

FEATURES OF DERMATOGLYPHICS OF SUICIDES (LITERATURE REVIEW)

Chadiuk V.O., Kozan N.M.

Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine

Summary. The analysis of the number of suicides, factors and conditions of its cause is complex and subjective, as it is associated with insufficient information about the causes of suicide. In this regard, it becomes especially important to search for markers that allow to identify persons prone to suicidal states, to carry out preventive measures with him in order to prevent suicides. The aim of this work was to study the latest publications on the study of genetic and phenotypic traits inherent in persons prone to suicidal acts. It has been established that to date there are no scientific studies that would reflect the relationship of phenotypic manifestations in suicides, in particular, anthroposcopic, anthropometric and dermatoglyphic features of all phalanges of fingers and palms.

Keywords: dermatoglyphics; suicide; phenotype.

Introduction. The term «suicide» in science usually refers to the concept of voluntary death. According to published statistics, in most countries the suicide rate is constantly rising. [1] But these data do not reflect the real state of the problem, as only obvious suicide cases, which are beyond doubt, are included in official statistics. The number of real cases is much higher than official statistics. This indicates not only the relevance but also the global nature of this problem. [2]

According to sociological theory, suicide is a manifestation of the rupture of intrapersonal ties and maladaptation of the individual in conditions of micro-conflict. Autoaggressive thoughts appear during excessive workload, chronic alcoholism, drug addiction, asceticism, sexual problems and are one of the options for behavior in extreme situations. In some cases, chronic alcoholism is considered the main cause, in others – as a condition that facilitates the implementation of suicidal tendencies.

Psychopathological theory considers suicide as a manifestation of mental illness, the proportion of which according to various authors ranges from 12 % to 40 % and is 9,89 % in schizophrenia, 53,3 % – in depression 58 % – in a state of paranoid hallucinatory psychosis. An analysis of data from studies in the United States, Europe, and Asia found that 5,6 % of suicides affected schizophrenia; of these, 90 % of the mentally ill, who accounted for 1 % of the total population, received maintenance therapy, 88,1 % of patients committed suicide during inpatient treatment, 31 % of patients after discharge. Comparison of follow-up, contents of death certificates and testimonies of relatives of the deceased revealed that in 16,3 % of cases the aggravating factor was anatomical developmental defects, severe pain, diseases of the genitourinary system and related psycho-emotional exhaustion.

During the 80s and 90s of the last century, there was a steady increase in suicides among unmarried American young men aged 15-24 with various forms of drug addiction (41 %) and mental disorders (59 %); the number of suicides among Australian youth aged 15-19 and female adolescents (98 %) aged 11-17 doubled in Russia, where the sexual factor was an aggravating factor. In the United Kingdom, suicides were 40 % higher among men aged 45-64 and decreased among girls and women aged 15-24, with suicide attempts due to hanging and carbon monoxide poisoning predominating among men. In Switzerland, men were dominated by violent suicide attempts – cutting veins, hanging, traumatic injuries, women – all kinds of poisoning. In the United States, 80 % of suicides belonged to a related race and committed suicide at the age of (36±12) years due to hanging (26 %), due to gunshot wounds (28 %), falls from a height (22 %) and poisoning (24 %). [3]

The analysis of the number of suicides, factors and conditions of its cause is complex and subjective, as it is associated with insufficient information about the causes of suicide.

In this regard, it becomes especially important to search for markers that can identify people prone to suicidal states, to carry out preventive measures with him to prevent suicide.

According to some authors, it is necessary to take into account age, gender and territorial gradations of the population, which cause significant differences in the level, dynamics and trends of suicide rates in each region. In addition, the mortality rate from suicide can be affected by occupation,

the presence of severe somatic pathology and mental disorders. The relationship between suicidal ideation and ethnicity is important. The relationship between suicidal tendencies and genetic factors was also established by the method of twin analysis, as well as the study of phenotypic traits, in particular, dermatoglyphs.

A.N. Chistikin, T.A. Chistikina, M.O. Zoroastrov (2012) [4] studied the dermatoglyphics of the feet in suicides. They found that in suicides, compared with the control group, the main lines of the feet ended much more often at point X, and the pattern of the nail phalanges of the toes was simplified by drawings – increasing the frequency of arc patterns on most toes of both feet. The dermatoglyphs of the fingers and toes, palms and soles are characteristic of suicides. The relationship of dermatoglyphic features with suicidal tendencies is mostly weak, less often – of medium strength.

S.A. Ivanenko, A.P. Bozhchenko, I.A. Tolmachevym (2011) [5] found that dermatoglyphic phenotypes of suicides of different ethno-territorial groups (on the example of comparison on the one hand Europeans of St. Petersburg and Leningrad region, and on the other – Europeans Tyumen and Tyumen region) correspond to dermatoglyphic adaptations and may be reduced be one of the explanations for the increased risk of suicide under chronic stress. The authors identified statistically significant objective criteria and developed mathematical models based on them, which allow in combination with other methods to more effectively determine the risk of suicide in the practice of forensic and forensic psychiatric examinations, as well as use them in professional selection.

According to A.Ya. Shamsieva, Sh.I. Ruzieva, D.D. Buranovoi, N.I. Guzachevoi (2019) [2], among the dermatoglyphic parameters of persons prone to suicidal acts, include arcuate patterns only on the index and ring fingers of the left hands, a set of papillary lines on all fingers, the frequency of radial loops (Lr) on the right hands, the end of the palmar lines 5th field on the right hands, the end of the palm lines A in 4-5 fields, the end of the palm lines B in the 5th palm field.

The result of the analysis conducted by S.V. Davidovskim, L.I. Danilovym, Zh.A. Ibragimovoi et al. (2020) [6], there is a significant difference in the frequency of the G allele of the BDNF gene in females who committed self-harm in different ways, compared with females who committed high-lethal self-harm ($p = 0,05$). In men who have committed high-lethal self-harm, and comparison groups. the frequency of the C-gene of the HTR1A gene was significantly higher than the frequency of manifestation of this allele in individuals who committed self-harm in different ways ($p = 0,04$). The use of the Python programming language revealed the significance of the frequency of occurrence of the CT genotype of the SKA-2 gene ($r = -0,33$) for the formation of suicidal behavior in females, combined with the cut-off level for the increased frequency of the B allele of the BDNF gene (0,28). The study showed that for females with a pronounced motivation to commit suicide, regardless of the trauma of the suicide attempt, is characterized by a pronounced level of relationship with an increased frequency of birth allele CT allele SKA2 gene; for males, this pattern has not been established.

R.M. Mustafin, A.V. Kazantseva, R.F. Enikeevava et al. (2019) [7] found that the study of the role of epigenetic factors in the development of suicide attempt and implementation is a modern method for determining reversible changes in the brain of patients. The relationship of specific changes in DNA methylation, histone modifications and NKRNA levels with the expression of genes associated with suicide attempt and implementation has been demonstrated. This indicates the prospects for the development of methods of targeted therapy using the results of epigenetic studies for the treatment of this serious and socially significant pathology. The most successful objects of epigenetic influence – NKRNA, the use of which has already begun in clinical practice. Because epigenetic factors are modulated by stressors and environmental influences, a possible effective method of correcting stress and committing suicide may be lifestyle changes in patients and psychotherapy to study their role in changing the epigenetic regulation of the brain.

O.O. Akimenko (2013) [8] conducted a study based on a multifactorial study of patients with schizophrenia, paranoid form, continuous type of course, who committed suicide attempts. The author came to the following conclusions that most self-destructive actions were motivated by psychotic factors. It is established that the total frequency of burden of mental illness, alcoholism, suicide attempts in the family history among relatives 1-2 degrees of kinship in the main group significantly exceeds in comparison with the control group. Genotypic features of patients with schizophrenia with autoaggressive behavior, such as burdened heredity, premorbid disorders, predominance of recessive traits in the phenotype in 78 %, physiognomic and dermatoglyphic data, holographic interference

microscopy data on altered forms of erythrocytes. frequent disruptions of adaptation with the development of suicidal tendencies.

However, to date, there are no scientific studies that reflect the relationship of phenotypic manifestations in suicides, in particular, anthroposcopic, anthropometric and dermatoglyphic features of all phalanges of fingers and palms.

Conclusions. The causes of suicides are complex, ambiguous and sufficient information is needed to identify and correct them, which can be obtained by timely notification of these suicides from medical institutions and from the SME bureau to the relevant departments of the Ministry of Health of Ukraine and the Ministry of Internal Affairs of Ukraine. In addition, psychological practice allows to differentiate groups of people at risk of suicide and predict the legal aspects of its prevention.

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ОСОБЛИВОСТІ ДЕРМАТОГЛІФІКИ СУЇЦИДЕНТІВ (ОГЛЯД ЛІТЕРАТУРИ)

Чадюк В.О., Козань Н.М.

Івано-Франківський національний медичний університет, м. Івано-Франківськ, Україна

Резюме. Аналіз кількості самогубств, факторів і умов їх спричинення є складним і суб'єктивним, оскільки пов'язаний з недостатньою інформацією відносно причин суїцидних вчинків. Через це особливо актуальним стає пошук маркерів, що дозволяють виявляти осіб, схильних до суїцидальних станів, для проведення з ними профілактичних заходів з метою запобігання випадкам суїциду. Метою даної роботи було вивчення останніх публікацій стосовно дослідження генетичних і фенотипових ознак, притаманних особам, схильним до суїцидальних вчинків. Встановлено, що нині відсутні наукові роботи, які б відбивали взаємозв'язок фенотипових проявів у суїцидентів, зокрема антропоскопічних, антропометричних і дерматогліфічних ознак усіх фаланг пальців рук і долонь.

Ключові слова: дерматогліфіка, суїцид, фенотип.

ОСОБЕННОСТИ ДЕРМАТОГЛИФИКИ СУИЦИДЕНТОВ (ОБЗОР ЛИТЕРАТУРЫ)

Чадюк В.А., Козань Н.Н.

Ивано-Франковский национальный медицинский университет
г. Ивано-Франковск, Украина

Резюме. Анализ количества самоубийств, факторов и условий их возникновения является сложным и субъективным, поскольку связан с недостаточной информацией о причинах суицидных поступков. Из-за этого особенно актуальным становится поиск маркеров, позволяющих выявлять лиц, склонных к суицидальным состояниям, для проведения с ними профилактических мероприятий с целью предотвращения случаев суицида. Целью данной работы было изучение последних публикаций по исследованию генетических и фенотипических признаков, присущих лицам, склонным к суицидальным поступкам. Установлено, что на сегодняшний день отсутствуют научные работы, отражающие взаимосвязь фенотипических проявлений у суицидентов, в частности антропоскопических, антропометрических и дерматоглифических признаков всех фаланг пальцев рук и ладоней.

Ключевые слова: дерматоглифика, суицид, фенотип.

Відомості про авторів:

Козань Н.М. – доктор медичних наук, професор, завідувач кафедри судової медицини та медичного права Івано-Франківського національного медичного університету, м. Івано-Франківськ, Україна, e-mail: nkozan@ifnmu.edu.ua, ORCID ID: 0000-0003-1017-5077

Чадюк В.О. – асистент кафедри судової медицини та медичного права Івано-Франківського національного медичного університету, м. Івано-Франківськ, Україна, e-mail: vchadiuk@ifnmu.edu.ua, ORCID ID: 0000-0001-7392-7905

Information about authors:

Kozan N.M. – Doctor of Medical Sciences, Professor, Head of the Department of Forensic Medicine and Medical Law of the Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine, e-mail: nkozan@ifnmu.edu.ua, ORCID ID: 0000-0003-1017-5077

Chadiuk V.O. – intern, laboratory assistant of the Department of Forensic Medicine and Medical Law of the Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine, e-mail: vchadiuk@ifnmu.edu.ua, ORCID ID: 0000-0001-7392-7905

Сведения об авторах:

Козань Н.Н. – доктор медицинских наук, профессор, заведующая кафедрой судебной медицины и медицинского права Ивано-Франковского национального медицинского университета, г. Ивано-Франковск, Украина, e-mail: nkozan@ifnmu.edu.ua, ORCID ID: 0000-0003-1017-5077

Чадюк В.О. – ассистент кафедры судебной медицины и медицинского права Ивано-Франковского национального медицинского университета, г. Ивано-Франковск, Украина, e-mail: vchadiuk@ifnmu.edu.ua, ORCID ID: 0000-0001-7392-7905