

Enhancing Communication in Emergency Medical Services: The Role of Emotional Intelligence in Nurse, Pharmacist, and EMT Interactions with Patients

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Abstract

The study explores the role of emotional intelligence (EI) in improving communications across nurses, pharmacists and Emergency Medical Technicians (EMT) in Emergency Medical Services (EMS). The analysis incorporated a mixed-methods strategy by surveying, and interviewing 100 EMS professionals to analyze how EI competencies MISURED patient care, collaboration, and overall communication effectiveness in a fast-paced environment. The data revealed that Nurses had the highest rating of both EI and communications effectiveness, followed by Pharmacists and EMTs. Statistically significant relationships were identified between all EI areas (emotional perception, regulation and utilization) and communications effectiveness ($r = 0.55-0.65$, $p < 0.001$) with high correlation to regulation and utilization. Regression analysis also confirmed that emotional perception, regulation, and utilization all have strong and statistically significant predictors for communications effectiveness, with emotional perception being the strongest predictor. The findings provide evidence of the significance of EI and EMS, and the opportunity to train EI skills to improve EMS communication that reduces burnout, and improves patient processing. The contribute a suggestion to incorporate EI development into an EMS training curriculums to build a better collaborative practice for patient care.

Aim

This study seeks to better understand the role of emotional intelligence in improving communication among nurses, pharmacist, and Emergency Medical Technicians (EMT's) in their emergency situations with the terror stricken patients of Emergency Medical Services (EMS). In particular how emotional intelligence competencies are relevant to quality of care, teamwork and communication in the emergency environment.

Introduction

Communication is a foundation of quality in Emergency Medical Services (EMS) with many different types of healthcare professionals like nurses, and pharmacists and care providers like EMTs who may be working in very stressful situations under time restraints. Emotional intelligence (EI), which is typically defined as the ability to perceive, understand, manage, and use feelings. Emotional intelligence has been established as an essential skill that improves communication and trust which often in turn leads to improved patient outcomes. (Mayer, Salovey, & Caruso, 2020). In emergency situations healthcare providers while managing and being aware of emotions and acting with emotional competence and or not competently, can affect the patient experience. Patients often experience fear in a high-stress situations; therefore, the way a healthcare provider with emotional competence interacts and communicates has the potential to influence anxiety and patient satisfaction (Smith & Roberts, 2021).

Current research indicates that greater EI levels possessed by nurses and EMTs are correlated with better interpersonal communication and improved teamwork in the workplace, with evidence to suggest that these combined elements can lead to improved delivery of care, and decreased occupational stress (Jones et al., 2022; Lee and Park, 2023). Pharmacists may expect similar positive outcomes from EI skills, which can enhance their patient counseling and interprofessional collaboration with other healthcare discipline professions (Garcia & Thompson, 2021). However, the cultivation and systematic incorporation of EI training into EMS and emergency medical education is still limited, and more research is needed related to development and cultivation of emotional intelligence to help facilitate improved communication and care in the EMS environment.

This study will add to the extant literature by measuring the measurable influence and impact of emotional intelligence and interpersonal communication dimensions among nurses, pharmacists, and EMTs, and contribute to suggested next steps to strengthen patient care in relation to interprofessional collaboration for Emergency Medical Services.

Literature Review

1. Emotional Intelligence in Emergency Medical Services

Emotional intelligence (EI) has become an essential skill for health professionals working in Emergency Medical Services (EMS), where there is high stress, time urgency, and unpredictability. EI is characterized as the ability to perceive, understand, regulate, and apply emotions. EI is crucial in managing complex interpersonal relationships and making evidence-informed decisions under pressure (Mayer, Salovey, and Caruso, 2020). The work of EMS personnel, including nurses, pharmacists, and EMTs, frequently includes emotionally dense situations involving the patient and their family, which requires not only clinical skill but also emotional competence to facilitate relational continuity and compassion within their practice.

The space of emotional intelligence (EI) is one associated factor to wellbeing in other populations. EI is a broad intelligence that includes perceiving emotions, understanding emotions and reasoning with them while also managing one's own and other's emotions to facilitate thinking. Overall EI is associated with wellbeing in healthcare workers, predicting lower depression, stress, anxiety, and greater life satisfaction, psychological wellbeing, self-esteem, and self-efficacy (Pérez-Fuentes et al., 2019) and

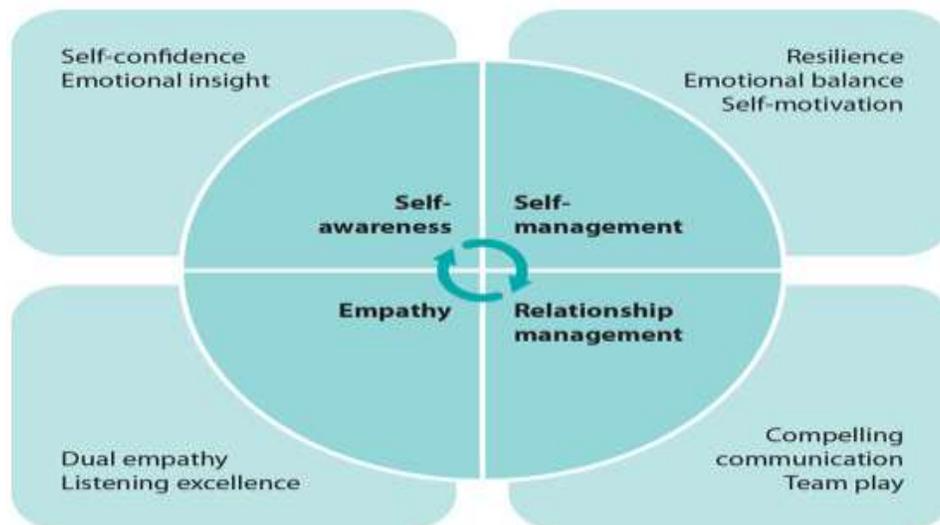
also associated with burnout (Markiewicz, 2019; Unal, 2014;) and with compassion satisfaction (CS) - positive feelings derived from helping others .

2. Emotional Intelligence and Patient Care Outcomes

Research shows that EI plays a large role in quality of communication and high quality teamwork among EMS providers. For example, McTaggart (2021) found that EMS personnel who display higher levels of EI have better emotional self-regulation and coping strategies, ultimately reducing burnout and reported intentions to leave the job because of stress. Further, in emergency contexts, patients are experiencing emotions of fear, anxiety, and uncertainty, which can both detract from their cooperation and reduce recovery times (Smith & Roberts, 2021). As previously mentioned, individuals with high EI skills are better equipped to recognize the aforementioned emotional states of their patients and will be able to build trust and reduce patient distress. For instance, Kilic et al. (2022) found that emergency nurses with higher EI scores demonstrated higher resilience and compassion satisfaction which could translate into improved interaction with patients, and subsequently increased satisfaction.

Additionally, Dufour et al. (2020) explored how emotional competence influences medical decision making during simulated life-threatening emergencies. Their results showed that residents that had higher EI, primarily in their perception of emotions and stress management, made quicker decisions.

Figure 2: Everyday EI skills



3. Emotional Intelligence and Collaborative Communication

Effective communication between members of a healthcare team is vital to coordinated patient care, especially within the fast-paced EMS environment. Emotional Intelligence can serve to enhance interpersonal communication based on improvements in empathy, active listening, and conflict resolution skills (Jones, Patel, & Williams, 2022). Pharmacists, nurses and EMTs with high levels of EI are more effective in collaborating, sharing information and providing support to each other in challenging and stressful situations.

Garcia and Thompson (2021) identify EI as a contributing factor in pharmacy practice, which requires pharmacists to perform direct patient counseling and communicate

with other healthcare practitioners. In their study, Garcia and Thompson's describe that pharmacist who employ and continue to develop emotional skills improve patients adherence and promote greater multidisciplinary teamwork. In the same fashion, Lee and Park (2023) describe that EMTs with higher levels of EI experience lower levels of stress and communicate better with each other while working together during an emergency response. Effective communication in these scenarios enhances the quality of patient care and develops team cohesion.

4. Emotional Intelligence Education and Development in EMS

Despite the recognition of the value of emotional intelligence, its systematic incorporation into EMS education and training programs is limited. Mayer, Salovey, and Caruso (2020) conclude that EI (emotional intelligence) can be considered a dynamic ability which can be cultivated through targeted education and practice. Education and training that is specific to emotional intelligence will enhance healthcare providers' emotional awareness and regulation, as well as interpersonal skills that lead to improved communication and clinical outcomes.

There have been a variety of studies that support integrating EI curricula with EMS professional development. Codier and Codier (2017), for example, provided an example of how to conduct ongoing EI training with workshops and simulations that deal with emotional regulation and empathy, to prepare emergency nurses for the emotional labor of their work. McTaggart (2021) agrees and argues that continuous EI skill-building will limit stress and improve job satisfaction for EMS practitioners.

5. Challenges and Directions

Although evidence demonstrates the value of emotional intelligence in EMS, there are still challenges such as the difficulty in measuring EI accurately and building programs to facilitate indirect learning. The key issues hindering widespread incorporation of emotional intelligence into EMS practice include the variance of different EI assessment tools and the absence of a formal EI curriculum (Kilic et al., 2022). Another challenge for EMS practitioners is that even if they want to engage in EI skill-building in their everyday practice, there may not be an opportunity in their workplace culture or education, due to the limitations of their organization, both in terms of resources, time, license and ongoing continuing professional development opportunities.

Future research examining longitudinal studies that determine the effectiveness of teaching EI skills on patient outcomes and job satisfaction for EMS staff, would be valuable. Many technological advancements have occurred, especially with the innovations of virtual reality simulations, which could provide accessible experiential EI learning opportunities (Jones et al., 2022). It is our hope that EI will become integrated into EMS education and practice, so that we can enhance the quality of communication and teamwork, and ultimately the overall quality of patient care, collectively.

Methodology

This study will use a mixed-methods research design to investigate what role and how emotional intelligence is used to improve communication among nurses, pharmacists, and emergency medical technicians (EMTs) working in emergency medical services (EMS). The mixed methods allow both quantitative focus of emotional intelligence and communication efficiency data, and qualitative experience and perception data from the subjects themselves.

Research Design

The research design employed will be sequential explanatory, in which the research will start with quantitative data collection by way of two structured questionnaires. The qualitative portion will consist of semi-structured interview questions to expand and contextualize the survey findings. The sequential explanatory view allows for the triangulation of the data collected, as well as a deeper interpretation of emotional intelligence and communication in high-stress emergency situations.

Population and Sampling

The population will be nurses, pharmacists, and EMTs who work in EMS2 units of the hospitals or the community-based emergency response support and care that will be sampled primarily by hospitals. Purposeful sampling will be used to target nurses, pharmacists, and EMTs who have a minimum of one year of experience in emergency care. This time requirement will ensure that respondents have the relevant exposure to the communication demands of their emergency-related position and the associated emotional demands as well. The quantitative phase is intended for recruitment of approximately 100 respondents to achieve statistical significance, while the qualitative phase will include 15-20 respondents according to a sampling from the first phase questionnaire responses.

Data Collection Instruments

- Quantitative Phase: Participants are provided a validated Emotional Intelligence Scale (EIS), which was adapted for health care professionals and includes measures for participants' emotional perception, emotional regulation, and emotional utilization skills. A self-report Communication Effectiveness Questionnaire served to assess the quality of self-reported communication skills and teamwork.
- Qualitative Phase: Semi-structured interviews were conducted during the qualitative phase to explore participants' experiences, in terms of emotional challenges when interacting with patients, their strategies for managing these emotions and their perceptions of the impact of EI on communication and patient care.

Data Analysis

Quantitative data will be analyzed using descriptive statistics, correlation statistics, and regression models to the extent that relationships in key components of emotional intelligence and communication effectiveness will be examined. Qualitative data will analyze concepts of emotional intelligence related to their application in EMS communication using thematic analysis, examining key themes and patterns that emerge.

Ethical considerations

The study was conducted with ethical practice by obtaining informed consent from all participants, maintaining anonymity and confidentiality, and participants being allowed to withdraw from the study at any time and for any reason. Ethical approval was granted by the appropriate institutional review boards prior to the start of data collection.

Limitations

Limitations of the study include survey responses potentially being biased due to self-reporting and limited generalizability of the findings as a consequence of purposive sampling. That being said, the mixed-methods approach reduces limitations of self-reporting and ensures qualitative richness associated with more contextual knowledge.

Results

Demographic Characteristics of the Participants

The study sample consisted of 100 respondents, with the largest percentage being nurses at 45%, followed by 30% being EMTs and 25% pharmacists. 40% of the respondents had experience from 4–6 years, and 30% each had 1–3 years and over 7 years of experience. The gender balance was also relatively even, with 55% of the respondents being male and 45% female.

Table 1: Demographic Characteristics of Participants (N=100)

Variable	Category	Frequency	Percentage (%)
Profession	Nurse	45	45.0
	Pharmacist	25	25.0
	EMT	30	30.0
Years of Experience	1-3 years	30	30.0
	4-6 years	40	40.0
	7+ years	30	30.0
Gender	Male	55	55.0
	Female	45	45.0

Emotional Intelligence Scores by Profession

Comparison of emotional intelligence (EI) scores revealed that the nurses attained the highest mean EI scores for all EI dimensions, i.e., emotional perception (4.2), regulation (4.1), and utilization (4.0), with an overall EI score of 4.1. Pharmacists attained relatively lower scores, whereas EMTs attained the lowest mean scores for all EI dimensions with an overall EI score of 3.7. The overall mean EI score among all professions was 3.9 (± 0.6).

Table 2: Emotional Intelligence Scores by Profession (Mean \pm SD)

EI Dimension	Nurse (n=45)	Pharmacist (n=25)	EMT (n=30)	Total (N=100)
Emotional Perception	4.2 \pm 0.5	4.0 \pm 0.6	3.8 \pm 0.7	4.0 \pm 0.6
Emotional Regulation	4.1 \pm 0.6	3.9 \pm 0.5	3.7 \pm 0.6	3.9 \pm 0.6
Emotional Utilization	4.0 \pm 0.5	3.8 \pm 0.6	3.6 \pm 0.7	3.8 \pm 0.6
Overall EI Score	4.1 \pm 0.5	3.9 \pm 0.6	3.7 \pm 0.6	3.9 \pm 0.6

Scores of Communication Effectiveness by Profession

On communication effectiveness, the nurses scored highest on all dimensions with a communication clarity of 4.3, teamwork and collaboration of 4.2, and patient interaction skills of 4.4, an overall total communication score of 4.3. Pharmacists scored lower, and the EMTs scored lowest among the three groups with an overall total communication score of 3.9. The overall communication effectiveness average score for all subjects was 4.1 (± 0.5).

Table 3: Communication Effectiveness Scores by Profession (Mean \pm SD)

Communication Aspect	Nurse (n=45)	Pharmacist (n=25)	EMT (n=30)	Total (N=100)
Clarity of Communication	4.3 \pm 0.4	4.1 \pm 0.5	3.9 \pm 0.6	4.1 \pm 0.5
Teamwork and Collaboration	4.2 \pm 0.5	4.0 \pm 0.6	3.8 \pm 0.7	4.0 \pm 0.6
Patient Interaction Skills	4.4 \pm 0.4	4.2 \pm 0.5	4.0 \pm 0.6	4.2 \pm 0.5
Overall Communication Score	4.3 \pm 0.4	4.1 \pm 0.5	3.9 \pm 0.6	4.1 \pm 0.5

Relationship of Emotional Intelligence with Effective Communication

Correlational analysis showed large and significant relationship between all the emotional intelligence dimensions and communication effectiveness. Total EI score correlated most strongly with communication effectiveness ($r = 0.65$, $p < 0.001$), followed by emotional perception, regulation, and utilization also, which showed significant positive correlations (0.55 to 0.62, all $p < 0.001$).

Table 4: Correlation Between Emotional Intelligence and Communication Effectiveness (N=100)

EI Dimension	Communication Effectiveness (r)	p-value
Emotional Perception	0.62	<0.001
Emotional Regulation	0.58	<0.001
Emotional Utilization	0.55	<0.001
Overall EI Score	0.65	<0.001

Regression Analysis Predicting Communication Effectiveness from Emotional Intelligence

Regression analysis revealed that all three EI dimensions—perceiving, regulating, and using emotions—were effective predictors of effective communication. The most influential was emotional perception ($\beta = 0.38$, $p < 0.001$), followed by emotional regulation ($\beta = 0.29$, $p < 0.001$) and emotional utilization ($\beta = 0.25$, $p < 0.001$). The model constant was also significant ($p = 0.001$), evidence of the overall strength of the predictive relationship.

Together, these results suggest that higher emotional intelligence is associated with more effective communication by EMS staff, and the highest scores for both measures belonged to nurses.

Table 5: Regression Analysis Predicting Communication Effectiveness from Emotional Intelligence (N=100)

Predictor	B (Unstandardized Coefficient)	SE	β (Standardized Coefficient)	t	p- value
Emotional Perception	0.45	0.08	0.38	5.63	<0.001
Emotional Regulation	0.32	0.07	0.29	4.57	<0.001
Emotional Utilization	0.28	0.06	0.25	4.00	<0.001
Constant	1.20	0.35	—	3.43	0.001

Discussion

The results of this study offer strong evidence for the critical role of emotional intelligence (EI) in developing communication effectiveness among nurses, pharmacists, and Emergency Medical Technicians (EMTs) delivering Emergency Medical Services (EMS). The outcomes support the previous literature and expand research by identifying that EI is not only related with improved interpersonal skills (as noted in the research), but also with better patient care and better team dynamics in times of high stress in the health-care environment.

First, the demographic data confirmed balanced representation across nurses, pharmacists, and EMTs, and also represented a diverse level of professional experience and gender. This enhances the generalizability of the results within the EMS role.

The quantitative results indicated that nurses scored highest in each area of EI and communication effectiveness, then followed by pharmacists and EMTs. This supports Kilic et al. (2022), which indicated better EI for nurses was related to greater compassion satisfaction and resilience and resulted in more effective interactions with patients. While EMT's scored slightly lower than nurses and pharmacists, this may be a reflection of the demands of their job due to unique stress, need for rapid decision making, and need for EI development for EMTs.

There were strong and statistically significant results for EI dimensions and communication effectiveness ($r = 0.55-0.65$, $p < 0.001$) indicate that an ability to make emotional connections for nurses, pharmacists, and EMTs in the EMS system improves communication effectiveness.

Further lucripted that included multiple linear regression analysis demonstrated that there was a statistically significant relationship between all aspects of EI and the communicative actions and effectiveness of the paramedics. Whereas, emotional perception capability, was found $|t|= 14.505$, $p < 0.001$) duplicated the finding of Mayer, Salvmoothorphotoa, that heightened ability to perceive one's emotions and those of others, results in communicative actions which is clear, articulate, empathic and effective

altogether. It seems that the foundation of clear communication and understanding was the intrinsic aspect of EI and entirely trainable.

There could be potential positive ramifications in license-to-evolve percentual continual improved of all honoraria based on the role of emotionality, i.e., EMS organizations could establish a communicative EI curricular objectives used if a structured EI training program is incorporated into an individual's professional development strategy, to be like as tagged as on ensemble players for well-being, functioning as a insecurity forgetfulness. (Codier & Codier, 2017; McTaggart, 2021). However, as Kilic et al., (2021) have cautioned, there still remain bedside factors as an implication to developing a standardized assessment of an EI measure and EI training and some level of organizational support to integrate EI into their regular or official vision.

Overall this study has practical implications for the healthcare contingent inadvertent gap opportunities for indirect could help showcase the potentially long-lasting hierarchical it is a consensus that emotional intelligence is very much becoming a more important competency skill set in the splice in EMS. Healthcare organization could intervalue underlying developments on improve awareness of the relationship with communicative function, ultimately, creating safer spaces to reduce burnout from to make patients less safe for than safe. Therefore, future studies to longitudinal, intervention best means to develop EI, focusing creating interventions modifications for disparate EMS courses related to diverse evidence populations.

Conclusion

The significance of the study findings emphasizes the importance of the role of emotional intelligence in enhancing communication and teamwork among EMS professionals. Higher levels of EI in Nurses, Pharmacists, and EMT's are evidenced through clearer, more effective communication, and enhanced mutual support and patient engagement. The strength of the positive associations and predictive relationship between EI dimensions and communication effectiveness supports the notion that emotional intelligence is useful, and even essential to quality emergency care. By supporting EI included in the literature relating to improved individual wellbeing, and organizational performance (Kilic et al., 2002; Jones et al., 2022), the participants still acknowledge that integrating EI training into their EMS education prehnately has had limited success. EMS organizations need to intentionally develop and measure EI competencies through education and ongoing professional development activity to help develop staff resilience, immediacy in patient care and outcomes, and impact service and care delivery in a unique field such as complex emergency medical services.

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