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ORCID <https://orcid.org/0000-0003-0021-0879>*Ivan Horbachevsky Ternopil National Medical University of the Ministry of Health of Ukraine***DEVELOPMENT OF EMOTIONAL INTELLIGENCE AND EMPATHY
AMONG STUDENTS OF HIGHER MEDICAL EDUCATION**

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*Тернопільський національний медичний університет імені І. Я. Горбачевського МОЗ України***ФОРМУВАННЯ ЕМОЦІЙНОГО ІНТЕЛЕКТУ ТА ЕМПАТІЇ
У ЗДОБУВАЧІВ ВИЩОЇ МЕДИЧНОЇ ОСВІТИ**

Abstract. The study of emotional intelligence and empathy is fundamentally important for students of medical universities, as these competencies directly influence the quality of healthcare delivery, professional success, the effectiveness of teamwork, and the mental well-being of the physician. The ability to recognize and understand another person's emotional state enables future doctors to gain deeper insight into a patient's experiences, fears, and needs, particularly in cases of complex or chronic illness. This contributes to the development of a therapeutic alliance and the establishment of trust.

Key words: medical communication; emotions; emotional intelligence; empathy; student of higher medical education.

Анотація. Вивчення емоційного інтелекту та емпатії є фундаментально важливим для студентів медичних закладів вищої освіти, оскільки ці навички безпосередньо впливають на якість надання медичної допомоги, професійну успішність, ефективність командної роботи та психічне здоров'я самого лікаря. Здатність розуміти та відчувати емоційний стан іншої людини дозволяє майбутнім лікарям глибше зрозуміти переживання пацієнта, його страхи та потреби, особливо при складних або хронічних захворюваннях. Це сприяє формуванню терапевтичного альянсу та довіри.

Ключові слова: медична комунікація; емоції; емоційний інтелект; емпатія; здобувач вищої медичної освіти.

Introduction. High levels of emotional intelligence and empathy ensure effective communication. A physician with well-developed emotional intelligence is better able to interpret patients' non-verbal cues, explain diagnoses and treatment plans clearly and compassionately, and encourage adherence to medical recommendations. Patients who feel heard and understood tend to be more satisfied with healthcare services, which often correlates with improved clinical outcomes (Arora et al., 2010).

The medical field is exceptionally demanding and stressful; emotional intelligence assists students and future physicians in managing their own emotions (self-control and emotion regulation), maintaining composure under pressure, coping effectively with stress, and preventing professional burnout.

The aim of the article is to analyze the pathways and approaches to developing emotional intelligence and empathy among students of higher medical education.

Theoretical framework. In the contemporary medical environment, interdisciplinary collaboration is essential, and emotional intelligence promotes the development of social competencies such as conflict

management, teamwork, and effective leadership, all of which are critically important for ensuring patient safety and enhancing collective productivity (Sutkin et al., 2008).

The ability to integrate analytical thinking with emotional understanding facilitates more balanced and humane clinical decision-making, particularly in emotionally challenging situations. Incorporating the development of medical communication, emotional intelligence, and empathy into educational programmes in medical institutions is a necessary condition for training healthcare professionals who are not only clinically competent but also compassionate and resilient.

Unlike general intelligence (IQ), which focuses on cognitive abilities (such as logic and memory), emotional intelligence concerns the capacity to integrate emotions with thought in order to achieve goals, make decisions, and engage effectively in social interactions.

The concept of emotional intelligence was pioneered by several scholars. Of particular relevance is the work *Emotional Intelligence: Why It Can Matter More Than IQ* by D. Goleman, which popularized

the concept and emphasized its critical role in professional and personal success, including in a list of helping professions (Goleman, 2005). Salovey et al. (1999), in their publication *Emotional Intelligence*, introduced a model of emotional intelligence as the ability to perceive, evaluate, understand, and manage emotions (Salovey et al., 1999). A comprehensive review focusing specifically on the importance of empathy in medicine, including methods for measuring it (for example, the Jefferson Scale of Physician Empathy – JSPE), was presented by M. Hojat in his study *Empathy in Health Professions Education and Patient Care* (Hojat, 2016).

Two principal theoretical models of emotional intelligence are commonly recognized in contemporary research. John Mayer and Peter Salovey first introduced the term emotional intelligence in 1990, defining it as “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” (Mayer, 1999). Their ability model conceptualizes emotional intelligence as a set of competencies comprising four interrelated groups of skills arranged hierarchically, from basic psychological processes to more integrated functions. The first branch concerns the perception and expression of emotions, that is, the ability to accurately recognize emotions in oneself (through physical states, thoughts, and feelings) and in others (through facial expressions, voice, and body language) (Quince et al., 2016). The second branch involves the capacity to use emotions to facilitate cognitive processes (such as thinking and problem-solving). Emotions can prioritize cognition and stimulate creativity. The third branch refers to understanding the language of emotions, including knowledge of their causes and consequences, the ability to distinguish complex or mixed emotions, and to understand emotional transitions. The fourth branch consists of the ability to regulate one’s own emotions and those of others to achieve desired outcomes – remaining open to emotions when they are beneficial and managing them when they interfere with effective functioning.

Thus, Mayer and Salovey conceptualize emotional intelligence as a genuine cognitive ability rather than merely a collection of personality traits, in contrast to “mixed” models. The branches are arranged from more basic (perception) to more complex and integrative (regulation). Emotional intelligence within this framework is assessed using the MSCEIT (Mayer–Salovey–Caruso Emotional Intelligence Test), which requires individuals to solve emotion-related tasks rather than rely on self-report (Salovey et al., 1999).

Mixed and trait models, popularized particularly by Daniel Goleman and Reuven Bar-On, adopt a broader perspective on emotional intelligence (Goleman, 2005). They encompass not only cognitive abil-

ities but also a range of non-cognitive personality traits, motivations, social skills, and competencies.

According to D. Goleman’s model, emotional intelligence comprises five key domains that are essential for effective work and leadership: self-awareness (understanding one’s own emotions); self-regulation (managing one’s emotional responses); intrinsic motivation (emotions as a driving force); empathy (awareness of others’ emotions); and social skills (effective interpersonal interaction) (Goleman, 2005).

Empirical research confirms that high emotional intelligence is positively correlated with enhanced academic and professional performance, more effective communication and interpersonal relationships, greater resilience to stress and improved mental health, as well as stronger leadership qualities and the ability to work collaboratively within teams.

Emotional intelligence is a scientifically grounded construct in psychology that denotes a set of mental abilities associated with recognizing, understanding, using, and managing emotions – both one’s own and those of others.

The study and development of emotional intelligence constitute a fundamental requirement for modern healthcare professionals, as emotional intelligence directly affects the quality of clinical care, patient safety, and the sustainability of a medical career.

Emotional intelligence enables physicians to develop a deep understanding of a patient’s emotional state, fears, and concerns, particularly in critical circumstances. This facilitates the rapid establishment of trust, which is essential for open communication, accurate history-taking, and reducing patient anxiety.

Physicians with high emotional intelligence are capable of explaining complex diagnoses and treatment plans clearly, sensitively, and accessibly, while taking into account the patient’s level of understanding and emotional response (Shapiro, 2008). This significantly improves treatment adherence.

Work in the medical field is consistently associated with high levels of stress, critical decision-making, and frequent exposure to human suffering. Emotional intelligence provides physicians with tools for recognizing and controlling their own emotions (such as anger, fatigue, or frustration) under pressure. The ability to self-regulation helps identify early signs of professional burnout and apply effective coping strategies, thereby ensuring long-term professional well-being and sustaining the quality of clinical practice.

Second-year medical students develop communication and emotional intelligence skills within the elective course “*Fundamentals of Medical Communication*” at I. Horbachevsky Ternopil National Medical University.

To enhance students’ understanding of their own emotions and those of patients, we implement an

exercise entitled “*Ranking Emotional Intensity*”. The tasks require students to arrange emotions within each group in ascending order of intensity (from the weakest to the strongest).

Task 1: The Spectrum of Joy and Satisfaction. Arrange the emotions (from the weakest to the strongest):

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|----------|--------------|
| Euphoria | Calmness |
| Joy | Satisfaction |

Task 2: The Spectrum of Anger and Indignation. Arrange the emotions (from the weakest to the strongest):

| | |
|------------|-----------------|
| Rage | Dissatisfaction |
| Irritation | Anger |

Task 3: The Spectrum of Fear and Anxiety. Arrange the emotions (from the weakest to the strongest):

| | |
|---------|--------|
| Panic | Terror |
| Anxiety | Unease |

Task 4: The Spectrum of Sadness and Grief. Arrange the emotions (from the weakest to the strongest):

| | |
|----------------|------------|
| Disappointment | Despair |
| Sadness | Melancholy |

Answer Key

Task 1: Spectrum of Joy and Satisfaction.

- *Calmness* (neutral–mild positive).
- *Satisfaction* (moderately positive).
- *Joy* (strong positive).
- *Euphoria* (extremely strong positive).

Task 2: Spectrum of Anger and Indignation.

- *Dissatisfaction* (very mild, initial).
- *Irritation* (mild).
- *Anger* (strong).
- *Rage* (maximal, destructive).

Task 3: Spectrum of Fear and Anxiety.

- *Anxiety* (moderate, anticipation of threat).
- *Unease* (mild, diffuse, non-localized).
- *Panic* (strong, sudden, loss of control).
- *Terror* (extremely strong, paralyzing).

Task 4: Spectrum of Sadness and Grief.

- *Disappointment* (mild, related to a specific event).
- *Melancholy* (moderate, prolonged, reflective).
- *Sadness* (strong, acute, loss-related).
- *Despair* (maximal, sense of hopelessness).

The proposed exercise enables students to differentiate subtle nuances of emotional experience and enhances the precision of their emotional self-awareness.

To further support the identification of emotional intensity in challenging situations, we offer students an additional activity entitled “*The Emotional Thermometer*” (measuring the strength of feelings). This exercise helps learners to recognize, label, and evaluate the intensity of their emotions at a specific moment in time.

Guidelines: Recall or select a situation that occurred today (or recently) and elicited a noticeable emotional reaction (e.g.: a conversation with relatives or colleagues, awaiting test results, or experiencing a delay while travelling). Identify the primary emotion: *Which feeling was dominant at that moment?* (e.g., anger, anxiety, joy, disappointment, surprise). Evaluate the intensity of the emotion using a numerical scale from 1 to 10, where:

- 1–3: a mild, barely perceptible feeling;
- 4–7: a moderate, manageable emotion;
- 8–10: a strong, intense emotion that may influence thinking and behaviour.

To conclude the exercise, students are invited to engage in reflective questioning, such as: “*When I rated my emotion (e.g., ‘Anxiety’ at 8 points), which physical sensations were most pronounced?*” and “*What can I do when my emotion reaches 8–10 points in order to regulate it? (e.g., pause, take a deep breath, change the environment).*”

This practice fosters emotional differentiation, making one’s inner experience more comprehensible and manageable.

The “*Emotional Vocabulary*” exercise (identifying one’s own emotions) helps students move from general emotional descriptors (e.g., fear, sadness, happiness) to more detailed and nuanced emotional states (e.g., frustrated, disappointed, lonely, joyful). **Guidelines:** select one of the basic emotions (anger, sadness, joy, fear) and identify 3–5 more precise terms that describe this emotion with varying intensity or nuance. Identify the cause: *How does one emotional state differ from another when more accurately labelled?*



Emotional intelligence transforms a technically competent healthcare practitioner into a true professional who is capable not only of treating disease but also of supporting the patient as a whole person. It is an essential prerequisite for achieving optimal clinical outcomes and for the humanization of medical care.

Emotional intelligence and empathy constitute core competencies of the physician, the impact of which on the quality of healthcare delivery, patient safety, and the professional well-being of medical staff has been confirmed by numerous empirical studies and systematic reviews.

Research conducted in the field of medical education and clinical practice, including systematic reviews published in PubMed and educational programmes developed at Harvard University, demonstrates that a high level of emotional intelligence in physicians is directly correlated with a range of positive clinical and professional outcomes. Evidence shows that physicians with higher levels of emotional intelligence and empathy establish stronger therapeutic alliances. This, in turn, leads to significantly greater patient satisfaction and trust in the physician – factors that are critical within healthcare settings (Azimi, 2010).

Empathic communication (e.g., using the NURSE protocol) helps patients feel heard. This, in turn, enhances their willingness to adhere to treatment plans and facilitates better retention of the information provided. High emotional intelligence is associated with improved decision-making by physicians, particularly under conditions of operational stress or high pressure. The ability to self-regulation allows healthcare professionals to maintain clarity of thought. Research has shown that higher emotional intelligence serves as a protective factor for physicians, residents, and medical students, significantly reducing levels of professional burnout, anxiety, and depression. Self-awareness enables timely recognition of psychological overload (Talarico, 2000).

The NURSE protocol is a structured communication tool designed to assist healthcare professionals in responding to the emotions of patients (or their families), particularly in stressful, complex, or conflict-laden situations. Its purpose is to provide empathic support and to legitimize the patient's feelings before transitioning to clinical facts and the treatment plan.

The acronym “NURSE” comprises five sequential steps that healthcare professionals should follow to provide effective emotional support:

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|------------------|-------------------------------|
| 1. Naming | Identify the emotion |
| 2. Understanding | Validate the emotion |
| 3. Respecting | Respect or praise the patient |
| 4. Supporting | Offer support |
| 5. Exploring | Explore further |

Step 1: Naming. Identify the emotion you observe or hear. This confirms that you have acknowledged the patient's feelings. *E.g.:* “I can see that you are very upset.”

Step 2: Understanding. Validate the emotion by affirming that such feelings are normal and understandable in the given situation. *E.g.:* “It is completely understandable that you feel anxious before this operation.”

Step 3: Respecting. Respect and praise the patient for their efforts, courage, or coping strategies. This helps to establish a positive connection. *E.g.:* “You are handling all these procedures with remarkable courage.”

Step 4: Supporting. Offer support and demonstrate that the patient is not facing the situation alone. *E.g.:* “We are with you at every stage of your treatment.”

Step 5: Exploring. Encourage the patient to share more about their feelings or concerns using open-ended questions. *E.g.:* “Could you tell me what worries you the most at this moment?”

The implementation of the NURSE protocol in routine clinical practice is critically important for healthcare professionals for several reasons. It fosters a positive climate and builds trust: when a physician or nurse initiates a conversation with empathy rather than solely with medical facts, the patient feels recognized as an individual rather than merely as a diagnosis (Weng et al., 2011). The validation of emotions (“U” – *understand/validate*) immediately lowers defensive barriers and strengthens the therapeutic alliance, which is essential for open communication and collaboration.

The use of NURSE also helps to prevent potential conflicts. Patients or relatives whose emotions have been acknowledged are far less likely to respond with aggression or blame. The protocol provides a clear framework for initiating difficult conversations (e.g., communicating a diagnosis of an incurable illness), allowing the healthcare professional to remain both professional and compassionate. The final step of the protocol (*exploring*) often reveals additional, previously unexpressed patient concerns that may hold clinical significance. Patients who feel supported are more motivated to adhere to complex or unpleasant treatment regimens.

Employing a structured empathic protocol such as NURSE enables healthcare professionals to consciously separate their personal emotional reactions from their professional responses. This prevents emotional overload and reduces the risk of burnout. Effective management of challenging emotional interactions enhances feelings of professional competence and job satisfaction.

The exercises employed during practical sessions are designed to develop students' understanding of, and empathy for, the patient's experience, as well as their ability to demonstrate empathic communication.

In the “*Patient’s Chair*” exercise, students assume multiple roles: *the physician*, who conducts a standard medical history interview; *the patient*, portrayed by a student, with a specific but non-dramatic condition (e.g., chronic back pain); and *the observer*, who records non-verbal cues.

Upon completion, each participant reflects on their emotions and impressions of the role they enacted, noting what was successful and what could be improved. For instance, the patient may share how they felt when the physician made eye contact, spoke too quickly, or used medical terminology. This exercise illustrates how the actions of the healthcare professional influence the patient’s emotional experience.

The “*Story Beyond the Diagnosis*” exercise teaches students to develop a deeper understanding of the patient’s life context. Students are required to write a short essay or narrative based on a real or simulated clinical case. The focus is not on the diagnosis

itself (e.g., “hypertension”) but on the person living with the condition. For example, students describe how the illness has affected the patient’s work, family, or hobbies, and explore the patient’s fears, hopes, and expectations regarding treatment.

The practical exercise “*Simulating Difficult Conversations*” illustrates the importance of applying empathy and self-regulation in situations of high emotional intensity. Scenarios include delivering news of an unexpected complication to a patient’s family; managing an aggressive or dissatisfied patient; and resolving a conflict with a colleague regarding treatment strategies.

Conclusions. A high level of emotional intelligence (EI) directly influences the quality of care, diagnostic accuracy, and the prevention of professional burnout in medical students. Therefore, implementing practical exercises that encompass all components of EI, including self-awareness, self-regulation, empathy, and social skills, is essential.

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