

The use of special knowledge in the investigation of violent crimes

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Abstract

The article is devoted to highlighting the issue of the use of special knowledge in the way of conducting an examination during the investigation of crimes committed with the use of violence. The study illustrates that the proposition that the expert's participation in the evidence in criminal proceedings is based on the laws and categories of dialectics and formal logic and, moreover, is carried out by combining practical and intellectual activity. Also, the main and atypical types of examinations are distinguished: forensic medical; forensic psychiatric; forensic psychological; forensic biological; ballistics; cold weapons examination; trans- and dactyloscopic. Depending on the investigative situation at the time of the forensic examination and the available evidence, a list of issues to be resolved by the expert is indicated, such as: forensic chemistry during the investigation of violent crimes; forensic and orological; soil science; molecular and other genetic examinations, depending on the type of crime, the situation under investigation and the physical objects available. It was concluded that the theoretical and methodological foundations of such examinations need to be updated and adapted to the latest technology and the best state-of-the-art world experience.

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Keywords: violent crimes; preliminary investigation; special knowledge; expert investigator; forensic medical examination.

El uso de conocimientos especiales en la investigación de delitos violentos

Resumen

El artículo está dedicado a resaltar el tema del uso de conocimientos especiales en la forma de realizar un examen durante la investigación de delitos cometidos con el uso de la violencia. El estudio ilustra que la proposición de que la participación del experto en la prueba en el proceso penal se basa en las leyes y categorías de la dialéctica y la lógica formal y, además, se lleva a cabo combinando la actividad práctica e intelectual. También, se distinguen los tipos de exámenes principales y atípicos: médico forense; psiquiátrico forense; psicológico forense; biológico forense; balística; examen de armas frías; trasológico y dactiloscópico. Dependiendo de la situación investigativa al momento del examen forense y de las pruebas disponibles, se indica una lista de cuestiones a resolver por el perito, tales como: química forense durante la investigación de delitos violentos; forense y orológico; ciencia del suelo; exámenes genéticos moleculares y de otro tipo, según el tipo de delito, la situación investigada y los objetos físicos disponibles. Se concluyó que los fundamentos teóricos y metodológicos de dichos exámenes deben actualizarse y adaptarse a la última tecnología y la mejor experiencia mundial más avanzada.

Palabras clave: delitos violentos; investigación preliminar; conocimientos especiales; investigador perito; examen médico forense.

Introduction

Practically every case of investigation of criminal offenses takes place with the use of special knowledge, that is, with the participation of specialists or forensic experts. This is primarily due to the fact that the investigation of criminal offenses is professionally carried out by specialists in the field of jurisprudence, criminology and other fields of scientific knowledge, beyond the boundaries of whose professional knowledge and skills lies much of the potential of science, technology, crafts, art, as it should be does not possess.

The need to engage non-legal specialists arises when one's own capabilities and knowledge, available methods and technical means of knowing the subject of such activity, skills in using such tools and methods are insufficient for effective collection, analysis, evaluation and use of information, establishing specific facts, detection of hidden connections, properties, features of the studied objects, performance of other tasks. Therefore, in all necessary cases, the authorized subjects of proof must resort to the help of specialists when solving issues that belong to their competence.

The criminal procedural law ambiguously resolves the issue of the possibility of using special knowledge during various investigative (search) and procedural actions. In some cases, the use of such knowledge is mandatory, in others it is optional (Part 2 of Article 242 of the Criminal Procedure Code of Ukraine) (Criminal Procedural Code of Ukraine, 2012).

Specialists in a certain field and field provide assistance to pretrial investigation bodies in the form of consultations, advice, recommendations, transfer of background information, participation in the preparation and conduct of investigative (search), covert investigative (search) actions, by conducting laboratory tests, surveying enterprises, areas of the territory and other activities.

Many forensic scientists and proceduralists draw attention to the underestimation of the possibilities of using the results of involving specialists in the conduct of investigative (search) actions, to the conduct of forensic examinations in the process of proof, to the imperfection of legal regulations and the organization of their use for this purpose, to the shortcomings of scientific and methodological provision of this activity.

At the same time, it is generally recognized that forensic examinations are one of the integral elements of the system of actions for gathering evidence, identifying and overcoming opposition to the investigation, allowing to obtain objective and convincing investigative and evidentiary information.

At the same time, conducting forensic examinations is of key, and often decisive, importance during the investigation of any criminal offense. It is difficult to overestimate the importance of using this form of special knowledge to establish the circumstances of a crime involving the use of violence, the quick and objective investigation of which is impossible without the appointment and conduct of forensic examinations.

As evidenced by the results of the study of the practice of the application of special knowledge, the possibilities of modern achievements of science and technology in the investigation of crimes and in overcoming opposition to the investigation are currently not fully realized in practical activities for various reasons. This was also pointed out by 78% of the interviewed investigators and experts.

So, in the conditions of new and particularly dangerous forms of criminal activity, on the one hand, and the reform of law enforcement bodies, criminal justice bodies, adaptation of Ukrainian legislation to the European one - on the other, the issue of analyzing the theoretical background and studying forensic expert practice with the aim of delineating problematic issues that exist in the field of expert support for the investigation of violent crimes, on the basis of this - the development of ways to solve these problems.

1. Methodology of the study

The methodological basis of the research is the dialectical method of knowing reality. To study the scientific views and approaches of scientists and practitioners, such methods as analysis, synthesis, analogy, comparison, statistical method were used, which made it possible to obtain new knowledge about the object and subject of research.

The statistical method was used to collect and analyze data on the results of activities of pre-trial investigation bodies in criminal proceedings on violent crimes, in particular those that contained information on opposition to the investigation; dogmatic method - when interpreting categories and definitions, clarifying the conceptual and categorical research apparatus; modeling – when developing forensic recommendations on the use of special knowledge in the investigation of violent crimes; sociological - to study the views of investigators and experts on the problem of appointing and conducting forensic examinations in criminal proceedings.

The complex application of the specified scientific methods made it possible to identify problems in the application of special knowledge in the investigation of violent criminal offenses and the use of the results of forensic examinations for the purpose of clarifying the circumstances of the criminal offense and overcoming opposition to the investigation of such crimes.

2. Analysis of recent research

In forensic science, the theory and practice of using special knowledge in the investigation of violent crimes and in overcoming opposition to the investigation has been studied by a significant number of scientists. However, modern research methods and scientific and technical means of obtaining evidence in criminal proceedings, as well as overcoming opposition to the investigation of violent crimes, were not always fully taken into account in scientific works.

It should also be noted that specialists in the field of criminal procedure and criminology, paying some attention to the procedure of using special knowledge in the investigation of crimes committed with the use of violence, in accordance with the content of the subject of their science, do not pay enough attention to the issue of the tactics of using expertise in modern conditions.

Currently, the issue of effective investigation of crimes using an interdisciplinary and integrative approach is especially relevant, since crime can adapt to various ways of concealing crimes, improve the means of their commission with the help of modern knowledge. The specified circumstances lead to the need to use, along with professional legal knowledge, the use of special knowledge in various fields of science, technology, art, crafts (medicine, auto engineering, economics, etc.) (Kryvda and Kryvda, 2021).

Thus, the research topic is relevant for the development and improvement of forensic science and the practice of investigating crimes committed with the use of violence.

The purpose of the scientific article is to develop a system of theoretical provisions and scientific and practical recommendations for using the capabilities of forensic examinations in the investigation of violent criminal offenses, as well as for overcoming resistance to such an investigation.

3. Results and discussion

Correct understanding of the concept of special knowledge in the criminal process is an important condition for their use in various forms by participants in criminal proceedings when investigating criminal offenses with the requirements of the law.

According to modern legal doctrine, special knowledge is non-common knowledge that is not widely distributed and is possessed by a limited circle of specialists (expert is a general term for a person who possesses special knowledge), so the use of special knowledge in pre-trial investigation is based, first of all, on the involvement of to the process of investigation of a specialist and an expert, that is, persons who possess such special knowledge and skills (Hora, 2013).

Special knowledge is an element that determines the procedural and legal status of participants in criminal procedural activities. They influence the formation of their rights and obligations, the system of guarantees, conditions and procedure of activity in the process of investigating criminal offenses, determine the characteristic procedural significance of the results achieved during such activity (Lazebny, 2016).

Without going into polemics regarding the forms of procedural application of special knowledge, we note that for half a century, the dominant opinion has been accepted by modern scientists and practitioners with minor changes and minor additions. We consider important the provision according to which special knowledge and scientific and technical means are used in court proceedings by directly authorized subjects of evidence, specialists, officially appointed experts (court experts) (Shepitko, 2001).

One of the procedural forms of using special knowledge is the specialist's participation in investigative and judicial actions. Based on criminal procedural norms, he is almost unanimously considered to be a person who possesses knowledge and skills and is engaged by an operational unit, an investigator, a prosecutor, or a court to assist in identifying, securing, and removing evidence (Ishchenko, 1990).

We will focus on the content of the activities of knowledgeable persons who are involved in criminal proceedings as an expert in the investigation of violent crimes. The activity of an expert differs significantly from the activity of a specialist in that the expert is a special procedural figure, and the task of the expert examination is the analysis of certain data in order to establish new facts that are important for the pre-trial investigation. In addition, the expert's opinion has probative value (Kravchenko *et al.*, 2022).

Violent crime against life and health is a set of deliberate attacks aimed at interfering with the physical and mental integrity of the victim of the crime with the aim of causing death or bodily injury.

First of all, we note that the range of violent crimes against the life and health of a person is diverse and wide. They are provided for in Chapter II of the Special Part of the Criminal Code of Ukraine.

These include: premeditated murder; deliberate murder, committed in a state of strong emotional excitement; deliberate killing by the mother of her newborn child; intentional homicide in case of exceeding the limits of necessary defense or in case of exceeding the measures necessary to apprehend the criminal; manslaughter due to negligence; leading to suicide; intentional grievous bodily harm; intentional bodily injury of moderate severity; intentional grievous bodily harm, caused in a state of strong emotional excitement; intentional infliction of grievous bodily harm in the event of exceeding the limits of necessary defense or in the event of exceeding the measures necessary to apprehend the criminal; intentional slight bodily injury; beatings and beatings; torture; negligent serious or moderate bodily injury; threats to kill and others (Criminal Code of Ukraine, 2001).

The Law of Ukraine "On Forensic Expertise" defines the concept of forensic expertise as follows (Article 1) (On Forensic Expertise, 1994).

Forensic examination is a study by an expert based on special knowledge of material objects, phenomena and processes that contain information about the circumstances of a case that is being processed by pre-trial investigation bodies or a court (Markus, 2007).

Such actions are aimed at clarifying the circumstances that are important for criminal proceedings, which are reflected in the opinion of an expert, at the request of a party to criminal proceedings or at the request of an investigating judge or court (Nikitina-Dudikova, 2022).

First of all, we note that forensic examinations during the investigation of crimes committed with the use of violence can be appointed both at the initial and subsequent stages of the investigation. At the same time, one should not forget about determining the terms of conducting forensic examinations.

According to I.V. Pie, they depend on the following factors: the complexity of the study; workload of experts; availability of necessary equipment; the number and quality of objects, materials provided for research and questions posed for resolution; the average time spent on conducting research, the degree of development of the methodology for conducting this type of examinations (Pyrig, 2011).

A special place among forensic examinations during the investigation of crimes committed with the use of violence is held by the forensic medical examination, which is carried out in the vast majority (92%) of the mentioned criminal proceedings.

In criminal proceedings, forensic and medical knowledge can be applied separately. Thus, during the investigation of crimes, knowledge from such medical sciences as pathological anatomy (when examining a corpse), pathological physiology, traumatology (for gunshot injuries, various types of burns, etc.), dentistry, genetics, toxicology, forensic psychiatry, ophthalmology (for pretended diseases), obstetrics and gynecology, urology (when determining sexual states) (Avdeev, 1959). Also, forensic and medical knowledge can also be used in conjunction. On the border of this scientific knowledge, medical forensics, medical traceology arose, medical forensic examinations and medical forensic identification are carried out.

Forensic medical examination, as one of the types of forensic examination, is research based on special medical and biological knowledge of objects, phenomena and processes with the aim of providing a conclusion on issues that are or will be the subject of judicial proceedings and is an indirect means of proof.

The competence of the forensic medical examination includes (clause 1.4. Instructions): examination of corpses in cases of violent death; examination of corpses in case of suspicion of the use of violence or due

to other circumstances that determine the need for such an examination; examination of victims, accused persons and other persons; examination of physical evidence; examination of the materials of criminal and civil cases (On The Development And Improvement Of The Forensic Medical Service Of Ukraine, 1995).

Cases of mandatory forensic medical examination are regulated by Article 242 of the Criminal Procedure Code. This is the need to establish the causes of death; determination of severity and nature of bodily injuries; establishing the age of a person, if it is necessary to resolve the issue of the possibility of bringing him to criminal responsibility, and it is impossible to obtain this information in any other way (Criminal Procedure Code of Ukraine, 2012).

Thus, during the investigation of criminal offenses committed with the use of violence, the forensic medical examination can solve a wide range of issues, in particular, the nature and degree of severity of bodily injuries, the age and mechanism of injuries, the type and type of weapons used to inflict them, etc.

The object for which this examination will be conducted is also of great importance. In practice, in most cases (94%) this examination is conducted only in relation to the person of the victim. We believe that when such crimes are committed, it is necessary to conduct an examination of both parties at once, because it is not clear what status they will have at the end of the investigation, and the moment of conducting a forensic medical examination may be missed.

The term “forensic medical examination of living persons” (victims, suspects) means a specific scientific and practical study, which is carried out in accordance with current legislation to solve specific medical problems that arise during the investigation of a specific crime (Goncharenko, 2010).

For example, the appointment and conduct of forensic medical examinations during the investigation of bodily injuries is mandatory in order to establish their nature and degree of severity in the victim, as well as the suspect, if he has injuries that occurred as a result of the actions of the victim.

The expert’s opinion is based on objective data obtained as a result of studying the circumstances of the proceedings, medical documents, interviewing and examining the victim, and conducting special research. In exceptional cases, when the forensic medical expert is not able to conduct an examination of the victim, but he has all the necessary medical documents for conducting a forensic medical examination on the state and nature of the infliction of bodily injuries, the examination is permissible without the presence of the victim.

Also, the expert has the right to apply to the subject of the appointment of the expertise to provide him with the documents necessary for conducting the specified investigative (search) action.

During the resolution of disputed questions about the degree of severity of bodily injuries, the mechanism and method of causing bodily injuries, it is recommended to appoint a commission forensic medical examination. In such cases, forensic medical experts are provided with criminal proceedings materials related to the issues to be resolved.

In cases of bodily injury at the scene or on the instruments of the crime, on the body of the criminal or on his clothes, surrounding objects, various traces of biological origin can be detected, such as blood, saliva, hair, parts of epithelial or other body tissues and other biological secretions of a person. therefore, there is a need to appoint a forensic biological examination.

The obtained conclusions of the forensic biological examination can be quite significant when solving a crime and proving the suspect's guilt, since the detection of biological traces of the suspect at the scene of the crime or on the victim convincingly indicates the involvement of a specific person in the commission of the crime.

Forensic biological examination of material evidence should be prescribed to establish the type of substance under investigation, group and typical signs of blood, hair, saliva, semen, urine and other objects. The study of criminal proceedings initiated for the commission of the examined category of crimes established that this type of examination is used in 8% of cases.

We consider such a small number of these examinations to be incomprehensible, because in most cases there is physical contact of the attacker with the object of the crime or the victim, instead, with the help of forensic biological examination, many controversial issues can be resolved during the investigation. We believe that such a low level of their implementation is explained by the specifics of identifying, extracting and fixing physical evidence of the specified category.

During the investigation of violent crimes, in cases of a large amount of blood traces, the investigator should order complex forensic examinations, such as forensic biological and forensic examinations, complex medical and forensic examination of blood traces.

The specified examinations are conducted jointly by forensic experts and forensic doctors during the investigation of the instrument of the crime, the marks on them, the nature of the injuries on the victim's body and the circumstances of their occurrence.

Forensic examinations, in particular, traceological, dactyloscopic, ballistic, cold weapon examination, and others, are of great importance during the investigation of crimes of this category of criminal proceedings.

According to the results of the examination of criminal proceedings, it was established that in 27% of cases of investigation of violent crimes, it was necessary to appoint a forensic psychiatric and forensic psychological examination.

A forensic psychiatric examination is prescribed in the case when there are doubts about the mental health of the suspect, caused by his inappropriate behavior, sudden aggression, a significant amount of physical damage inflicted on the victim, the presence of information about deviations in behavior, received from acquaintances or as a result of personal communication with the investigator. This examination is also prescribed for the victim in the event that the physical injuries inflicted on the person caused mental illness (Chronous, 2017).

During pre-trial debriefing, a forensic psychiatric examination is prescribed to determine the mental state of the suspect in the presence of data that raises doubts about his sanity. The mental state of a person, which is noted in the special literature, affects a whole complex of criminal-legal and procedural manifestations of the subject: the very fact of the crime, its nature, the circumstances of its commission.

Sobriety, as well as guilt and responsibility, is a central methodological category of law both from the point of view of its fundamental theoretical solution and from the point of view of practical value and applied significance for the observance of human rights and freedoms (Mikheev, 1998). The study of criminal proceedings on violent crimes established that the specified examination took place in 14% of cases.

If it is necessary to study the condition of the suspect (accused), which affects his consciousness and actions, and the moment of the commission of the crime, to find out various properties of the mental state or other individual psychological characteristics of the victim, suspect or witness during the pre-trial investigation, a judicial psychological examination.

The task of finding out whether a person has signs of mental retardation that are not related to a mental illness, and if so, how they manifest themselves; whether the person has signs of mental retardation or other mental characteristics caused by acquired somatic diseases; whether the person has properties, the presence of which could make it impossible or possible not to fully control his actions; could a person on the eve of crimes against public order and at their beginning have conflict experiences that affected his behavior and other things.

The subject of a complex forensic psychological and psychiatric examination is to establish the influence of the features of the mental state of a person on the quality of reflection and regulation of the sub-expert at the moment of interest to the investigator (court).

This type of examination can be prescribed on the basis of data on the person's: brain injuries, mental retardation, low intellectual development, personality disorders with a tendency to fantasize and suggestion, which causes the investigation and the court doubts about their ability to correctly perceive the circumstances that have significance for criminal proceedings, and to give correct testimony regarding these circumstances.

During a comprehensive examination - an expert psychiatrist establishes the presence or absence of neuropsychological disorders in the examined person, - an expert psychologist establishes - the ability of a person with the specified types of pathology to correctly perceive the circumstances that are important for criminal proceedings, and to give correct testimony about them , as well as correctly understand the nature and significance of committing criminal acts against her.

In view of the above, the tasks of a complex forensic psychological and psychiatric examination include the establishment of two main groups of circumstances that are of interest to investigators and judicial authorities: the nature of the mental state and the assessment of its influence on the behavior of suspects (accused), victims and witnesses.

According to the study of criminal proceedings, 44% of violent crimes were committed while intoxicated. That is why, as O. Ovcharenko aptly notes, forensic drug examinations are conducted in criminal proceedings of the specified category (Ovcharenko, 2007). In order to appoint such an examination, it is not necessary that the person was detained in a state of alcohol intoxication and that he was examined for the presence of a state of alcohol or drug intoxication.

Traceological examination solves diagnostic or identification tasks that arise in the process of investigating violent crimes. It is carried out with the aim of identifying the identity of the suspect (accused) by traces of hands, feet (shoes), as well as various instruments of crime used by him, by their traces. Individual criminals do not worry about the destruction of fingerprints at the scene, so positive results are given by dactyloscopic examination.

During traceological studies of human shoe traces, experts solve the questions about the size, type, species and purpose of the shoes that left a mark, about the mechanism of formation of shoe marks, establish individual physical defects of the person who left the mark, gait characteristics, his height and weight. In the presence of samples for a comparative study, the identification question about the person who left traces can be solved.

During the investigation of the method and instrument of violence (for example, causing bodily harm), traceological studies, which resolve the issue of the mechanism of formation of traces and the group affiliation of the instrument of crime, as well as ballistic examination and cold weapon

examination, may be prescribed. Modern capabilities of these examinations allow solving fundamentally new tasks, but the order of appointment and the list of typical questions do not have significant features.

Taking into account the investigative situation, the mechanism of the use of violence, the available evidence and the testimony of the victim, witnesses, suspect, the investigator during the appointment of such examinations must: find out the issue of the victim's self-inflicted injury with this firearm (cold weapon); establish the relative location of the victim and the weapon at the time of the shot (injury); to find out the distance of the shot and the marks on the clothes as a result of a shot from close range, etc.

The forensic examination of cold weapons in the investigation of crimes in Ilnitsa solves the following questions: is the object taken from the suspect a cold weapon; to which type of cold weapon does the knife belong; in what way (factory or home-made) the knife (dagger, palm knife, nunchucks, brass knuckles, mace) seized from the suspect was made; whether the item seized from this person is a blank for a cold weapon; whether the object submitted for research was made from a certain type of sports or combat weapon; was the knife seized from the suspect recyclable; whether these tools were used to make cold weapons.

Traces of the action of cold weapons on the human body and clothing are examined by a forensic medical examination, traces of its action on other objects are examined by a traceological examination using methods of object identification based on static (pressing, blows) and dynamic (sliding) traces.

Forensic ballistics examination is prescribed in the investigation of violent crimes in which firearms were used. When investigating violent crimes, as noted by K.D. Paul, the study of firearms should always be given special attention (Phol, 1985), because the study of weapons, the traces left after their use, contains data that are needed for the reconstruction of the mechanism of the criminal act, information about the identity of the criminal, etc.

This examination is carried out during the investigation of violent crimes also in those cases when it is necessary to find out whether the object seized from the suspect is a weapon; whether the victim was injured by this object.

It is appropriate to emphasize that when a weapon is discovered and before conducting an examination, it must be examined in detail in order to find traces that can themselves be objects of research (fingerprints, blood, hair, etc.) (Mikheev, 1998). After all, as noted above, traces of blood and hair can be the object of forensic biological examination of physical evidence.

Explosives examination in the investigation of violent crimes can decide: whether the detected substance is explosive, in what way it was manufactured or homemade, and from what components it is made; what is the origin of the investigated explosive device; adequacy of conditions for storage and transportation of explosive substances or explosive devices, etc.

In addition to ballistics and explosives examinations, other forensic examinations (handwriting, technical examination of documents, traceological examination), examination of materials and substances can be carried out in such proceedings.

The need to conduct a dactyloscopic examination arises in the case of finding handprints at the scene of the incident and solving identification tasks that arise when finding out the fact of the presence of a certain person at the scene of the incident, the mechanism of causing bodily injuries, checking the testimony of the victim, the suspect regarding the circumstances of causing bodily injuries.

For dactyloscopic research, experts are provided with handprints found at the scene, crime tools and other objects that may contain handprints, dactyloscopic maps for comparative research.

We consider it expedient to dwell separately on forensic examinations, which are less often prescribed in the investigation of violent crimes. Thus, during the appointment of a forensic examination of materials, substances and products, the investigator can establish the general generic or group affiliation of the presented objects.

Given that in the process of using violence, there is often a mutual transfer of microparticles and fibers from one contacting surface to another during a fight, damage to clothing, resistance by the victim, etc., and as a result of this research, we have the opportunity to establish the fact of the presence of a person at the scene of the crime, establish his involvement to the instrument of the crime and the victim, establishing the instrument of inflicting bodily harm.

Similar information can be established with the help of a forensic soil science examination in the presence of traces of soil on clothes or other objects. The main tasks of experts during a soil science examination are to identify microlayers (particles) of soil origin on carrier objects, to determine their nature, to establish a common generic (group) affiliation with the provided samples, to establish the origin of soil on carrier objects from a certain area of the area (another place events), as well as establishing the mechanism of formation of soil layers (Peculiarities of soil science examination, 2017).

The improvement and development of the capabilities of forensic examinations provides the possibility of identifying a person by his

biological traces. Odorological examination examines traces of human odor, the importance of which is similar to the importance of handprint research in solving violent crimes.

The advantage of scent trails is that it is difficult for a person to control or destroy trails with their scent, since it is not perceived by a person organoleptically. Conducting an odorological examination allows you to establish the presence or absence of odor traces on an object, which provides an opportunity to find out the situation at the scene of the incident, to check the versions in relation to specific persons and their actions, the circumstances of the event and its individual episodes, to identify objects that may have odor traces on them person, to establish the individual smell of a person, on objects thrown away by him at the time of detention, to identify the locations of participants in the event, to establish their number and roles, to check suspects for involvement in the commission of a crime (Alekseev *et al.*, 2014).

It is worth paying attention to the regulation of forensic molecular genetic examination. In particular, it is advisable to prescribe the study of biological material using the capabilities of forensic genotypic examination in the following cases: the need to establish whether blood, saliva, semen, hair, organs, tissues or individual parts of the body belong to a specific person or exclude such belonging; establishing the gender of biological traces and objects; diagnostic typing for the purpose of subsequent identification with objects of crimes or accidents; investigation of the facts of infanticide, including that of a newborn child.

Establishing whether the remains or parts of a corpse are the remains of a certain person based on the study of biological samples of close relatives; detection of a connection between different crimes, if traces of biological material found at the scene of different crimes were left by the same person; comparison of the genetic profile of a biological object submitted for research with genetic data in a computer database for the organization of a search for a specific person, etc.

Forensic chemical examination is prescribed if there is a need to investigate the composition of a substance used by a criminal to commit a criminal offense with the help of powders, paints, acids.

We share the position of individual criminologists that when investigating violent crimes, in particular enforced disappearances (in addition to dactyloscopic examination), it is advisable to more actively use genetic identification examinations, the main task of which is to identify a specific person on the basis of genetic information contained in biological particles - pieces of skin, as well as in fluids – saliva, blood, sweat, and examination of telecommunication systems and means, which is connected with the need to study the information contained in the memory of mobile

phones, smartphones, in particular the SIM card (of the victim or suspect) (Sokyran and Voitovych, 2021).

The effectiveness of the disclosure and investigation of serial sexual-sadistic murders is related to the possibility of resorting to genotypic (genomic) studies and the involvement of relevant experts. In criminology and forensics, especially recently, attention is focused on the problems of forensic genetic identification, DNA (deoxyribonucleic acid) analysis, DNA identification (Kupiansky, 2016).

DNA research makes it possible to create a reliable evidence base in the investigation of violent crimes, overcoming opposition to their investigation. The method of DNA analysis allows identification of the subject at the level of individual-specific identity, rather than group equipment. Further improvement of genotyposcopic examination is also related to the development of the DNA analysis method for diagnosing the properties and conditions of a person based on his traces.

The DNA analysis method is effective and allows to identify a person in the shortest possible time, as well as with high accuracy, which contributes not only to shortening the time of conducting expert research, but also to establishing the identity of the criminal himself.

Phonoscopic examination is prescribed for the performance of diagnostic and identification tasks from the studied category of criminal proceedings. Before the phonoscopic examination, the following diagnostic questions may be asked: how many people participated in the conversation recorded on the investigated phonogram; what is the literal meaning of the text; what is the content of the illegible record on the presented phonogram; what was the surrounding environment at the time of recording the phonogram, etc.

It is important to emphasize that in order to identify a person, the expert, in addition to the phonorecord carrier, must be provided with carriers with samples for examination. These materials should contain words and phrases that reveal peculiarities or pathologies of the language, other deviations from the generally accepted norms of the literary language.

Also, information about the successful use of so-called non-traditional special knowledge and means of cognition, belonging to the field of genotyping, hypnology, psychophysiology, is increasingly common in forensic literature. Along with them, there is a searching «psychophysiological portrait» of the alleged criminal, forensic polygraphology, forensic hypnology, forensic drug psychotherapy, forensic odorology and others.

The given list of examinations during the investigation of crimes committed with the use of violence is not exhaustive. Their choice depends on the specific criminal offense, the investigative situation and the inner conviction of the investigator conducting the pre-trial investigation.

Conclusions

The problems considered and analyzed in the scientific article made it possible to formulate appropriate conclusions and determine the prospects for the use of special knowledge in the form of conducting an examination in the investigation of crimes committed with the use of violence.

Special knowledge, which is used during the investigation of crimes committed with the use of violence, contains relevant information about forensic means and methods of establishing, preserving, extracting and researching physical traces of the specified crimes and other physical evidence, which are used during expert, investigative or judicial activities, recorded on various carriers of this information.

Special knowledge during the investigation of violent criminal offenses is used in both procedural and non-procedural forms. We considered the use of special knowledge in a procedural form - within the framework of forensic examinations. The most typical forensic examinations during the investigation of crimes include: forensic medical examination, forensic biological examination, dactyloscopic examination, forensic traceological examination of footprints, forensic ballistic examination, cold weapon examination, forensic psychiatric examination. The theoretical and methodical foundations of such examinations need to be updated and adapted to the latest technology and best global experience.

During the pre-trial investigation of criminal offenses committed with the use of violence, the following may also be prescribed: forensic-chemical examination, forensic-odorological, soil science, molecular-genetic and other types of examinations, depending on the type of crime, the investigative situation and the available physical objects. Insufficient use of the possibilities of these examinations was found, which is explained primarily by an underestimation of their role and importance and insufficient awareness of the employees of investigative bodies with the achievements of expert practice.

A thorough analysis of the materials of criminal proceedings, interviews of investigators and experts, as well as the study of special literary sources in the aspect of the research topic, made it possible to identify the following problems in the theory and practice of the appointment, conduct and use of examinations: insufficient knowledge of authorized subjects of criminal proceedings, means and methods of detection and overcoming opposition to the investigation with the help of examinations; a clear insufficiency of available methodological and general theoretical literature on these problems.

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