therefore including the last 10 years. The search was carried out in Scopus, Pubmed and Web of Science. The combination used for the search was ("emotional intelligence" OR empathy) AND ("intensive care" OR "intensive care unit" OR "critical care"). In addition, a snowball technique was employed in order to include any potential records not revealed through this combination. Hence, issues of related journals and reference lists of related papers in that field were rummaged through, trying to identify potentially relevant records. The flow of information from record identification tp study inclusion was carried out in line with the latest available version of the PRISMA Statement (Page et al., 2021).

Study selection: In order to be included in the systematic review, the studies had to meet the following criteria 1) Cross-sectional quantitative studies 2) Measuring emotional intelligence or/and empathy through self-reported questionnaires 3) Including a sample

of healthcare professionals working in ICUs 4) examining the association of emotional intelligence and/or empathy with mental health or/and quality of care. The studies were excluded if 1) they were not published in English 2) healthcare professionals were combined with other professionals working in ICUs (e.g. cleaners, technical staff e.t.c) 3) the record was not a peer-review journal publication.

Data extraction: For studies examining the association with mental health, the extracted data were the following: country, authors, study sample, assessments and association with mental health parameters. For studies examining the association with quality of care, the extracted data were the following: country, authors, study sample, assessments and association with quality of care. The data were organized in two different tables, one for empathy and one for emotional intelligence.

Quality assessment: Quality assessment of the included studies was carried out by the use of the Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Joanna Briggs Institute, 2017). This is a standardized tool designed to assess the methodological quality and risk of bias in cross-sectional research. More specifically, this checklist includes eight key items that evaluate the following aspects: 1) Clarity of inclusion criteria 2) Detailed description of subjects and setting 3) Validity and reliability of exposure measured 4) Objective and standard criteria for measurement of the condition 5) Identification of confounding factors 6) Strategies to deal with confounding factors 7) Outcomes measured valid and reliable 8) Appropriate statistical analysis Each item is assessed with options such as "yes," "no," "unclear," or "not applicable," providing a structured approach to appraising the internal validity of studies.

Results

The process from data identification till study inclusion is presented in Figure 1. As presented at the figure, at first there was a total of 1.613 papers (693 from Scopus, 617 from Pubmed and 303 from Web of Science. After removing the duplicates, 776 unique results were identified. Of those studies, 702 were obviously irrelevant by title and were excluded (e.g. at the title the study was mentioned as a systematic review). Of the remaining studies (N=74), 64 did not meet the inclusion criteria and were excluded. Hence, 10 studies were finally included in the systematic review.

The results regarding studies examining empathy among ICU health professionals are presented at Table 1. The first study by Abu Lebda et al. (2023) involved 140 ICU nurses in Jordan and found that empathy was positively associated with person centered care. The second study by Gosselin et al. (2018) included 26 ICU nurses in Canada. In this study, a negative correlation was found between distress and empathy.

The quality appraisal for those two studies is presented at the following table. The first study met four criteria, while the second study met three. The profile in the results of critical appraisal was similar for both studies.

The results regarding the associations of emotional intelligence with the studied parameters are presented at Table 3. Higher emotional intelligence correlated with improved clinical outcomes, such as enhanced decision-making (Ayed, 2025), while also serving as a buffer against burnout (Kasemy et al., 2023; Xie et al., 2020). In general, all those studies indicated that emotional intelligence is of most importance for patient care and health professionals' mental health.

Table 4 presents the quality appraisal of nine studies investigating emotional intelligence in ICU professionals, assessed using the Joanna Briggs Institute checklist. Most studies had a satisfactory score. There was not common trend in the criteria that were not met across the studies.

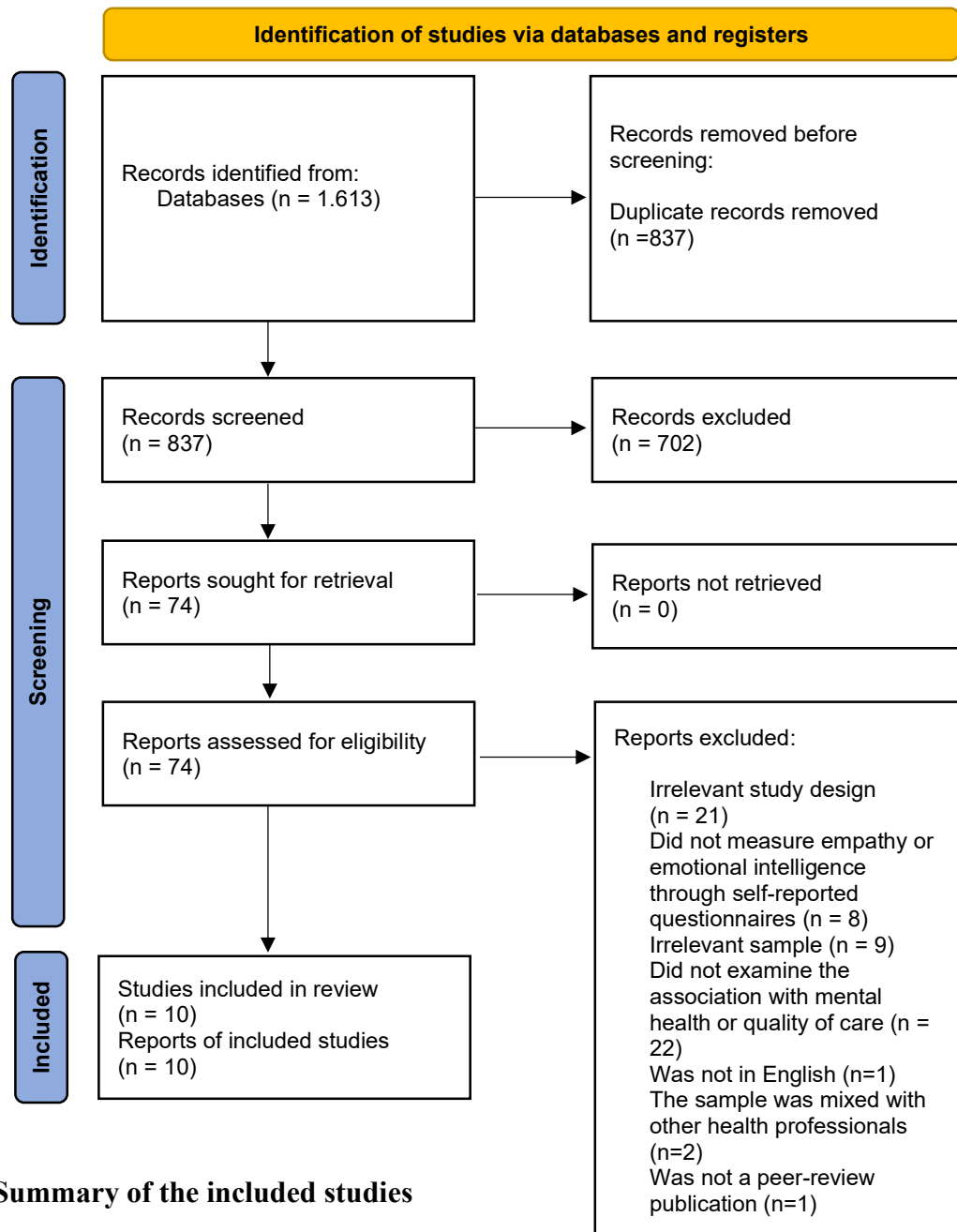## Figure 1. Selection process for the included studies

Identification of studies via databases and registers

| Identification | Records identified from: Databases (n = 1.613) | → | Records removed before screening: Duplicate records removed (n =837) |

Screening	Records screened (n = 837)	→	Records excluded (n = 702)
	Reports sought for retrieval (n = 74)	→	Reports not retrieved (n = 0)
	Reports assessed for eligibility (n = 74)	→	Reports excluded: Irrelevant study design (n = 21) Did not measure empathy or emotional intelligence through self-reported questionnaires (n = 8) Irrelevant sample (n = 9) Did not examine the association with mental health or quality of care (n = 22) Was not in English (n=1) The sample was mixed with other health professionals (n=2) Was not a peer-review publication (n=1)

| Included | Studies included in review (n = 10) Reports of included studies (n = 10) |

Summary of the included studies

Table 1. Studies for empathy

Authors	Country	Study sample	Assessments	Main results
Abu Lebda et al. (2023)	Jordan	140 ICU nurses from 6 hospitals	SCS-R, Kiersma-Chen Empathy Scale, PPOS, PSS, MDSSS	Empathy was lined with person-centered care
Gosselin et al.	Canada	26 ICU nurses from 3 ICUs	Karasek JCQ, EMMDP, EMMBEP, Jefferson Empathy Scale, Reynolds Scale, Jefferson-Patient version	Negative correlation between empathy and distress

Table 2. Quality appraisal for empathy studies

Authors	Clarity of inclusion criteria	Detailed description of subjects and setting	Validity and reliability of exposure measured	Objective and standard criteria for measurement of the condition	Identification of confounding factors	Strategies to deal with confounding factors	Outcomes measured valid and reliable	Appropriate statistical analysis	Total score
Abu Lebda et al., 2023	Yes	Yes	Unclear	Unclear	Yes	Unclear	Unclear	Yes	4
Gosselin et al., 2018	Yes	Yes	Unclear	Unclear	No	No	Unclear	Yes	3

Table 3. Studies for emotional intelligence

Authors	Country	Study sample	Assessments	Main results
Ayed (2025)	Palestine	178 NICU nurses from 12 hospitals	Schutte Self-Report Emotional Intelligence Test, Clinical decision	Strong positive correlation between emotional intelligence and clinical decision making

			making in nursing scale	
Barr (2024)	Australia	123 NICU nurses (28% response)	Nursing Stress Scale, Assessing Emotions Scale, Mental Health Inventory	Emotional intelligence predicted distress and well-being
Cichoń et al. (2023)	Poland	114 ICU nurses from 9 hospitals	Schutte Emotional Intelligence Scale, Brief-COPE	Higher emotional intelligence correlated with positive reframing, planning, active coping; negatively with self-blame and disengagement
Kasemy et al., 2023	Egypt	144 critical care physicians in 2 hospitals	Maslach Burnout Inventory, Trait Emotional Intelligence Questionnaire	There was a negative relationship between burnout and emotional intelligence
Taylan et al.	Turkey	156 ICU nurses from one university hospital	Caring Behaviors Inventory – 24 item version, Emotional Intelligence Scale	Higher emotional appraisal, predicted better caring behaviors
Xie et al., 2020	China	883 ICU nurses from 29 ICUs in 7 tertiary hospitals, Chengdu	Maslach Burnout Inventory, Mindful Attention Awareness Scale, Emotional Intelligence Scale	Emotional intelligence partially mediated the relationship between mindfulness and emotional exhaustion/depersonalization; fully mediated the link of mindfulness to personal accomplishment
Ye et al. (2022)	China	404 ICU nurses from 10 hospitals in Hunan	Moral Sensitivity Questionnaire – Revised, Wong and Law Emotional Intelligence Scale	Moral sensitivity was positively associated with emotional intelligence

| Youn et al., 2022 | South Korea | 188 ICU nurses from 4 tertiary hospitals | Wong & Law Emotional Intelligence Scale, Professional Quality of Life Scale, Person-Centred Critical Care Nursing Scale | Compassion satisfaction, emotional intelligence, and ICU experience predicted person-centred care (R²=31%). |

Table 4. Quality appraisal for emotional intelligence

Authors	Clarity of inclusion criteria	Detailed description of subjects and setting	Validity and reliability of exposure measured	Objective and standard criteria for measurement of the condition	Identification of confounding factors	Strategies to deal with confounding factors	Outcomes measured valid and reliable	Appropriate statistical analysis	Total score
Ayed, 2025	Yes	Yes	Unclear	Unclear	Yes	Unclear	Unclear	Yes	4
Barr (2024)	Unclear	No	Unclear	Unclear	Yes	Yes	Unclear	Yes	3
Cichoń et al. (2023)	Yes	Yes	Unclear	Unclear	No	No	Unclear	Yes	3
Kasemi et al., 2023	Yes	Yes	Unclear	Yes	Yes	Unclear	Yes	Yes	6
Taylan et al.,	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	6
Xie et al., 2020	Yes	Yes	Yes	Yes	No	Unclear	Yes	Yes	6

| Ye et al., 2022 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 8 |
| Youn et al., 2022 | Yes | Yes | Unclear | Yes | Unclear | Unclear | Yes | Yes | 5 |

Discussion

The aim of this systematic review as to investigate the potential impact of empathy and emotional intelligence on quality of care in ICUs and healthcare professionals' mental health. As for empathy, its significant role in the ICU setting is highlighted through both studies analyzed. Empathy was positively associated with person-centered care among ICU nurses in the study that was carried out by Abu Lebda et al. (2023) and negatively correlated with distress, as found by Gosselin et al. (2018). These results are in line with the general impact of emotional intelligence when dealing with highly stressful and demanding conditions (Klare et al., 2014).

As for emotional intelligence, through this systematic review it is marked as a significant factor in both mental health and quality of care for health professionals working in ICUs. Decision-making has a positive association with emotional intelligence (Ayed, 2025). In addition, high emotional intelligence is linked with better coping strategies (Cichoń et al., 2023), and reduced burnout (Fragkaki & Fasoi, 2024; Kasemy et al., 2023; Xie et al., 2020). The findings of these studies are in line with the theory developed by Salovey and Mayer (1990), according to which emotional intelligence encompasses the ability to monitor and use emotions to guide thinking and actions. It should also be mentioned that emotional intelligence also mediated the relationship between mindfulness and burnout (Xie et al., 2020). In general, the 8 studies of this systematic review focusing on the impact of emotional intelligence highlight its potential to improve quality of care and mental health.

Despite the above, the present systematic review faces some limitations, which have to be noted. First, the ability of cross-sectional studies to draw conclusions from cause-effect associations is limited (Robson, 2007), meaning that emotional intelligence could not only have an impact on other parameters, but could also be influenced by them. Second, the heterogeneity in assessment tools and study designs makes it somehow more difficult to compare the studies. Third, the quality for some studies was relatively low. Finally, only two studies focused on empathy.

Based on the aim, findings and limitations of this study, a few suggestions for future research could be carried out. First, it is important to carry out more studies regarding empathy. Second, focusing on high-quality studies is essential. Third, it is important to study empathy and emotional intelligence with regard to clinical outcomes, in order to investigate any potential impact.

On a practical level, the findings of the present study highlight the need to include empathy and emotional intelligence training in ICU unit training programs. It is therefore important to develop interventions in order to enhance these skills, since they could improve both mental health outcomes for professionals and the quality of patient care.

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