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СУИЦИД И СУИЦИДАЛЬНОЕ ПОВЕДЕНИЕ: РИСК И ЗАЩИТНЫЕ ФАКТОРЫ

А.В. Ли, О.Х. Аймагамбетова, Д.Г. Наурзалина, Ш.И. Джанзакова, Н.С. Жубаназарова, Б.К. Альмурзаева

Университет Туран, КазНУ им. Аль-Фараби, АГУ им. Х. Досмухамедова, АРГУ им. Жубанова

Ключевые слова: суицид, суицидальное поведение, трудности в общении, факторы риска, защитные факторы.

Абстракт. По оценкам ВОЗ за 2020 год, около 1530000 человек умрут от самоубийства. Эти оценки представляют в среднем одну смерть каждые 20 секунд и одну попытку каждые одну-две секунды. Несмотря на низкую прогностическую ценность, наличие психопатологии, вероятно, является наиболее важным прогностическим фактором самоубийства. Соответственно, примерно 90 процентов случаев самоубийства соответствуют критериям психического расстройства, в частности, большой депрессии, расстройства с употреблением психоактивных веществ и шизофрении. Другие наиболее преходящие факторы, которые отражают неизбежный риск суицида требуют немедленного вмешательства и включают в себя невыносимую душевную боль и связанные с ним переживания депрессии и безнадежности. Проблемы с обращаемостью за помощью, социальной коммуникацией и самораскрытия также создают риск самоубийства, точно также как и агрессия и импульсивность. Хотя суицидальное поведение было хорошо изучено, эмпирически и клинически, определение различных подтипов и фенотипов суицидального поведения и механизмов, лежащих в основе некоторых факторов риска (таких, как агрессия, импульсивность, суицидальные намерения) остаются неясными. Снижение тенденции роста числа самоубийств среди наиболее уязвимых групп населения потребует дальнейших исследований.

SUICIDE AND SUICIDAL BEHAVIOR: RISK AND PROTECTIVE FACTORS

A.V. Li, O.Kh. Aimaganbetova, D.G. Naurzaliana, Sh.I. Janzakova, N.S. Jubanazarova, B.K. Almurzayeva

Turan University, al-Farabi KazNU, Kh. Dosmukhamedov ASU, K. Zhubanov ARSU
Almaty, Atyrau, Aktobe, Kazakhstan
Alexina_090@mail.ru, alnara25@mail.ru, danna_gn@mail.ru

Key words: suicide, suicidal behavior, communication difficulties, risk factors, protective factors.

Abstract. According to WHO estimates for the year 2020, approximately 1.53 million people will die from suicide, and ten to 20 times more people will attempt suicide worldwide. These estimates represent on average one death every 20 seconds and one attempt every one to two seconds. Although of low predictive value, the presence of psychopathology is probably the single most important predictor of suicide. Accordingly, approximately 90 percent of suicide cases meet criteria for a psychiatric disorder, particularly major depression, substance use disorders, cluster B personality disorders and schizophrenia. Other more transient factors that reflect an imminent risk of suicide crisis and therefore require immediate intervention include unbearable mental pain and related experiences of depression and hopelessness. Problems with help-seeking, social communication and self-disclosure also pose a suicide risk, as do personality traits of aggression and impulsivity. All these factors are highly correlated with suicidal behavior across psychiatric samples and nosological borders. Although suicidal behavior has been well studied, empirically and clinically, the definition of the different subtypes and phenotypes of suicidal behaviors and

mechanisms underlying some of the risk factors (such as aggression, impulsivity, suicide intent) remain unclear. Reducing the increasing trend of suicide rates among the most vulnerable populations will require further research.

Suicide is an enormous public health problem in the Kazakhstan and around the world. According to report of UNICEF from 2004 till 201 38276 people in the Kazakhstan die by suicide, making it one of the leading causes of death[1]. Reports from the World Health Organization [WHO] indicate that suicide accounts for the largest share of the intentional injury burden in developed countries [2] and that suicide is projected to become an even greater contributor to the global burden of disease over the coming decades[3]. The seriousness and scope of suicide has led both the WHO[4] and the Kazakhstan government [5] to call for an expansion of data collection on the prevalence of and risk factors for suicide and nonfatal suicidal behavior to aid in the planning of public-health strategies and health-care policies and in the monitoring of behavioral responses to policy changes and prevention efforts.

Addressing these calls, in this paper we provide a review of the epidemiology of suicidal behavior and extend earlier reviews in this area in two important ways. First, we provide an update on the prevalence of suicidal behavior over the past decade. The socioeconomic and cultural factors with which suicidal behavior is associated, such as the quality and quantity of mental health services, have changed dramatically, making it important to examine whether and how the prevalence of suicidal behavior has changed over time. Second, most prior reviews have focused on a specific country, subgroup [e.g., adolescents], or behavior [e.g., suicide attempts]. We review data from multiple countries, on all age groups, and on different forms of suicidal behavior, providing a comprehensive picture of the epidemiology of suicidal behavior. Moreover, given recent technologic developments in injury surveillance systems, as well as the recent completion of several large-scale epidemiologic studies examining the cross-national prevalence of suicidal behavior , an updated review of this topic is especially warranted at this time.

We use the terminology for and definitions of suicidal behavior outlined in recent consensus papers on this topic . We define *suicide* as the act of intentionally ending one's own life. Nonfatal suicidal thoughts and behaviors [hereafter called "suicidal behaviors"] are classified more specifically into three categories: *suicide ideation*, which refers to thoughts of engaging in behavior intended to end one's life; *suicide plan*, which refers to the formulation of a specific method through which one intends to die; and *suicide attempt*, which refers to engagement in potentially self-injurious behavior in which there is at least some intent to die. Most researchers and clinicians distinguish suicidal behavior from nonsuicidal self-injury [e.g., self-cutting], which refers to self-injury in which a person has no intent to die; such behavior is not the focus of this review [6-8].

We first review data on the current rates of and recent trends in suicide and suicidal behavior in the United States and cross-nationally. Next we review data on the onset, course, and risk and protective factors for suicide and suicidal behavior. Finally, we summarize data from recent suicide prevention efforts and conclude with suggestions for future research.

In the Kazakhstan, suicide occurs among 24 per 100,000 persons, is the top-leading cause of death. A more detailed examination of the data by sex, age, and race/ethnicity reveals significant sociodemographic variation in the suicide rate. As figure-1 illustrates, there are no group differences until mid-adolescence [ages 15–19 years], at which time the rate among males increases dramatically relative to the rate among females. On age groups the number of suicides was distributed as follows: till 15 years – 786 (2,1%), 15-29 years – 12711 (33,2%), 30-49 years – 15905 (41,6%), 50-64 years – 5911 (15,4%) and in group of 65 years are also more senior – 2963 (7,7%) than a case. During the analysis it has been established that men committed suicides more – 31571 (82,5%), than women – 6705 (17,5%).

The highest specific weight of all suicides (both genders) has been established in age group of 30-49 years – 41,6%, the similar picture was observed on males (43,6%), the highest rate of suicide among females is 37,7%, age group 15-29 years.

The analysis of extensive indicators of suicides in general (both genders) on regions has shown that the smallest value has been revealed in the Mangystau region (1,7%), in the cities of Astana (2,1%) and Almaty (2,3%), Kyzylorda (2,5%) and Atyrau (2,7%) . The largest specific weight of suicides (both gender) have been assigned in Almaty region (10,2%), Karaganda (11,9%) and East Kazakhstan (15,7%).

We have to mention type of suicide, according to data most popular way of suicide is hanging, and suffocation (X70) – 34921 (91,23%), on the second place is self-poisoning (X60-X69) – 1189 (3,11%). The rising data of suicides among females could be explained in changes of their behavior, females tend to choose aggressive type of suicide.

Thus, on the basis of data analysis on the Republic of Kazakhstan during 2004-2013, the vast majority of suicides in the country are made by hanging and suffocation, and all other ways of commission of suicide make less than 10% of their total number.

Definitive data do not exist on worldwide trends in suicide mortality because of cross-national differences in reporting procedures and data availability. The WHO has maintained cross-national data on suicide mortality since 1950; however, there are inconsistencies in reporting by individual country, with only 11 countries providing data in 1950, 74 in 1985, and 50 in 1998. Moreover, the fact that some governments have treated suicide as a social or

political issue rather than a health problem may have diminished the validity of earlier data and resulting estimates. Given these inconsistencies, it is difficult to generate an accurate cross-national estimate of trends. Nevertheless, the data maintained by the WHO suggest that the global rate of suicide increased between 1950 and 2004, especially for men [9], and data-based projections suggest that the number of self-inflicted deaths will increase by as much as 50 percent from 2002 to 2030 [7]. Given the inconsistencies in data sources both within and across countries [10], though, a definitive picture of long-term trends in global suicide death cannot be formed.

Our search did not yield any cross-national studies of trends in suicidal behavior. However, it is notable that the prevalence estimates found in the studies we reviewed are quite consistent with those obtained in an earlier cross-national review of nine studies of adult suicidal behavior conducted in the 1980s [12]—suggesting, but by no means confirming, that there has been no major change in trends over time. Trends in suicidal behavior within individual countries also appear to have been fairly steady over time [13]. The fact that within-country trends show internal consistency [i.e., greater agreement on prevalence estimates and evidence of stable patterns over time] means that there must be some stable between-country differences in the determinants of suicidal behavior prevalences and trends that remain to be discovered.

Risk factors

Below, we review evidence on risk factors for both suicide and suicidal behaviors, given the substantial overlap in the risk factors reported to predict these behaviors [34, 65], although we note that several studies have reported differences in some risk factors for suicide and suicidal behaviors [13]. Most of the studies reviewed above also contained information about risk factors for suicidal behaviors. We do not distinguish between studies conducted in different countries, given that the risk factors reported have been consistent across virtually all countries examined. Given that there is a large and ever-expanding body of literature on risk factors for suicidal behaviors, we provide a summary of only the strongest and most consistently reported factors.

Demographic factors

Demographic risk factors for suicide include male sex, being Asian (Kazakh), and being an adolescent or older adult. Demographic risk factors for suicidal behaviors include being female, being younger, being unmarried, having lower educational attainment, and being unemployed [14]. The differences in male: female ratio are often attributed to the use of more lethal suicide attempt methods, greater aggressiveness, and higher intent to die among men [15]. As mentioned above in connection with India and China, the gender-specific lethality of methods may vary cross-nationally. The other demographic factors mentioned [younger age, lack of education, and unemployment] may represent increased risk for suicidal behaviors associated with social disadvantage, although the mechanisms through which these factors may lead to suicidal behavior are not yet understood.

Psychiatric factors

The presence of a psychiatric disorder is among the most consistently reported risk factors for suicidal behavior. Psychological autopsy studies reveal that 90–95 percent of the people who die by suicide had a diagnosable psychiatric disorder at the time of the suicide, although this percentage is lower in non-Western countries such as China. Mood, impulse-control, alcohol/substance use, psychotic, and personality disorders convey the highest risks for suicide and suicidal behavior, and the presence of multiple disorders is associated with especially elevated risk [16].

Clinical care for suicidal patients also involves treatment (i.e., psychotherapy and pharmacotherapy) aimed to reduce risk for engaging in suicidal behavior. Public health campaigns also aim to prevent suicidal behavior by targeting all individuals or those at elevated risk for developing thoughts about suicide or engaging in suicidal behavior. We propose that thwarted belongingness and perceived burdensomeness (as well as hopelessness concerning these states) are dynamic (i.e., frequently-changing) factors, while acquired capability, once acquired, is relatively stable and unchanging. These aspects of the theory are relevant for treatment. The theory includes a clearly delineated danger zone at the intersection of perceived burdensomeness, thwarted belongingness, and the acquired capability, and thus yields a clear prediction about what components of suicide interventions will be most effective at treating suicidal symptoms. According to the theory, interventions that directly or indirectly address perceived burdensomeness and thwarted belongingness should produce the best outcomes among suicidal individuals. The acquired capability would be relatively difficult to effectively address in treatment since a therapist is not able to modify a patient's history, but this aspect of the theory does provide a clear prediction regarding who may benefit most from suicide focused preventive interventions: specifically, those who have a history fraught with painful and provocative experiences. The theory also suggests that prevention efforts targeting thwarted belongingness and perceived burdensomeness may be effective. For example, public health campaigns promoting the importance of maintaining social connections and social contributions could impact suicide rates.

Psychological factors

Researchers have begun to examine more specific constructs that may explain exactly why psychiatric disorders are associated with suicidal behavior. Several such risk factors include the presence of hopelessness, anhedonia, impulsiveness, and high emotional reactivity, external locus control, high level of anxiety, loneliness, each of which may increase psychological distress to a point that is unbearable and lead a person to seek escape via suicide [11-15].

Biologic factors

Family, twin, and adoption studies provide evidence for a heritable risk of suicide and suicidal behavior. Much of the family history of suicidal behavior may be explained by the risk associated with mental disorders; however, some studies have provided evidence for familial transmission of suicidal behavior even after controlling for mood and psychotic disorders. Researchers have not identified genetic loci for suicide in molecular genetic studies in light of the complex nature of the phenotype but instead have searched for biologic correlates of suicidal behavior that may arise through gene-environment interactions. The biologic factors most consistently correlated with suicidal behavior involve disruptions in the functioning of the inhibitory neurotransmitter serotonin. Persons who die by suicide have lower levels of serotonin metabolites in their cerebrospinal fluid, higher serotonin receptor binding in platelets, and fewer presynaptic serotonin transporter sites and greater postsynaptic serotonin receptors in specific brain areas such as the prefrontal cortex, suggesting deficits in the ability to inhibit impulsive behavior. Notably, however, similar deficits in serotonergic functioning are found in other impulsive/aggressive behaviors such as violence and fire-setting [16] and appear to be nonspecific to suicide.

Stressful life events

Most theoretical models of suicidal behavior propose a diathesis-stress model in which the psychiatric, psychological, and biologic factors above predispose a person to suicidal behavior, while stressful life events interact with such factors to increase risk. Consistent with such model, suicidal behaviors often are preceded by stressful events, including family and romantic conflicts and the presence of legal/disciplinary problems. The experience of persistent stress also may explain why persons in some occupations, such as physicians, military personnel, emergency care personal, social workers, medical nurses and police officers, may have higher rates of suicidal behavior; however, this increased risk may be explained by the demographic and personality characteristics of people who select such occupations. More distal stressors, such as perinatal conditions and child maltreatment, also have been linked to subsequent suicidal behavior. One goal for future research is to begin to specify the mechanisms through which such factors may increase risk.

Other factors

The list of risk factors outlined above is not exhaustive, and there is emerging evidence for a range of other factors, including access to lethal means such as firearms and high doses of medication, chronic or terminal illness, homosexuality, the presence of suicidal behavior among one's peers, and time of year [with higher rates consistently being reported in May and June]. Improvement in the ability to predict suicidal behavior through the continued identification of specific risk factors represents one of the most important directions for future studies in this area [8-15].

Protective factors

Protective factors are those that decrease the probability of an outcome in the presence of elevated risk. Although formal tests of protective factors are rare in the suicide research literature, several studies of factors associated with lower risk of suicidal behavior have yielded interesting results. Religious beliefs, religious practice, and spirituality have been associated with a decreased probability of suicide attempts. Potential mediators of this relation, such as moral objections to suicide and social support, also seem to protect against suicide attempts among persons at risk. Perceptions of social and family support and connectedness also have been studied outside the context of religious affiliation and have been shown to be significantly associated with lower rates of suicidal behavior. Being pregnant and having young children in the home also are protective against suicide; however, the presence of young children is associated with a significantly increased risk of first onset of suicidal ideation. These findings highlight the importance of attending carefully to the dependent variable in question when examining risk and protective factors for suicidal behavior.

The past decade of research on the epidemiology of suicide has yielded several key findings. First, global estimates suggest that suicide continues to be a leading cause of death and disease burden and that the number of suicide deaths will increase substantially over the next several decades. Second, the significant cross-national variability reported in rates of suicide and suicidal behavior appears to reflect the true nature of this behavior and is not due to variation in research methods. Third, there is cross-national consistency in the early age of onset of suicide ideation, the rapid transition from suicidal thoughts to suicidal behavior, and the importance of several key risk factors. Fourth, despite significant developments in treatment research and increased use of health-care services among suicidal persons in the United States, there appears to have been little change in the rates of suicide or suicidal behavior over the past decade.

REFERENCES

[1]. World Health Organization. Prevention of suicide: guidelines for the formulation and implementation of national strategies. Geneva, Switzerland: World Health Organization; 1996.

[2] Goldsmith SK, Pellmar TC, Kleinman AM, et al., editors. Reducing suicide: a national imperative.Washington, DC: National Academies Press; 2002.

[3] Mathers CD, Bernard C, Iburg KM, et al. Global Programme on Evidence for Health Policy discussion paper no 54. Geneva, Switzerland: World Health Organization; 2003. Global burden of disease in 2002: data sources, methods and results.

[4] Murray CL, Lopez AD, editors. The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Cambridge, MA: Harvard University Press; 1996.

[5] Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med. 2006;3:e442. Electronic article.

[6] World Health Organization. Suicide prevention [SUPRE] Geneva, Switzerland: World Health Organization; 2007.

[7] Monk M. Epidemiology of suicide. Epidemiol Rev. 1987;9:51–69.

[8] Cantor CH. Suicide in the Western world. In: Hawton K, van Heeringen K, editors. International handbook of suicide and attempted suicide. 1st. Chichester, United Kingdom: John Wiley & Sons; 2000. pp. 9–28.

[9] Kessler RC, Berglund P, Borges G, et al. Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990–1992 to 2001–2003. JAMA. 2005;293:2487–95.

[10] Nock MK, Borges G, Bromet EJ, et al. Cross-national prevalence and risk factors for suicidal ideation, plans, and attempts in the WHO World Mental Health Surveys. Br J Psychiatry. 2008;192:98–105.

[11] Nock MK, Prinstein MJ. Clinical features and behavioral functions of adolescent self-mutilation. J Abnorm Psychol. 2005;114:140–6.

[12] Bertolote JM, Fleischmann A. Suicidal behavior prevention: WHO perspectives on research. Am J Med Genet C Semin Med Genet. 2005;133:8–12

[13] Vijayakumar L, John S, Pirkis J, et al. Suicide in developing countries [2]: risk factors. Crisis.2005;26:112–19.

[14] Beautrais AL. Gender issues in youth suicidal behaviour. Emerg Med [Fremantle] 2002;14:35–42.

[15] Mann JJ, Waternaux C, Haas GL, et al. Toward a clinical model of suicidal behavior in psychiatric patients. Am J Psychiatry. 1999;156:181–9.

[16] Vijayakumar L, Rajkumar S. Are risk factors for suicide universal? A case-control study in India. Acta Psychiatr Scand. 1999;99:407–11.

СУИЦИД ЖӘНЕ СУИЦИДТІК МІНЕЗ-ҚҰЛЫҚ: ТӘУЕКЕЛ ЕТУ ЖӘНЕ ҚОРҒАНЫС ФАКТОРЛАРЫ

А.В. Ли, О.Х. Аймагамбетова, Д.Ғ. Наурзалина, Ш.И. Джанзакова, Н.С. Жубаназарова, Б.К. Альмурзаева

Тірек сөздер: суицид (өз-өзіне қол жұмсау), суицидтік мінез-құлық, қарым-қатынастағы мәселелер, тәуекел ету факторы, қорғаныс факторлары

Аннотация. ДСҰ бағалауы бойынша 2020 жылға қарай 1530000 жуық адам өз-өзіне қол жұмсаудан өледі. Бұл бағалаулар орта есеппен әрбір 20 секундта бір өлім болатынын және әрбір бір-екі секундта бір әрекет болатынын білдіреді. Психопаталогияның болуы мен болжамдық құндылығының төмендігіне қарамастан, өзін-өзі өлтіру неғұрлым маңызды болжамдық фактор болуы мүмкін. Өзін-өзі өлтіру шамамен 90 пайыз жағдайда психикалық бұзылыстардың, нақты айтқанда, үлкен торығудың, психобелсенді заттарды пайдалану нәтижесіндегі бұзылыстың, және шизофренияның өлшемдеріне сәйкес келеді. Шарасыздықтан өз-өзіне қол жұмсауға тәуекел етуді бейнелейтін басқа неғұрлым өткінші факторлар өзіне төзгісіз жан жарасын және онымен байланысты торығу мен үмітсіздікті бастан кешіруді қамтиды және тез арада мамандар тарапынан араласуды талап етеді. Көмекке жүгіну, әлеуметтік байланысқа шығу мен өзін-өзі ашу да, нақ агрессия мен қызбалық сияқты, өзін-өзі өлтіруге тәуекел етуді тудырады.

Суицидтік мінез-құлық эмпирикалық және клиникалық тұрғыдан жақсы зерттелгенімен де, тәуекелге бару факторының (агрессия, қызбалық, өз-өзіне қол жұмсау ниеті сияқты) негізінде жатқан оның әртүрлі түр ішіліктері мен фенотиптері, механизмдері әлі айқын анықталмаған. Тұрғындардың неғұрлым әлсіз топтарының арасында өзін-өзі өлтіру беталысының өсу санын төмендету әрі қарайғы зерттеуді талап етеді.

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