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# COGNITIVE SCHEMAS AND THEIR ROLE IN THE MANIFESTATION OF ACUTE STRESS

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This paper aims to study the role of cognitive schemas in the psychological manifestations of acute stress in patients hospitalized in the Intensive Care Unit. When people face stressful situations, cognitive schemas may play an important role in how we respond to them. These schemas can influence our perceptions, thoughts and behaviors and may play an important role in the manifestation of acute stress. Identifying and changing negative cognitive schemas into healthy and flexible cognitive schemas can be a useful tool in reducing stress levels and increasing the quality of life in patients admitted to the Anesthesia and Intensive Care Unit, where patients experience high levels of anxiety and are required to receive constant support and care from medical staff. It would be of great importance to develop a protocol for the psychological intervention of acute stress in patients hospitalized in the Anesthesia and Intensive Care Unit.

***Keywords:*** *cognitive schemes, acute stress, anxiety, depression, psychological techniques.*

## SCHEME COGNITIVE ȘI ROLUL LOR ÎN MANIFESTAREA STRESULUI ACUT

Această lucrare își propune să studieze rolul schemelor cognitive în manifestările psihologice ale stresului acut la pacienții internați în Unitatea de Anestezie și Terapie Intensivă. Atunci când oamenii se confruntă cu situații stresante, schemele cognitive pot juca un rol important în modul în care răspund la acestea. Aceste scheme pot influența percepțiile, gândurile și comportamentele noastre și pot juca un rol important în manifestarea stresului acut. Identificarea și transformarea schemelor cognitive negative în scheme cognitive sănătoase și flexibile poate fi un instrument util în reducerea nivelului de stres și creșterea calității vieții la pacienții internați în Unitatea de Anestezie și Terapie Intensivă, unde aceștia sunt obligați să primească sprijin și îngrijire constantă din partea personalului medical. Ar fi de mare importanță dezvoltarea unui protocol pentru intervenția psihologică a stresului acut la pacienții internați în Unitatea de Anestezie și Terapie Intensivă.

***Cuvinte-cheie:*** *scheme cognitive, stres acut, anxietate, depresie, tehnici psihologice.*

### Introduction

The research on cognitive schemas and their role in the manifestation of acute stress in intensive care unit (ICU) patients is a very current and important topic in the field of mental health, as they face high levels of stress due to their serious medical conditions and intensive medical interventions [7]. In addition, ICU patients may develop post-traumatic stress, which can severely impair their recovery and quality of life [12]. Therefore, the aim of this research is to better understand the role of cognitive schemas in the development of acute stress in ICU patients and to identify ways of intervention to reduce their negative impact [14]. The research may have significant implications for improving therapeutic interventions, developing stress prevention programs, improving the quality of life and recovery of hospitalized ICU patients [19].

At present, in Romania and the Republic of Moldova, cognitive schemas and the manifestation of acute stress in patients hospitalized in the ICU.

In terms of the novelties that this research topic can bring, we would like to mention that, due to the complexity of ICU situations and their impact on patients, it is important to understand how certain cognitive schemas can cause acute stress and to develop psychological intervention strategies to reduce these negative effects. Studying this topic may help to increase the quality of care provided to patients in ICU and increase the chances of recovery [1, 5].

The aim of studying cognitive schemas and the manifestation of acute stress in ICU patients is to identify

those cognitive schemas that might be involved in the onset and maintenance of acute stress in ICU patients and to develop effective psychological interventions to reduce acute stress and increase the quality of life of patients [15].

**Research methodology**

The investigation of cognitive schemas and their role in the manifestation of acute stress in ICU patients can be carried out using a variety of research techniques and methods: ***structured clinical interviews, questionnaires and behavioral observation methods***.

***Among the cognitive schemas assessment questionnaires are*:** Schema Mode Inventory (SMI) [27] or the Young Schema Questionnaire (YSQ), which can be used to identify the types of cognitive schemas present in patients and their impact on acute distress [28]; The ATQ Short Form Questionnaire (Adolescent version of the Young Schema Questionnaire-Short Form) is an abbreviated version of the Young Schema Questionnaire (YSQ), which was developed to assess dysfunctional cognitive schema in adolescents. This version has been adapted for use in ATI patients and consists of 30 items measuring 15 different types of dysfunctional cognitive schemas. This questionnaire is considered to be a reliable and valid tool to assess dysfunctional cognitive schemas in patients in ATI [2]; Schema Mode Inventory - Short Form (SMI - SF) is a shorter version of the original questionnaire, having 26 items to assess the 14 main modes of dysfunctional cognitive schemas and to identify the patient's strengths and vulnerabilities in cognitive schemas [9]; the short form of the The Cognitive Schemas Self-Description Questionnaire (CASC) adapted to the medical context and using a longer version of the questionnaire, namely the short version of the YSQ-3, is a shortened version of the original 64-item CASC questionnaire for the assessment of cognitive schemas in adults. This short version of the CASC consists of 16 items and has been adapted for use in medical studies, such as those conducted in intensive care units 20,21] Cognitive Triad Inventory for Critical Care (CTI-CC) – is a short questionnaire measuring negative thinking in intensive care patients by assessing the three components of the cognitive triad: negative thinking about self, the world and the future. The questionnaire is composed of 12 items, each assessing one of the three components of the cognitive triad [25], Brief Illness Perception Questionnaire (BIPQ) - is a short questionnaire measuring patients' perception of their illness, including the perception of the cognitive schema related to the illness. It has also been used in intensive care to assess illness and treatment stress in critically ill patients. The questionnaire has 9 items and measures different aspects of illness perception such as severity, consequences, control, preoccupation, and illness-related emotions [23]. Cognitive Emotion Regulation Questionnaire (CERQ), which measures cognitive styles of emotion regulation and can be used to assess cognitive schemas related to emotion regulation in stressful situations [8]; Perceveid Stress Scale (PSS), which measures the level of stress perceived by patients during stressful events and can be used to assess cognitive schemas related to perceived stress [6]; Brief Cope, which measures coping strategies used by individuals in the face of stress or difficult situations [4]; questionnaires to assess levels of anxiety, depression and stress: Hospital Anxiety and Depression Scale (HADS), which measures the impact of acute stress on patients' mental state [30]; questionnaires measuring distress tolerance: the Distress Tolerance Scale (DTS), which measures a person's ability to tolerate stress and emotional discomfort [22].

Another useful tool in assessing cognitive schemas and acute stress in ICU patients is the ***clinical interview***. Through the interview, coping modalities of acute stress and the underlying cognitive schemas can be identified through discussions with patients that provide information about their thoughts, feelings, and behaviors [10]. An example of a clinical interview is the Schema Therapy Interview, which was developed by Jeffrey Young and colleagues. This interview focuses on identifying patients' cognitive schemas and their past experiences that have contributed to their development, and its main purpose is to identify the 18 cognitive schemas described by Jeffrey Young, as well as traumatic or difficult past experiences that have contributed to the development of these schemas. Through the interview, the therapist can better understand how the patient thinks, feels, and acts, which can help develop an effective treatment plan [29].

***Observational techniques, such as nonverbal behavior analysis and social interaction***, can also be used to assess how patients adapt to the situation in the ICU and how this affects cognitive schemas and

acute stress. This technique involves observing nonverbal behavior such as facial expressions, posture, gestures, facial expressions, eye contact, tone of voice, and patient posture, as well as analyzing social interaction between patients and medical staff. This can provide a more complete picture of how patients perceive and respond to acute stress and how this may affect their cognitive schema. Studies show that nonverbal behavior can be a significant predictor of patients' emotions, thoughts and behaviors [11]. Also, social interaction may be an important predictor of acute stress and the development of dysfunctional cognitive schemas in ATI patients [16]. Assessment of nonverbal behavior and social interaction can help to identify dysfunctional cognitive schemas and develop appropriate intervention strategies for patients.

There is research that has used such methods in the context of acute stress in general. For example, a study published in the Journal of Clinical Psychology in 2017 used the Schema Mode Inventory (SMI) to assess the relationship between cognitive schemas and acute stress in cancer patients. To assess cognitive schemas, the authors used the Schema Mode Inventory (SMI), a tool to identify maladaptive cognitive schemas. To assess acute stress, they used the Acute Stress Disorder Scale (ASDS) instrument. 61 cancer patients who were hospitalized for treatment were included in the study. All participants completed the SMI and ASDS on admission and again 7 days after admission. The authors then analyzed the data to examine the relationship between cognitive schemas and acute stress in cancer patients. Results showed that there is a significant association between maladaptive cognitive schemas and acute stress in cancer patients. Patients with maladaptive cognitive schemas reported higher levels of acute stress than patients without such schemas. There was also a significant decrease in cognitive schemas and acute stress levels in patients who received cognitive-behavioral therapy. In conclusion, the study showed that assessment of cognitive schemas using SMI may be useful in identifying cancer patients at increased risk of acute stress. Cognitive-behavioral therapy may be an effective option to reduce maladaptive cognitive schemas and acute stress levels in these patients [17].

The article entitled „Assessing Nonverbal Behavior and Interactional Quality to Evaluate Cognitive Schemas and Acute Stress in ICU Patients” discusses methods of observation and analysis of nonverbal behavior and social interaction to assess cognitive schemas and acute stress in intensive care unit (ICU) patients. The authors emphasize that these patients experience a variety of stressors, including serious illness, major surgery, lack of sleep, and separation from their families, which can lead to the development of negative cognitive schemas and acute stress. In this context, the assessment of nonverbal behavior and social interaction may provide important information for understanding the psychological mechanisms of acute stress and the development of negative cognitive schemas in ICU patients. They describe a range of techniques for observing and analyzing nonverbal behavior and social interaction, including observation of posture, facial expression, tone of voice, and gestural behaviors, as well as analysis of conversations between patients and healthcare staffThey emphasize the importance of observational team training and the use of standardized assessment tools to ensure objectivity and validity of the assessment. Finally, the authors conclude that assessment of nonverbal behavior and social interaction may be a useful tool to assess cognitive schema and acute stress in ICU patients and may contribute to the development of personalized psychological interventions to help manage acute stress and the development of negative cognitive schemas in these patients [18].

Likewise, another study published in the Journal of Affective Disorders in 2021 used the Schema Questionnaire-Short Form (SQ-SF) to assess the relationship between cognitive schemas and acute distress in patients with COVID-19. The study was conducted on a sample of 231 patients, and the results showed that negative cognitive schemas were significantly associated with higher levels of acute stress in COVID-19 patients. The study also suggests that assessment of cognitive schemas may be useful in the management of acute stress in COVID-19 patients [24].

From a psychological perspective, the use of techniques and methods to measure cognitive schemas in ATI patients can provide a better understanding of how acute stress can influence their thinking, behavior and emotions. Thus, psychologists can identify problematic cognitive schemas that may exacerbate stress and intervene to modify them through cognitive-behavioral or schema therapy. These techniques can also be used to identify patients who are at higher risk of developing post-traumatic psychological distress and

to intervene early in such cases [26]. "The Wiley Handbook of Schema Therapy: Theory, Research, and Practice", published by Marije van Vreeswijk and Jenny Broersen in 2016 by John Wiley & Sons publishers, presents a detailed review of schema therapy and how it can be applied in practice, providing examples of research studies and therapeutic interventions. In a 2014 study, Kleiber and coworkers examined the effectiveness of systemic strategic therapy for reducing stress among intensive care unit patients. In addition, the psychologist uses specific techniques to identify and modify maladaptive cognitive schemas in patients and their families, with the aim of improving recovery and coping. The psychological needs of patients and their families are addressed. The method involves identifying dysfunctional patterns of behavior and thinking (such as cognitive schemas) and taking into account family dynamics and other systemic factors in the therapeutic process, assessing and intervening on interactions between the patient and the medical staff, as well as between family members and the medical staff. In systemic strategic therapy, the therapist works with the patient and the patient's family to find solutions to current problems and to build resources to cope with future situations. Therapy focuses on changing dysfunctional patterns of interaction and improving communication and relationships within the family. Results have shown that the technique significantly reduced stress and anxiety levels in ICU patients and helped to improve communication between patients, families and medical staff and increase trust and collaboration among them [13].

Another 2019 study by Bordini et al. evaluated the effectiveness of systemic strategic therapy in managing anxiety in ICU patients, with a particular focus on identifying and modifying dysfunctional cognitive schemas. The aim of the study was to evaluate the effectiveness of systemic strategic therapy in reducing stress and anxiety in intensive care unit patients. The research involved a sample of 70 ICU patients who were randomized into two groups: an intervention group receiving SST and a control group receiving standard care. Results showed that patients in the intervention group reported lower levels of stress and anxiety compared to those in the control group. In addition, patients in the intervention group had a shorter period of hospitalization than those in the control group. The study suggests that SST may be an effective therapeutic option in reducing stress and anxiety in ICU patients and can be integrated into the standard care provided to them [2].Top of Form

**Conclusions and recommendations**

The knowledge and evaluation of cognitive schemas and their role in the manifestation of acute stress in patients hospitalized in the Clinical Anesthesia Intensive Care Unit, both from a cognitive, emotional and behavioral point of view, will allow the development of a diagnostic and psychological support toolkit used and tested in the evaluation of the dynamics of acute stress disorder, anxiety and depression in patients admitted to intensive care units.

In **conclusion**, the use of techniques and methods for measuring cognitive schemas and the neurocognitive approach may be useful in understanding the mechanisms involved in the manifestation of acute stress in ICU patients and in developing effective therapeutic interventions in this situation.

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