Реферати

УДОСКОНАЛЕННЯ СХЕМ МЕДИКАМЕНТОЗНОЇ ТЕРАПІЇ ПАЦІЄНТІВ ІЗ ГЕНЕРАЛІЗОВАНИМ ПАРОДОНТИТОМ ІІ СТУПЕНЯ НА ЕТАПАХ ПРОВЕДЕННЯ ЗАКРИТОГО КЮРЕТАЖУ ТА ПОРІВНЯННЯ ЇХ ЕФЕКТИВНОСТІ Волосовець Т.М.. Кравченко А.В.

Невмотивоване використання антибіотиків призводить до виникнення стійких до них штамів пародонтопатогенних мікроорганізмів. Необхідно розробити сучасні схеми медикаментозної терапії для лікування запальних та дистрофічно-запальних захворювань тканин пародонта, які не передбачали б місцевого застосування антибіотиків. Для медикаментозного лікування пацієнтів із генералізованим пародонтитом II ступеня запропоновано два режими медикаментозної терапії, один з яких (№ 1) включав місцеве введення антибіотика та нестероїдного протизапального препарату у поєднанні з пероральним прийомом протеолітичного ферменту (серратіострептидази), а другий режим (№ 2) включав лише нестероїдні протизапальні препарати в поєднанні з пероральним прийомом протеолітичного ферменту. Ефективність режиму оцінювали за динамікою гігієнічних та пародонтальних показників, а також за кількісною динамікою індексу ясенної рідини та наявністю в ній гістаміну та серотоніну як медіаторів запального процесу. Також були оцінені терміни одужання пацієнтів. Проведені клінічні дослідження довели порівнянність ефективності режимів медикаментозної терапії 1 та 2 та дозволили рекомендувати їх для впровадження в стоматологічну практику.

Ключові слова: генералізований періодонтит, закрити1 кюретаж, ясенна рідина, гістамін, серотонін. Стаття надійшла 14.05.2019 р.

УСОВЕРШЕНСТВОВАНИЕ СХЕМ МЕДИКАМЕНТОЗНОЙ ТЕРАПИИ ПАЦИЕНТОВ С ГЕНЕРАЛИЗОВАННЫМ ПАРОДОНТИТОМ П СТЕПЕНИ НА ЭТАПАХ ПРОВЕДЕНИЯ ЗАКРЫТОГО КЮРЕТАЖА И СРАВНЕНИЯ ИХ ЭФФЕКТИВНОСТИ

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Немотивированное использование антибиотиков приводит к возникновению устойчивых к ним штаммов пародонтопатогенных микроорганизмов. Необходимо разработать современные схемы медикаментозной терапии для лечения воспалительных и дистрофически-воспалительных заболеваний тканей пародонта, которые не предусматривали бы местного применения антибиотиков. Для медикаментозного лечения пациентов с генерализованным пародонтитом II степени предложены два режима медикаментозной терапии, один из которых (№ 1) включал введение антибиотика И противовоспалительных препаратов в сочетании с пероральным приемом протеолитического фермента (серратиострептидазы), а второй режим (№ 2) включал только нестероидные противовоспалительные препараты в сочетании с пероральным приемом протеолитического фермента. Эффективность режима оценивали по динамике гигиенических и пародонтальных показателей, а также по количественной динамике индекса десневой жидкости и наличию в ней гистамина и серотонина как медиаторов воспалительного процесса. Также опенивались сроки выздоровления пациентов. Проведенные клинические исследования доказали сопоставимость эффективности режимов медикаментозной терапии 1 и 2 и позволили рекомендовать их для внедрения в стоматологическую практику.

Ключевые слова: генерализованный пародонтит, закрытый кюретаж, десневая жидкость, гистамин, серотонин. Рецензент Гасюк П.А.

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METHODOLOGICAL PRINCIPLES OF THE CAUSAL-SYSTEM INJURY PROCESS MODELING

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The method of causal systemic modeling of the natural relations of the traumatic process is developed on the basis of practical examinations of the archive of the Regional Bureau of Forensic Expertise (FE). Constructing the dependence of the trauma process of FE has been developed by combining traditional causal and modern systemic approaches. Causal systemic modeling of temporal pattern linkage (dependence) of the trauma process allowed: differentiate between causal and non-causal rull in the relationship in the plane of the text of the simulated objects of the traumatic process ensured the documentary recording of information about the relevant properties of the expert objects. Obtained objective system data on the properties of objects depending on the trauma process optimized forensic assessments of the role of objects and trauma events.

Key words: general methodology, common cause-system modeling, relevant forensic system objects, dependency verification, quasi-formal model reproduction.

The work is a fragment of the research project "Early diagnosis of dysplastic, metaplastic and neoplastic changes in the pathology of the gastrointestinal tract, respiratory, urogenital and neuroendocrine system", state registration No. 0117U000001.

Forensic medicine is a multidisciplinary field of science and reflects the realized integration of various scientific knowledge, such as medicine, biology, chemistry, forensics and many other specialties. Forensic examination (FE) of relatively basic science of forensic medicine is the process of scientific and practical knowledge to apply scientific theories and concepts to address issues of law enforcement and the court. Logical and retrospective modeling operations are one of the current topical analytical trends in the

methodology of designing forensic communication in the traumatic process. Diagnosis of "causes of violent and nonviolent death" (see "Specialty Passport 14.01.25 - Forensic Medicine") requires the development of methods of applied general methodology with the use of FE tasks. This is possible taking into account the positions of modern philosophical concepts of causality, the general theory of systems, and the achievements of which must be use in the construction of the methodology of FE. The authors of the fundamental Forensic Forensics O. V. Filipchuk and O. M. Gurov (2013) [3] reasonably define methodology as the doctrine of scientific methods of cognition, the set of research methods applied in a specific science (FE) according to the specifics object under study.

In general, applied logical and philosophical tools of general methodology determine the organization of professional scientific activities and practitioners in specific sciences, including in the FE.

The real methodological work in science takes place in a special cognitive movement between special science and modern philosophy. By this time, the analysis depending injury during medical examiner conducted by orthodox causal analysis. The governing documents of the FE do not contain substantive arguments from the standpoint of scientific systemic knowledge regarding the substantiation of regulatory requirements, which leads to fundamental errors in the results of forensic experts. Thus, according to the current normative "Rules of Forensic Determination of the Severity of Physical Injury", approved by the order of the Ministry of Health of Ukraine No. 6 of 17.05.1995, experts, by retrospective modeling, verify the cause and cause effect relationship (CCR), but do not determine the causal the role of many causative factors in the dependency chain. For example, they often treat "failure to provide medical care" as a "cause" of a "fatal outcome". This kind of reasoning, without reservation because of the disclosure of the conditionality of the actual objects, is unjustified from a scientific point of view. Forensic literature and regulatory documents have suggested, for example, contradictory terms such as "accidental causation", "major causes" and "minor causes". Examples: The forensic expert concludes that "a fracture of a long tubular bone is the cause of fat embolism" or "damage to the trunk vessels of the limb is the cause of hemorrhagic shock". These interpretations, with all their accessibility, cannot be scientifically correct, because they do not reveal the essential bases, sources of causation. In modern causal (conditionally-causal) analysis of the constructed system of the full cause above the first example, the base, the source of the cause is the interaction (source of the cause) adipose tissue of the limb (the first causative factor) with the bloodstream of the diaphysis of the bone (the second causative factor) and, as a consequence, the insertion of fat cells into the common circulatory network, fat embolism. In the second example, hypovolemia of the bloodstream (causative factor) and the reaction to this process by the nervous and humoral systems (the second causative factor) in the interaction (source of the cause) form a hemorrhagic shock (consequence).

It is scientifically proven that the use of purely causal analysis does not reveal all aspects of causal assessments of forensic objects in the chain of dependence of trauma – it is necessary to expand logical research toolsof causally consequential relationship (CCR) (Mishalov V. D, Bachinsky V. T, Krivda G. F, Filippchuk O. V, 2015) [3]. V. T. Voronov (2019) [1] substantiates the idea of supplementing the causal analysis of dependence with a *systematic approach* using the method of causal system modeling.

The purpose of the work was to determine the feasibility of the method of joint cause-system modeling of forensic objects in the conditionality of the trauma process.

The methodology of joint cause-system modeling of objects, depending on the trauma process, will provide forensic experts with the logical tools of verification in CCR, both the structure of the full cause and the relevant conditions.

Materials and methods. The material of the study was the archival observations of the Expert Opinion of the Vinnytsya Regional Bureau of Forensics for four years of violent deaths from injuries. Investigated natural relationships in traumatic processes and selectively constructed 10 models of common cause-systemic determinations (deterministic natural relationships, dependencies).

The study CCR regarding FE cause and method of system modeling using causal analysis, which combined with a systematic approach. At the same time, they used textual illustrations of simulated CCR objects using the quasi-formal reproduction method.

Results of the study and their discussion. The complex solution of medical and biological and forensic issues in the study of CCR in the traumatic process necessitated the development of a special methodology for modeling systems of dependencies, based on both the principles of the theory of general human pathology and general scientific philosophy of determinism.

G.V.F. Hegel introduced the philosophical category of conditions in the system of categories he developed in the Science of Logic, and for the first time determined their immanence in real determination, along with the reason for the full reason. This is how the CCR and the conditionality relationship were delineated. Differentiating the role of cause and conditions in the cause of consequence – bodily harm – is

the most important area of work of the expert in the modeling of forensic determinations. The relevant conditions of the full cause system act either as necessary for the action of the cause of the full cause or as necessary for the production of the consequence.

Our study proves that every necessary condition of action of a causal basis in combination with a cause is a necessary condition for producing the consequence and the presence of all the necessary conditions for the action of the cause together with the cause constitute a sufficient condition for producing the effect – bodily injury. Therefore, determinant objects – carriers of conditions form *the system of the full cause* of bodily injury in two causal determinations.

Forensic expert in retrospective study (modeling) of the process of injury with lethal consequences should have complete, accurate and thorough information about the circumstances of the event, compare them with the data of the analysis of the corpse section, differentiate and make correct conclusions in general about the cause and conditions of the traumatic process [4].

External conditions, as revealed in the work, play a special role. Investigated forensic expert consequence – personal injury, pathological condition, traumatic process – is the result of the emergence and development of naturally related material changes in the body. In doing so, the consequence concentrates both the factors behind the cause formation and the various factors, the constituent conditions, which also form the full cause but are external to its foundation.

From the results of our study, it follows that purely causal modeling, by itself, as a study of a particular type of determination, cannot give a complete explanation for the deterministic relationship.

A common variant conditional determination represents the connection states (CR). Unlike causality, previous states do not produce, but consistently change subsequent states. The CR provides for the mapping of the conditions in the logical form of a conditional judgment (sufficient prerequisites) or unspecified (prerequisite conditions). In the temporal chain of phenomena, as confirmed by this study, CR forms a causal evolutionary form of causation (determination) of the traumatic process.

Forensic study of trauma is especially difficult in the presence in the body of such individual physiological or pathological features, which can significantly affect changes in the nature of the clinical and morphological picture of trauma and complications. The following is a causal analysis of the case from expert practice in quasi-formal textual reproduction (model 1).

Story. After extraction of the tooth from patients with hemophilia, bleeding from damaged cell vessels occurred, with the subsequent development of massive blood loss, hypovolemia and hemorrhagic shock. The resolution of questions about the cause of death and the causal evaluation of forensic events (objects) are important for the legal interpretation of the provision of medical care. In this case, the forensic medical examination should diagnose the nature of the addiction and give the status of the reasons or conditions to all relevant objects of the dependency of the traumatic.

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Model 1, Evolutionary Multilink Causality: process.
                                                                                                          CCR-1
[SO \rightarrow R1 \leftarrow blood vessels] \perp \{[SO^*] + [tooth *] + [damaged blood *] + [tooth *] + [tooth
         hemophilia
                                                                                                                                                                                                                                         vessels*]}-\rightarrow CR-1
CR -1
                                                                                                                                                                                                                                                CCR-2 C2
- \rightarrow [damagedbloodvessels * \rightarrow R2 \leftarrow blood under pressure] \bot [bleeding] - \rightarrow
                                                                                                                hemophilia
CR -2
-\rightarrow [(a)bleeding]-\rightarrow[(6) bleeding * continuous]--\rightarrow--\rightarrow--\rightarrow--\rightarrow CR -3
†hemostasis disorders
                ↑ hemophilia
                                                                                                                                                                                                 CCR -3
CR -3
- \rightarrow - \rightarrow [ bleeding *\rightarrowR3\leftarrowhemostasis disorders] \perp [ massive blood loss]
↑ hemophilia
                                                                                                                                                                                                                                                                                             \rightarrow CR -4
                                                                                                                                                                                                                                                                             CCR-4 C4
CR -4- \rightarrow [massive blood loss.\rightarrowR4\leftarrow neurohumoral vasc. factors] \perp [ shock]
↑ hemostasis disorders
                                 ↑ hemophilia
                                SO – solid object CR – state relationship
                                C – Consequence R – reason
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As a result of the causal factors interaction (reason R1) – solid objects (SO) – the dentist's tools, carious tooth – and blood vessels, a certain consequence (C1) is caused in the form of objects summative

formation: {SO * + tooth * + defects of the cell vessels walls *}. The star symbol shows the changes (damage) at the infliction time (SO, tooth, blood vessels). This creates a single-link model that demonstrates the type of interaction when there is a need and sufficiency to change the starting interaction objects as separate consequences. It is important to emphasize that at this stage the individual factor of the organism - hemophilia is a concomitant factor, which is optional and insufficient, neither for the consequence occurrence in causation-1, nor for the system full injury causal basis. The «L» marks the causation-1 between cause and effect. It should be noted the transitive nature of the cause between causation -1 and causation-2: in both dependencies, the causes of R1 and R2 are formed by the necessary and sufficient systems of causal factors regarding the corresponding consequences of C1 and C2.

"Damage to the cell wall" and "blood under pressure" are causal factors that formed at the stage of CR-1 state changes and together manifest in interaction the specific R2 cause, which directly causes, revolutionary in causation-2 consequence – "bleeding". In addition to the quasi-formal display (see model), this reason can be formulated verbally as "balancing blood pressure in damaged vessels with the external environment". At this juncture, hemophilia is still an optional condition, both as a consequence of C2 and of causative factors in causation-2.

The cause of R2 also generates the evolutionary qualitative certainty of the bound states "(a) - (b)": CR -2 and CR -3 of the cellular bleeding process, which manifests clinically to a certain stage as normal bleeding in a healthy person, adequate to the degree of vascular damage and intravascular blood pressure.

It is known that in a healthy person the vascular-platelet coagulation mechanism provides prevention and arrest of bleeding from small blood vessels by their primary spasm, swelling and adhesion, adhesion of platelets to the sites of damage to the walls of blood vessels and to the wound surface, as well as further obstruction of bleeding vessels with platelet aggregates, and strengthening (reinforcement) of platelet cortex with fibrin.

On the contrary, when shown in **model 1** variant of the bleeding process development in a patient with hemophilia, the factor of homeostasis disturbance realized, and the bleeding acquires a continuous, gradient nature.

In *model 1*, at the stages of CCR-1, CCR-2 and the onset of CR-3, the abstract factor of homeostasis disturbance in hemophilia is beyond the causal and conditional factors of dependence. In the future, the factor of hemophilia of the first order actualizes the factor of the order – disturbance of hemostasis, from the condition of latent to actual. The further disturbance of hemostasis at the stage of the CR-3 states is already a causal factor in the CCR-3 cause of R3 and the consequence of C3. Further, massive blood loss of the CR-4 state, in conjunction with neurohumoral and vascular factors, forms the cause of R4 in CCR-4, which gives rise to the result – C4 hemorrhagic shock.

It should be note that CR2 at the bleeding stages (a) and (b) does not interrupt, but prolongs during the time of causing in causation-2, forming a fragment of transitive determination. In the course of bleeding, each stage of which is an open system, the specified direction of morphogenesis is support by streams of substance, energy, information, which "flow" from the external systems of organism tissue and organ objects and provide material and information component of the determinative communication systems of bleeding stages. Thus, CR in the development of the system is realized with sufficient grounds: the initial conditions of system formation (causal basis and external conditions) and the material nourishment of development in time of an open system.

Thus, at a certain point in time of the bleeding process manifests the pathogenic factor of the patient with hemophilia body – hemostatic disorder, which is subsequently transformed into a causal factor of the full cause of R3 from a relevant condition. The reason for the R3 model formula can be formulated in natural language verbatim as a "continuous bleeding event".

Some complexity of expert analysis, for example, in cases of evaluating the provision of medical care, is to establish a specific time when the status of a factor changes from the necessary insufficient concomitant hemophilia to the causative factor of cause R3 and the effect of causation-3 - massive C3 blood loss. Such a diagnostic opportunity exists when proving a definite time clinic of continuous bleeding.

Based on the results of the *causal systematic analysis*, the recommendations of the current Forensic Rules (1995) on conditional leveling of an individual peculiarity of an organism – hemophilia from a number of relevant objects in assessing the severity of traumatic tooth extraction, appear to be contradictory. First, from the objective side, the causal analysis shows that the signs of "direct" or "indirect" connections provide grounds not for verifying the cause, but only for determining the commission of systemic action by the conditions, i.e. elucidation of conditionality. Secondly, from a legal point of view, the absence of an expert conclusion of the fact of hemophilia in the text may be incorrect in case of subjective intention to cause injury to a sick person.

Thus, as evidenced by causal systemic modulation (model 1), hemophilia does not cause, but does not accompany indifferently (conditionality), but indirectly, as one of the necessary conditions of trauma adverse effects – massive blood loss, hypovolemia and hemorrhagic shock – models of multi-chain determination systems. Hemophilia, as a permanent individual state of the organism, does not in itself determine the cause of the massive blood loss traumatic process, but identifies at certain stages of bleeding an object factor – a condition of disturbance of hemostasis. Violation of hemostasis and continuous bleeding from damaged blood vessels are the causal factors that, when interacting, manifest the cause of relatively massive blood loss (consequence). Traumatic tooth extraction and damage to the blood vessels are causal factors that manifest with necessity and sufficiency the cause of the bleeding (consequence). However, between traumatic tooth extraction and hemorrhagic shock, causation is absent, and is determined by conditionality. Between hemophilia and hemorrhagic shock, causation and conditionality are absent.

In the systems of structures of the full cause, as the research proves, the interconnection of forensic objects with each other determines different kinds of regular object relations, which in interaction underpin pathological processes in the body, which underlie the mechanisms of trauma formation and complications and, in general, optimize expert and investigative evaluations of objects (events) of reality.

Conclusions

- 1. The causal modeling of regular communication in the media has been studied very often and has been relevant for many years, but remains relevant to many issues that have not been theoretically and practically resolved. This stagnation is objectively related to the limitation of the use of general methodology methods for the analysis of trauma dependencies. In the guidance of forensic experts, experts are encouraged to use only traditional orthodox causal analysis and to exclude from this analysis some causal factors of dependence.
- 2. Joint causal system modeling by the expert of the circuit of temporal pattern connection of the traumatic process allows in retrospection: to differentiate between causal and non-causal relevant factors of the system of the full cause, including causal determinants, conditions relevant, conditions necessary and not sufficient, conditions sufficient and insufficient; diagnose regular relationships: cause and effect (causation), conditionality (C), states (S); to determine localization, sequence in time and space of relevant factors chain dependence, their location, causal roles in the traumatic process.
- 3. Issues that are solved by causal modulation from an objective perspective greatly expand the expertise and investigative capabilities of causal analysis and evaluation of the objects and circumstances of events.

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Реферати

МЕТОДОЛОГІЧНІ ЗАСАДИ ПРИЧИННО-СИСТЕМНОГО МОДЕЛЮВАННЯ ПРОЦЕСУ ТРАВМИ

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Метод спільного причинно-системного моделювання закономірною зв'язку травматичного процесу сконструйований на матеріалі практичних експертиз архіву обласного бюро судово-медичної експертизи (СМЕ). Конструювання закономірною зв'язку (залежності) процесу стосовно СМЕ розроблено шляхом об'єднання традиційного причинного і сучасного системного підходів. Спільне причинносистемне моделювання залежності між об'єктами травматичного процесу дозволило: диференціювати причинні і Непричинні релевантні фактори системи повної причини; діагностувати зв'язку: причиннонаслідкові (ПСС), обумовленості (ОС), станів (СС); визначити роль чинників в процесі травми. Розроблений

МЕТОДОЛОГИЧЕСКИЕ ОСНОВЫ ПРИЧИННО-СИСТЕМНОГО МОДЕЛИРОВАНИЯ ПРОЦЕССА ТРАВМЫ

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Метол совместного причинно-системного моделирования закономерной связи травматического процесса сконструирован на материале практических экспертиз архива областного бюро судебно-медицинской экспертизы (СМЭ). Конструирование закономерной связи (зависимости) процесса применительно СМЭ разработано путем объединения традиционного причинного современного системного подходов. Совместное причинносистемное моделирование зависимости между объектами травматического процесса позволило: дифференцировать причинные и непричинные релевантные факторы системы полной причины; диагностировать связи: причинноследственные (ПСС), обусловленности (ОС), состояний (СС); определить роли факторов в процессе травмы.

в площині тексту метод квазіформальной репродукції модельованих об'єктів забезпечив документальне фіксування інформації про релевантних властивості експертних об'єктів. Отримані об'єктивні системні дані про каузальних властивості об'єктів оптимізували експертні оцінки об'єктів і подій.

Ключові слова: загальна методологія, спільне причинно-системне моделювання, релевантні судовомедичні об'єкти системи, верифікація зв'язку, квазіформальная репродукція моделі.

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Разработанный в плоскости текста метод квазиформальной репродукции моделированных объектов обеспечил документальное фиксирование информации о релевантных свойствах экспертных объектов. Полученные объективные системные данные о каузальных свойствах объектов оптимизировали экспертные оценки объектов и событий.

Ключевые слова: общая методология, совместное причинно-системное моделирование, релевантные судебномедицинские объекты системы, верификация связи, квазиформальная репродукция модели.

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MAIN GOALS OF PSYCHOLOGICAL REHABILITATION OF MILITARY SERVICEMEN IN THE POLTAVA REGION UNDER THE PRESENT CONDITIONS

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The outbreak of the war in the East of Ukraine has created new challenges for the psychological rehabilitation system. The purpose of the work was to analyse the main goals of psychological rehabilitation of military servicemen in the Poltava region in present conditions. The reports of the Rehabilitation Department of the Public Institution "Kremenchug Regional Clinical Hospital for Veterans of War" of the Poltava Regional Council were analysed for the 2014-2018. During 2014 and 2015 medical assistance to servicemen was provided only on an inpatient basis. Since 2016, it has become necessary to consult military personnel on an outpatient basis (2016-473 people (51.8%), 2017-570 people (48.3%), 2018-745 people (47.6%)) The highest percentage of treated military personnel was diagnosed with neurotic, stress-related and somatoform disorders, respectively in 2016-58.6%, in 2017-59.3%, and in 2018-56.7%. The presence among the military personnel of anti-terrorist operation / united forces operation of a constant increase in the number of patients with signs of impaired adaptation requires the earliest possible start of psychological rehabilitation.

Keywords: psychological rehabilitation, military servicemen, adaptation, stress response.

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The outbreak of the war in the East of Ukraine has created new challenges for the system of psychological rehabilitation in our country [3]. The issue of further adaptation of ex-servicemen who returned after the anti-terrorist operation / joint forces operation to the peaceful life has become urgent [5]. Psychological rehabilitation is the most important element in the restoration of mental balance [4, 7]. Its essence is to have various mental influences on the serviceman, taking into account therapy, prevention, hygiene and pedagogy. With the help of psychological influences, it becomes possible to reduce the level of neuropsychological tension, to restore the spent nervous energy faster and, thus, to make a significant impact on the acceleration of the recovery processes in other organs and systems of the body. This differentiates the psychological impact from other means of rehabilitation [4].

The main goals of psychological rehabilitation are:

- 1. Restoration of combat and labour ability of the participants of the anti-terrorist operation / joint forces operation.
 - 2. Prevention of disability.
 - 3. Social adaptation of military personnel.

Clarification of the goals of psychological rehabilitation allows to determine its tasks, content, structure, forces and resources involved, as well as the responsibilities of government bodies and officials in organizing, implementing and managing the process of restoring the mental balance of military personnel in a peaceful life.

The tasks of psychological rehabilitation:

- 1. Establishment of the nature and degree of importance of neuropsychological disorders, the determination of the individual and personalized characteristics of the response of military personnel to the received mental trauma and the development of rehabilitation measures.
- 2. Relieving psycho-emotional tension, irritability and fear through the use of complex effects (psychotherapeutic, medical, biological).

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