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STUDY OF THE EMOTIONAL STATUS OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AND THEIR RELATIVES AT DIFFERENT STAGES OF THE PATIENT'S ROUTE

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It is difficult for a person with any disease to control their emotions, it is difficult to understand their emotional experiences and manage their emotional state. The subjective emotional state of a patient diagnosed with acute myocardial infarction is ignored. To study the emotional state, the authors developed a "Map of emotions of the route of a patient with acute myocardial infarction". This map shows the palette of negative emotions of the patient and his accompanying relatives on the way from the sudden onset of symptoms to the arrival at the emergency department. The map shows their change to more positive emotions. At the prehospital stage, the medical staff of the ambulance should explain to the patient and his companion what is happening at each stage of the patient's journey. This will positively affect the transformation of negative emotions into positive ones, increase the patient's cognitive abilities.

Key words: emotional state, emotions, acute myocardial infarction, patient route, prevention.

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ВИВЧЕННЯ ЕМОЦІЙНОГО СТАНУ ПАЦІЄНТІВ З ГОСТРИМ ІНФАРКТОМ МІОКАРДА ТА ЇХНІХ БЛИЗЬКИХ НА РІЗНИХ ЕТАПАХ МАРШРУТУ ПАЦІЄНТА

Людині з будь-яким захворюванням важко контролювати свої емоції, важко зрозуміти свої емоційні переживання та керувати своїм емоційним станом. Ігнорується суб'єктивний емоційний стан хворого з діагнозом гострий інфаркт міокарда. Для вивчення емоційного стану авторами розроблена «Карта емоцій маршруту пацієнта з гострим інфарктом міокарда». Ця карта показує палітру негативних емоцій пацієнта та супроводжуваних його родичів на шляху від раптової появи симптомів до прибуття у відділення невідкладної допомоги. Карта показує їх зміну на більш позитивні емоції. На догоспітальному етапі медичний персонал швидкої допомоги повинен пояснити пацієнту та його супутнику, що відбувається на кожному етапі шляху пацієнта. Це позитивно вплине на трансформацію негативних емоцій в позитивні, підвищить когнітивні здібності пацієнта.

Ключові слова: емоційний стан, емоції, гострий інфаркт міокарда, маршрут пацієнта, профілактика.

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Over the past 10 years, a study of the situation of acute myocardial infarction has shown that there is a constant gradual, and over the past 3 years also a rapid decline in the incidence of acute myocardial infarction among residents of the Poltava region. In Ukraine there has been a gradual rise in the incidence rate.

The emotional reactions of each patient to the fact of the disease are different. There are states of fear, anxiety, depression. The patient's thinking is not based on logical laws, but the emotional significance of certain facts [1, 3].

People with a weak will, the disease can lead to a state of passivity, depression. In people with a strong will, there is the adoption and implementation of decisions aimed at combating the disease and rational adaptation to life, as well as the development of super-valuable and delusional ideas [9, 10].

The hospital environment can harm the patient's psyche, emotions and behaviour, especially if the hygienic and medical-protective regimes are violated in the medical institution, the norms of medical ethics and aesthetics are not observed. The negative impact of the hospital environment on the patient's health, especially in the conditions of improper organization of its maintenance, defines the concept of "hospitalism" [4, 5].

To create conditions for compliance with the rules of deontology, building the most favourable relationships with patients, doctors must have a clear idea of the whole set of experiences of the patient associated with the disease. In addition to the actual experiences, emotional disorders, each patient also has certain ideas about the disease, different opinions, judgments and conclusions associated with it [3, 4].

Improving the efficacy of thinking through emotions involves the ability to arbitrarily manage emotions that contribute to solving problems (interest, curiosity) and use any mood in practice.

Understanding emotions means the ability to understand the causes of emotions, to establish connections between different emotional manifestations, the ability to analyze emotional states. Emotion management reflects the ability to differentiate emotions, to control them; the ability to reduce the intensity of negative emotions, to evoke positive emotions [8, 15].

The emotional state of a patient with acute myocardial infarction during hospitalization is insufficiently covered in the literature. The patient's negative emotions increase the risk of acute myocardial infarction and its complications, and determine the behaviour of him and relatives or friends who are close at this critical moment for the patient's health [6, 12, 14].

The route of a patient with an acute myocardial infarction is clearly described in the unified protocol and the works of foreign authors [7, 13]. This is a purely logical objective state of hospitalization and the patient's route, from the onset of pain to hospitalization and cardiac intervention. At the same time, the subjective, emotional state of the patient diagnosed with acute myocardial infarction is ignored. [2, 7, 11].

The purpose of the study was to analyze the emotional state of a patient with acute myocardial infarction during hospitalization, to draw a map of the patient's emotions.

Materials and methods. The research methods were used in the work: biochemical – to generalize the analysis of literary and own experimental data; sociological – a survey was conducted (retrospectively) of the “patient-relative” couple who helped with hospitalization (the total number of 300 people) according to a specially developed questionnaire that contains 9 questions about their feelings and emotions in the event of symptoms and hospitalization; medical-statistical method - for statistical processing of research materials.

The study examined the emotional state of patients who had an acute myocardial infarction. We interviewed 150 patients. The mean age was 60.1 ± 0.8 . Of the interviewed patients, 39 % (117/300) were men, 61 % (183/300) were women. Taking into account the fact that every patient in an acute condition needs outside help, we also interviewed their relatives or close people (the total number of 150 people), who were by their side during that difficult time. The patient and family were asked to indicate the emotions they felt when experiencing the symptoms of an acute myocardial infarction at each stage of the pathway. The authors distinguish negative (fear, anxiety, grief, doubt, confusion) and positive (security, concentration, hope, courage, confidence, relief) emotions. On the one hand, negative emotions increase the risk of complications and the occurrence of acute myocardial infarction, and on the other hand, they condition the behavior of him and his relatives or loved ones who are nearby at this critical moment for health [14, 15].

Statistical analysis is performed using the “Statistica” 6.0 software (StatSoft Ins, USA).

Results of the study and their discussion. Because the time before hospitalization of the patient is extremely short, patients were interviewed retrospectively about what they experienced at each stage from the onset of symptoms to their tertiary hospitalization. Given the fact that every patient in an acute condition needs outside help, their relatives or close people who were around at that difficult time were also interviewed. The table shows that the percentage of people who experienced such emotions as fear, anxiety was quite high and reached 98 % (147/150), at the same time, a small number of positive emotions were felt by both patients and their loved ones (table 1).

Table 1

Distribution of responses of patients and their relatives regarding emotional state during the transportation

Stages of the patient's route	Patient n=150, (%)	Relatives of the patient n=150, (%)
Sudden onset of symptoms	Fear 147 (98 %) Anxiety 147 (98 %)	Fear 147 (98 %) Anxiety 147 (98 %) Embarrassment 147 (98 %)
Call for emergency medical care	Fear 147 (98 %) Anxiety 147 (98 %)	Fear 147 (98 %) Anxiety 147 (98 %) Embarrassment 147 (98 %)
Arrival of emergency medical care	Security 10 (15 %)	Confidence, hope 20 (30 %)
Diagnosis	Fear of death 147 (98 %) Anxiety 147 (98 %)	Grief 144 (96 %)
Pain relief	Relief 120 (90 %)	Hope 114 (76 %)
Informing the patient of the decision of the medical staff of emergency medical care on hospitalization	Doubt, fear 84 (56 %)	Doubts, embarrassment 96 (64 %)
Patient consent	Courage 42 (28 %)	Collected 57 (38 %)
Transportation	Fear 126 (84 %)	Doubts 114 (76 %)
Department	Hope 21 (14 %)	Hope 30 (20 %)

In the initial stages, when symptoms suddenly appeared, a call to the emergency medical service (EMD) was made and during the diagnosis, almost all patients together with the patient's family felt anxiety, embarrassment, fear of death (98 %). The anxious-depressed mood was observed with obsessive

negative thoughts about one's personality, one's condition and future life. With courage and concentration, patients and those who accompanied them agreed to hospitalization and cardio-intervention (28 % and 38 %, respectively). During the transportation of patients alone and accompanied by family, he was haunted by fear and doubt. Hopefully, patients and their families (14 % and 20 %, respectively) were in the cardiology department.

Based on the answers of the respondents, 2 main psychological and physical phases were noted:

- 1) the patient alone with his companion (manifestations of negative emotions);
- 2) the patient together with emergency medical care workers (slight transformation of negative emotions into positive ones).

Because emotions predominate in critical situations, the study referred to a two-process model of the relationship between emotions and cognitive abilities (fig. 1).

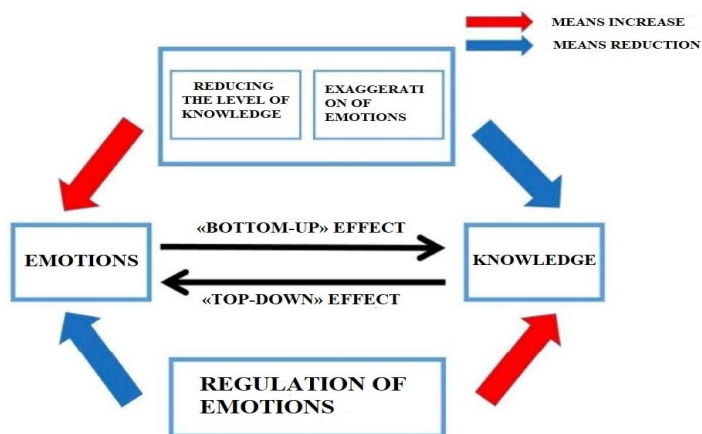


Fig. 1. A two-process model of the relationship between emotions and cognitive abilities.

Each person has an index of cognitive reserve and it consists of a person's intelligence, level of education, physical and emotional stress, presence of depressive symptoms, lifestyle, hereditary and genetic factors.

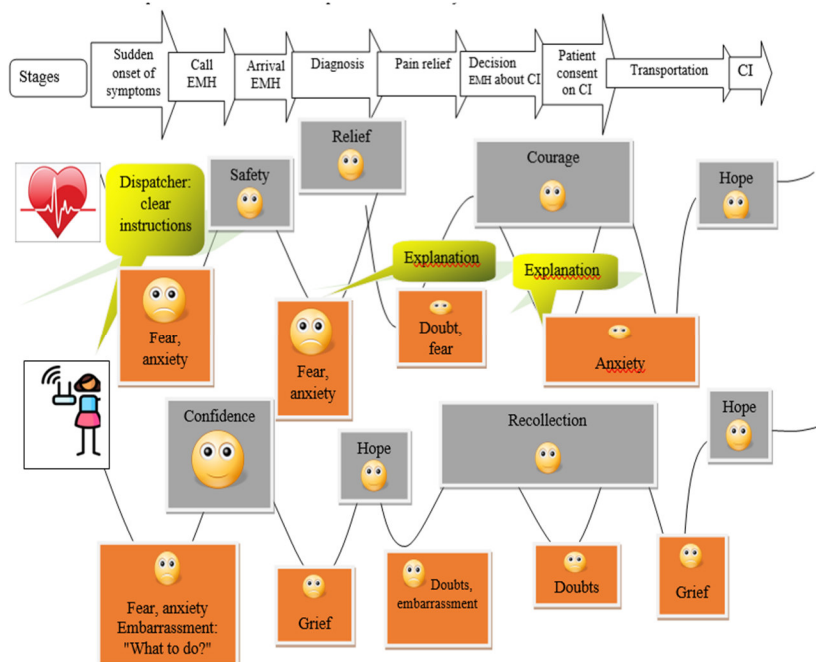


Fig. 2. The map of the emotional route of a patient with acute myocardial infarction

As shown in fig. 2, the map consistently displays a palette of negative emotions of the patient (fear, anxiety, doubt) and accompanying relatives (fear, anxiety, doubt, embarrassment) on the way from sudden onset of symptoms to arrival. cardiology, and their change to more positive emotions (confidence, safety, courage, composure, hope for recovery), which occurs through clear instructions and explanations of medical staff (dispatcher and emergency medical team) in the “key” moments of the patient's route. Therefore, to ensure a more favourable emotional, psychological state of the patient, his commitment to cardio-intensive care,

In this model, the authors rely on the fact that emotion goes beyond cognition and influences decision-making by reducing cognitive abilities (reduced cognitive ability) and enhanced emotional response (exaggeration of emotions). At the same time, cognition suppresses emotions to influence decision-making by explicitly exercising cognitive control through emotion regulation strategies. Therefore, decision-making depends on the interaction of emotions and cognition. Cognitive impairments have a significant maladaptive effect on all areas of the

Emotions and behavior of a person depend on his perception of different life circumstances. Emotions are derived from cognitions and arise as a result of cognitive interpretation and restructuring of received experience. An emotion arises as a result of a way of constructing and interpreting the situation that caused it.

Based on the obtained data, the authors developed a “Map of emotions of the route of a patient with acute myocardial infarction” (fig. 2).

Map included an intervention in the form of emotional support by the medical staff of emergency care.

it is necessary to train emergency medical staff to provide psychological support to the patient in the prehospital stage, as a clarity using. The training should emphasize the importance of adhering to the principle of individualization, taking into account the peculiarities of the disease and lifestyle of the patient, his family, as well as tactical flexibility in changing medical and social conditions, which also confirms the opinion of other scientists [3, 9].

The map of emotions was created based on the Pieter Desmet template, which proposed to measure emotions when a person reacts to external irritant. Strong emotions are associated with a change in blood circulation: in a state of fear, anger, a person turns pale, because blood flows away from the outer layers of the skin. Fear increases sweating, the heart begins to beat faster, or, on the contrary, “dying”. Emotions are manifested in sthenic and asthenic forms It depends on the type of nervous system and willpower of a person. Grief causes a helpless, depressed state. At the same time, a person seems to be numb. But grief can manifest itself in a violent reaction. Fear paralyzes a sick person, weakens his spiritual strength. Also, fear mobilizes physical and mental forces, makes a person clever and resourceful. Fear makes human actions quick and precise, which also confirms the opinion of other scientists [2, 4, 5]. Fear is the most toxic, the most harmful emotion. Experiencing fear has a powerful effect on the nervous system and the functioning of vital organs. Prolonged experiences of fear cause changes in the whole body – heartbeat, accelerated pulse, tachycardia attacks. There is a feeling of compression in the chest, suffocation, abdominal pain, intestinal spasms, flatulence, diarrhea, urination disorder, diarrhea, muscle twitching, tremors [8, 15].

The obtained data correlate with the data of studies of other researchers regarding of the patient's emotional state, which was described by one word at each stage of the clinical route [6, 10].

One of the most important conditions for a proper doctor-patient relationship is support. This means the doctor's desire to be useful to the patient. The medical worker, explaining to the patient and his companion what actually happens at each stage, tries to transform negative emotions into positive ones, thereby increasing cognitive abilities and thereby modifying behavior from uncertainty to composure, which in turn will positively affect the patient's commitment to cardio intervention. This intervention must be taken into account in the training of emergency medical personnel.

Also, the patient's family and close friends should help, confirmed by other researchers [2, 7, 8]. The thought of possible hospitalization causes strong emotional tension in the patient. Most patients do not want to go to the hospital, even if they will provide the necessary care quickly. Relatives and close friends of the patient should be close to the patient and comfort and encourage the patient. Relatives and friends should create an emotionally comfortable and psychologically safe space for the patient.

Conclusion

Already at the pre-hospital stage (the stage of transporting the patient) the staff of the emergency medical team should explain to the patient and his companion what is happening at each stage of the patient's route.

This will have a positive effect on the transformation of negative emotions into positive ones, increase the patient's cognitive abilities and, thus, modify his behaviour from insecurity to concentration, which in turn will have a positive effect on the patient's commitment to cardio.

Since it is almost impossible to exclude psycho-emotional social stress from people's lives, it is necessary to increase the adaptive capacity of the individual to emotional stress, using various psychotherapeutic methods.

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MORTALITY FROM CARDIOVASCULAR PATHOLOGIES DEPENDING ON SEISMOLOGICAL ACTIVITY IN ZAGATALA REGION OF AZERBAIJAN

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Recent studies provide evidence of a link between seismological and geophysical activity and an increase in the number of cardiovascular accidents. The purpose of the work was to study the dependence of cardiovascular diseases mortality on helioseismic indicators in the Zagatala region of the Azerbaijan. In 2013, seismological information was obtained from 35 telemetry stations. To analyze the connection with diseases in the Zagatala region, 401 case histories of patients who died in 2013 from various cardiovascular diseases were examined. Results of the study showed that the largest number of deaths was: from a hypertensive crisis – at the age of 80–89 years (37.8 %), from acute cerebrovascular accident – at the same age (33.3%), from acute coronary syndrome – at the age of 70–79 years (43.4 %) and from acute heart failure – at the age of 80–89 years (40.7 %). The largest number of deaths was in all age categories due to acute coronary syndrome. The maximum number of deaths was at a magnitude of 1.1–2.0 ml (35.4 %). Thus, the study of seismic activity in various seismogenic zones will improve the prevention of morbidity and mortality from CVD.

Key words: earthquake, magnitude, acute coronary syndrome, stroke, hypertensive crisis

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СМЕРТНІСТЬ ВІД КАРДІОВАСКУЛЯРНОЇ ПАТОЛОГІЇ ЗАЛЕЖНО ВІД СЕЙСМОЛОГІЧНОЇ АКТИВНОСТІ У ЗАГАТАЛЬСЬКОМУ РАЙОНІ АЗЕРБАЙДЖАНУ

Дослідження останніх років свідчать на користь зв'язку між сейсмологічною та геофізичною активністю та збільшенням числа серцево-судинних катастроф. Метою дослідження стало вивчення залежності смертності від серцево-судинних захворювань від геліо-сейсмічних показників у Загатальському районі Азербайджану. У 2013 році з 35 телеметричних станцій було отримано сейсмологічну інформацію. Для аналізу зв'язку із захворюваннями у Загатальському районі було розглянуто 401 історію хвороби хворих, які померли у 2013 році від кардіоваскулярних захворювань. Результати показали, що найбільша кількість смертей від гіпертонічного кризу була у віці 80–89 років (37,8 %), від гострого порушення мозкового кровообігу в цьому ж віці (33,3%), від гострого коронарного синдрому у віці 70–79 років. (43,4 %) та від гострої серцевої недостатності у віці 80–89 років (40,7 %). Найбільша кількість смертей була у всіх вікових категоріях від гострого коронарного синдрому. Максимальна кількість була за величиною магнітуди 1,1–2,0 мл (35,4 %). Таким чином, вивчення сейсмічної активності у різних сейсмогенних зонах дозволить удосконалити профілактику захворюваності та смертності від ССЗ.

Ключові слова: землетрус, магнітуда, гострий коронарний синдром, інсульт, гіпертонічний криз

The results accumulated by numerous studies convincingly prove the existence of a connection between the processes occurring on the Sun, fluctuations in the Earths, magnetic field and an increase in the number of cardiovascular accidents [1, 14, 15]. Myocardial infarctions that occur during geomagnetic disturbances are more severe and can be fatal [12].