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The article is devoted to the study of the fear level of death in young nurses and senior students of medical school, and the role of tolerance to uncertainty in the development of fear of death.

A study of 150 respondents was carried out: 73 people are nurses and paramedics, 72 are medical school students, senior courses. Students underwent practical training in hospitals, but were not directly involved in work with patients with COVID-19. The following methods were chosen: "Fear of Death Scale" by J. Boyar, Templer's Death Anxiety Scale, method "Inclination to suicidal behavior" by T. N. Razuvaev. also the questionnaire " the Multiple Stimulus Types Ambiguity Tolerance Scale-II (MSTAT-II) by McLain in the adaptation of Osin. Women physicians who work directly in hospitals have a higher level of fear of death, but lower suicidal risks than students of medical specialties. Intolerance to uncertainty enhances individual manifestations of fear of death and suicidal risk.

Keywords: medical women, suicide, fear of death, tolerance, COVID-19.

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Formulation of the Problem: Throughout 2020, due to the COVID-19 pandemic, the workload on medical personnel has increased dramatically. More than any other group, doctors have been infected with COVID-19, work overtime, experience stress and overwork. In this regard, the study of the fear of death and those personal factors that enhance it is of particular importance precisely among medical personnel.

Purpose: To study the level of fear of death in young nurses and senior students of medical school, and the role of uncertainty tolerance in the development of fear of death.

Analysis of Previous Studie: Research on suicidal risks in young people and adolescents has been actively carried out in recent years. Carlos M. Coelho, Panrapee Suttiwan, (2020) in the process of meta-analysis of 28 relevant articles, divided the articles into six groups depending on their content and meaning: fear of the unknown, social isolation, hypochondria, disgust, fears associated with information, and compliance. Given the nature of fear and anxiety, coupled with the characteristics of the current COVID-19 situation, the authors suggested that doctors and other healthcare professionals from multiple specialties, as well as police, firefighters, rescuers, and rapid-response services, might be better able to deal with COVID-19, if they have (a) some tolerance for the unknown, (b) anxiety disorder with a low incidence of illness, (c) tolerance for social isolation; (d) a low level of sensitivity to disgust; (e) the ability to receive financial support, (f) be prioritized when medical attention is needed, (g) exercise caution in media coverage of COVID-19, and (h) be trained to achieve a high level of effectiveness. It also discusses the possibilities of preventive and therapeutic interventions that can help both the medical staff and the general population.

However, the problems of anxiety and suicidal risk of doctors have arisen not only in connection with the pandemic. Christine R. Stehman, Zachary Testo, Rachel S. Gershaw, and Adam R. Kellogg (2019) emphasize that more than 400 doctors die each year, probably due to increasing

depression and emotional burnout. More systemic causes were identified that did not depend on individual doctors. Such systemic reasons include limitations on electronic health records, long working hours and significant education arrears, all in a "no-mistake" culture. Blame and isolation in the face of medical errors and poor outcomes can lead to emotional trauma to the doctor, the so-called "second victim" syndrome, which is both a cause and a consequence of burnout. In addition, emergency physicians (EPs) are also particularly affected by the intensity of clinical practice, a higher risk of litigation, and chronic fatigue due to disturbed circadian rhythm. Burnt-out doctors (from the point of view of these authors) are unlikely to seek professional treatment and to try to cope with substance abuse, depression and suicidal ideation.

In addition to external causes, internal ones can also influence suicidal risks. So, for example, in the study by Nicole S. Smith, Rachel L. Martin Brian, W. Bauer Shelby, L. Bandel Daniel, W. Capron (2020) the authors draw attention to the fact that the risk factors for suicide are panic, fear of death and sleep disturbances. Nocturnal panic attacks that occur outside of sleep represent an intersection of these risk factors. Nowadays, only one study examines this relationship, but consider suicidality as a single construct. The authors found that nighttime panic would be associated with more suicidal thoughts, plans, and attempts in history than daytime fear of death. Participants recruited from a sample of the online community were rigorously screened for a history of fear attacks and panic attacks during the night and day, and completed questionnaires about past suicidal ideation, plans and attempts.

The study of the actual state of medical personnel during the pandemic began in China, against the background of the first wave of coronavirus infection. Haozheng Cai, Baoren Tu, Jing Ma, Limin Chen, Lei Fu, Yongfang Jiang, Quan Zhuang (2020) conducted a study during the recent epidemic in Hubei province. Across China, medical personnel at the forefront were responsible for contact tracing of patients infected with coronavirus disease 2019 (COVID-19). This study was focused on the psychological impact and coping strategies of frontline medical personnel in Hunan Province, adjacent to Hubei Province. The crossover observational study involved doctors, nurses and other hospital staff across Hunan province between January and March 2020. The research questionnaire consisted of five sections and 67 questions (0-3 points). The questionnaires were completed by 534 nursing staff. The responses indicated that they felt they had a social and professional responsibility to continue working overtime. Medical staff worried about their safety and the safety of their families and reported the psychological impact of reported deaths from COVID-19 infection. Having strong infection control guidelines, specialized equipment, hospital and government recognition of their efforts, and reduced reported cases of COVID - 19 improved staff health.

The COVID - 19 outbreak in Hubei has caused increased stress for medical personnel in neighboring Hunan province. The continued recognition of medical personnel by hospital management and government, the provision of infection control guidelines, special equipment and supplies to combat COVID-19 infection should be recognized as factors that can motivate medical personnel to work during future epidemics. A study of pediatric staff working in China was done by Yun Chen,a Hao Zhou,a,b, Yan Zhou,b and Fang Zhoua (2020). The data was collected using an anonymous self-assessment questionnaire. The questionnaire consisted of three parts: basic demographic data, the self-reported depression scale (SDS) and the self-reported anxiety scale (SAS). Subjects who have worked in high-risk areas such as COVID-19 wards, infectious disease wards, emergency departments, pulmonary medicine wards, or X-ray laboratories have been classified as high-risk workers.

105 questionnaires were collected, the average age of the respondents was 32.6 ± 6.5 years. Gender, age, marriage, years of employment, occupation, educational level, and economic income of primary health care workers did not influence anxiety and depression. No significant differences were found in the incidence of anxiety or

depression between respondents with experience with COVID-19 patients and those who did not. In addition, there was no statistically significant difference in the severity of psychiatric symptoms based on work experience. However, respondents with work experience reported higher rates of anxiety accompanied by depression than respondents without such experience (frequency of occurrence 31.6% and 12.6%, respectively; $\chi 2 = 4,1$, $P = 0,042$). The authors note that during the COVID-19 outbreak, the prevalence of self-reported depression and anxiety among pediatric healthcare workers was significantly higher.

Similar studies were carried out in Europe, for example in Poland. Cross-sectional study was conducted nationwide from March 16 to April 26, 2020 in Poland. A total of 2,039 respondents from all health care providers (59.8%) as well as other professionals completed the socio-demographic section, the General Health Questionnaire and the author's exposure-related questionnaire about SARS-CoV. An infection, the presence of protective measures, quarantine, changes in the work schedule and place of work during a pandemic, as well as feelings associated with the state of the pandemic were studies. It was found that healthcare workers were more likely to present corresponding psychopathological symptoms (overall score GHQ-28 (General Questionnaire-28)> 24) than the non-medical group (60.8% versus 48.0%, respectively), such as anxiety, insomnia, and somatic disorders. Male gender and old age were associated with significantly lower overall GHQ-28 scores among healthcare professionals, while among non-medical professionals, male gender was associated with significantly lower overall GHQ-28 scores. Somatic and anxiety symptoms and insomnia are more common among healthcare workers than among workers in other occupations. Ukrainian scientists Ivan Danyliuk (2020) with co-authors, within the framework of an international project, investigated the impact of quarantine and COVID-19 on the psycho-emotional state of Ukrainian citizens.

But the features of the psycho-emotional state of medical personnel have not been sufficiently studied.

II. RESEARCH STRUCTURE AND METHODS

A study of 150 respondents was carried out: 73 people were nurses and paramedics, 72 were students of a medical school, senior courses. Students did internships in hospitals, but were not directly involved in work with patients with COVID-19.

To study the experience of the fear of death, the following methods were chosen: "Fear of Death Scale" by J. Boyar, Templer's Death Anxiety Scale, method "Inclination to suicidal behavior" by T. N. Razuvaev. also the questionnaire " the Multiple Stimulus Types Ambiguity Tolerance Scale-II (MSTAT-II) by McLain in the adaptation of Osin. D. McLaine's method of tolerance to the unknown is a questionnaire that measures the tendency of a person to severely regulate one's own life, determining the desire to know all the conditions of the external environment, as well as the desire to control these conditions. The second version of the adaptation of E.N. Osin's methodology, version of 2004, was selected for the study. The author of the questionnaire defines tolerance to the unknown as a wider range of specifically directed reactions of the individual (from the attractiveness of this spectrum to its complete ignorance) to incentives that one perceives as unknown, complex, changeable, or making it possible to find several fundamentally different interpretations.

In the original questionnaire by D. McLaine, there are twenty-two statements, the agreement with which the respondents are asked to assess on a seven-point Likert scale. The adaptation by E. N. Osin also contains twenty-two statements, but items number three, twenty and twenty-one were excluded from the scale "Attitude to novelty", since they turned out to be statistically insignificant. Also, in addition to the general indicator that is obtained when calculating raw scores, indicators of five subscales are subtracted, concerning two blocks: openness to the unknown or leaving of unknown incentives, attitude to

novelty, attitude to complex tasks, as well as uncertain situations.

In terms of age, the largest number of respondents is from twenty to twenty-four years old. The lowest number of respondents is represented by young and older respondents: eighteen and thirty years old.

By gender, all respondents are women. The predominance of women in the sample is not accidental, it reflects the gender characteristics of the distribution of nursing staff in Ukraine.

A comparative study of the fear of death, anxiety, the level of tolerance to uncertainty was carried out in two groups: students and working doctors. The results are reflected in the table 1.

Table 1: Comparison of Mean Values in two Groups of Medical Women using the Mana-Whitney Test

Scales		N	Average student values	Average values of medical workers	Significance of differences
№	Age	150	22,625	24, 247	Not found
1	Fear of death	150	7,02	11, 28	≤0,05
2	Death anxiety (general)	150	7,583	13,623	≤0,01
3	Cognitive-emotional	150	3,763	7, 295	≤0,01
4	Physical changes	150	0,694	2, 127	≤0,05
5	Time awareness	150	1,097	1,022	Not found
6	Pain and stress	150	2,027	4, 654	≤0,05
8	General tolerance for uncertainty	150	80,375	114,539	≤0,01
9	Novelty	150	12,472	19, 437	≤0,01
10	Complexity of the task	150	29,347	43, 112	≤0,01
11	Uncertainty of the situation	150	34,041	52,045	≤0,01

As can be seen from the table, both the fear of death and intolerance to uncertainty are significantly higher among working doctors. This may be due to the fact that professional activities associated with constant stress, and in the context of coronavirus and high mortality among patients, negatively affects the emotional state of nursing staff.

Considering the dynamics of suicidal tendencies among students and medical workers, the study was carried out using express diagnostics according to the method of T.N. Razuvaeva.

Table 2: Comparative Analysis of Suicidal Tendencies among Doctors

Scales		N	Average Student Values	Average Values of Medical Workers	Significance of Differences
1	Demonstrativeness	150	6,02	5,63	Not found
2	Affectivity	150	5,545	3,125	≤0,05
3	Uniqueness	150	3,112	1,633	≤0,05
4	Insolvency	150	2,524	2,125	Not found
5	Social pessimism	150	1,887	3,458	≤0,05
6	Violation of cultural barriers	150	2,114	2,247	Not found
8	Maximalism	150	5,312	3,2	≤0,05
9	Time perspective	150	1,458	1,802	Not found
10	Anti-suicidal factor	150	2,314	4,311	≤0,05

The demonstrative subscale reveals the subject's desire to draw attention to oneself, as well as to the difficult situation in which one is. At the same time, there is a risk that, from an external position, demonstrative suicidal behavior may be viewed by others as an attempt to manipulate, although to a greater extent this behavior means a desire to help. The combination of demonstrative

suicidal behavior with emotional regency is dangerous, since it will be impossible to fully release and express one's own state in this way. Both students and working physicians have an average level of motivation, which is associated with their professional activities.

The subscale of affectivity reveals that the predominance and dominance of the emotional component over the intellectual control of the subject is quite high. A person will be more willing to demonstrate an emotional reaction to a traumatic situation. In this case, with the highest emotional arousal, an emotional blockade of intelligence may occur. This indicator is higher for students than for working doctors. This is connected both with work (which does not have excessive emotions) and with the age characteristics of the respondents.

The subscale of uniqueness reveals that the subject perceives oneself, one's existence, the situation in which one finds oneself as an exceptionally unique phenomenon, which in no case could arise in someone else. Accordingly, the exit can also be extremely unique, that is suicide. This egocentricity is closely related to the phenomenon of "impenetrability of experience", when a person cannot fully use the acquired samples of one's or someone else's experience when solving emotionally significant situations. Uniqueness is at a low level among students, and even lower among nurses. Working in medicine contributes to the understanding of one's non-unique nature and, due to this, somewhat reduces the suicidal risk.

The insolvency subscale reveals that the subject has a negatively colored conceptual idea of one's personality. This view is characterized by extremely negative descriptive features: the presentation of oneself as incapable of action, an incompetent employee or student, unnecessary either to society or the family. With high indices of this scale, the respondent experiences a severe "disconnection" from life. The subscale of insolvency expresses an intrapunitive radical, which testifies to the tendency of a person to ascribe blame under any circumstances to oneselve's account; this scale is at a low level both among students and doctors. Objective characteristics of success and rational thinking act as prevention of suicide in doctors.

The subscale of social pessimism reveals to the negative concept of not the personality, but the surrounding world as a whole. At high rates of this scale, the subject perceives the world as a hostile environment, and therefore relations with a person cannot be normal or be at a satisfactory level. In turn, social pessimism is closely related to the extrapunitive mechanism of casual attribution. A society will be considered as the primary source of problems of a social nature, which for some reason will not deserve the attention of the subject, which is expressed by doctors and reliably lower by students.

The subscale "violation of cultural barriers" reveals the study of the aspect of cultural and social influence on the perception and attitude of the student towards suicide as a concept. Not only the idea of suicide was studied, but also how attractive this phenomenon is for the respondent. When in the result indicators of the subject there are no other pronounced "peaks" according to the presented subscales, this indicates the presence of the concept of "existence of death". These manifestations are not typical for all of our respondents.

The subscale of maximalism reveals the presence of a certain infantile attitudes in the subject, which become part of one's value-semantic sphere of personality. It means that the generalization of a certain local conflict is possible, which concerns only a specific sphere of the life of an individual in one's life as a whole, as well as the impossibility of compensating for this process. There is an affective fixation on failures, that is characteristic of students and it may be associated with their age and insufficient life experience.

The subscale of the time perspective reveals that, with high rates in this scale, the subject shows the impossibility of constructive planning for the near and distant future. The respondents of both our samples can easily navigate in time.

The anti-suicidal factor subscale reveals a mechanism that neutralizes the high peaks of

other subscales, and therefore significantly reduces suicidal risk. The semantic meaning of this scale is values, significant situations, social groups and people. Particularly strongly influenced by the feeling of self-responsibility regarding the fact that the subject is able to influence certain aspects, as well as the basic religious ideas about the taboo of suicide as a phenomenon. Working physicians have significantly higher indicators on this scale.

In the study of the relationship between intolerance to uncertainty and fear of death, the following relationships were revealed and reflected in the table 3.

Table 3: Impact of Intolerance to Uncertainty on the Fear of Death in Physicians

Indicators	Coefficient Rs	Credibility
Fear of death	0,453	≤ 0,05
Death anxiety (general)	0,582	≤ 0,01
Cognitive-emotional anxiety	0,521	≤ 0,01
Affectivity	0,327	≤ 0,05
Uniqueness	0,358	≤ 0,05

It is noticeable that intolerance to uncertainty increases fear of death, anxiety, and at the same time, individual components of the propensity to suicide. It can be assumed that an increase in awareness, stock of knowledge about coronavirus, vaccination and the rules of behavior of medical personnel can significantly reduce both the fear of death and suicidal risks among female medical personnel.

III. CONCLUSION

Women physicians who work directly in hospitals have a higher level of fear of death (which is associated with both the danger to their lives and the risk of infection of family members), but lower suicidal risks than students of medical specialties. Intolerance to uncertainty enhances individual manifestations of fear of death and suicidal risk in women.

Future Research Perspective: Influence of Gender, Work Organization and Position in Health Care Institutions on Fear of Death in Staff.

LITERATURE

1. Carlos M. Coelho, Panrapee Suttiwan, Nikolett Arato and Andras N. Zsido (2020) On the Nature of Fear and Anxiety Triggered by COVID-19// REVIEW ARTICLE, Front. Psychol., 09 November 2020. https://doi.org/10.3389/fpsyg.2020.581314.
2. Christine R. Stehman, Zachary Testo, Rachel S. Gershaw, and Adam R. Kellogg (2019) Burnout, Drop Out, Suicide: Physician Loss in Emergency Medicine, Part I//West J Emerg Med. 2019 May; 20(3): 485–494. Published online 2019 Apr 23. DOI: 10.5811/westjem.2019.4.40970.
3. Nicole S.Smith, Rachel L.Martin, Brian W.Bauer, Shelby L.Bandel, Daniel W.Capron (2020) The association between nocturnal panic attacks and suicidal ideation, plans, and attempts// Psychiatry Research Volume 291, September 2020, 113280. DOI: 10.1016/j.psychres.2020.113280.
4. Haozheng Cai, Baoren Tu, Jing Ma, Limin Chen, Lei Fu, Yongfang Jiang, Quan Zhuang (2020) Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID 19) in Hubei, China// Med Sci Monit 2020; DOI: 10.12659/msm.924171.
5. Yun Chen,a Hao Zhou,a,b, Yan Zhou,b and Fang Zhoua (2020) Prevalence of self-reported depression and anxiety among pediatric medical staff members during the COVID-19 outbreak in Guiyang, China// Psychiatry Res. 2020 Jun; 288: 113005. Published online 2020 Apr 16. DOI: 10.1016/j.psychres.2020.113005.
6. Julian Maciaszek, Marta Ciulkowicz, Blazej Misiak, Dorota Szczesniak, Dorota Luc, Tomasz Wieczorek, Karolina Fila-Witecka,

Pawel Gawlowski, Joanna Rymaszewska (2020) Mental Health of Medical and Non-Medical Professionals during the Peak of the COVID-19 Pandemic: A Cross-Sectional Nationwide Study// Clin. Med. 2020, 9(8), 2527; https://doi.org/10.3390/jcm9082527.