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EXPERIENCE OF PROJECT WORK TO IDENTIFY ANXIETY AS A POSSIBLE FACTOR IN TEENAGE SUICIDE AND ITS PREVENTION AMONG SCHOOLCHILDREN IN ALMATY

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Abstract

Introduction: In Kazakhstan, teenage suicide is the second leading cause of death among adolescents aged 15-19, second only to road accidents. According to UNESCO, more than 300 cases of suicide among adolescents are recorded in the country every year, and this figure continues to grow. Most often, adolescent suicides are committed due to high anxiety, depression, stressful situations at school, social problems and peer pressure. In 2023, 204 cases of completed suicide were recorded among children aged 11 to 17.

Aim. To highlight the experience of project work on identifying anxiety as a possible factor in teenage suicide and its prevention among schoolchildren in the city of Almaty.

Materials and methods: A prospective cohort study involving 7862 students in grades 5-11 of schools in the Almaty and Bostandyk districts of Almaty was conducted from October 7, 2024, to December 31, 2024. The participants in the study were tested and interviewed in order to identify children with anxiety. Testing of students in grades 5-8 was carried out using the School Anxiety Questionnaire (Phillips B.N. [5]). Testing of students in grades 9-11 was carried out using the Anxiety Level Diagnostics Method (Beck A. [2]).

Results: Signs of high anxiety were identified in 327 (4.2%) children who received individual work from the center's psychologists and school specialists.

Conclusions: High anxiety is already recorded among students in grades 5-11. The main factors of high anxiety are: social (bullying, loneliness, problems in the family, peer pressure), economic (poverty, unemployment of parents, financial instability in the family) and psychological (depression, anxiety, low self-esteem, lack of support, mental disorders). There is insufficient access to psychological help and prevention of anxiety as a factor in teenage suicide. It is important to develop support in families, schools and workplaces of parents or guardians.

Keywords: teenage suicide, risk factors, prevention.

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Резюме

ОПЫТ ПРОЕКТНОЙ РАБОТЫ ПО ВЫЯВЛЕНИЮ ТРЕВОЖНОСТИ, КАК ВОЗМОЖНОГО ФАКТОРА ПОДРОСТКОВОГО СУИЦИДА И ЕГО ПРОФИЛАКТИКА СРЕДИ ШКОЛЬНИКОВ ГОРОДА АЛМАТЫ

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Введение: В Казахстане подростковый суицид занимает второе место среди причин смерти среди подростков в возрасте 15-19 лет, уступая только дорожно-транспортным происшествиям. По данным ЮНЕСКО, каждый год в стране фиксируется более 300 случаев суицидов среди подростков, и этот показатель продолжает расти. Чаше

всего суициды среди подростков совершаются по причине высокой тревожности, депрессии, стрессовых ситуаций в школе, социальных проблем и давления со стороны сверстников. За 2023 год было зафиксировано 204 случая завершённого суицида среди детей в возрасте с 11 до 17 лет.

Цель. Осветить опыт проектной работы по выявлению тревожности, как возможного фактора подросткового суицида и его профилактика среди школьников города Алматы.

Материалы и методы. Проспективное когортное исследование с участием 7862 учащихся 5-11 классов школ Алмалинского и Бостандыкского районов города Алматы проведено с 7 октября 2024 года по 31 декабря 2024 года. С участвующими в исследовании проводились тестирование и устный опрос с целью выявления детей с тревожностью. Тестирование учащихся 5–8 классов было осуществлено посредством методики «Опросник школьной тревожности» (Филлипс Б.Н. [5]). Тестирование учащихся 9–11 классов было осуществлено посредством методики «Методика диагностики уровня тревоги» (Бек А. [2]).

Результаты: Признаки высокой тревожности были выявлены у 327 (4,2%) детей, которым проводилась индивидуальная работа психологами центра и школьными специалистами.

Выводы: Высокая тревожность уже фиксируется среди учащихся 5-11 классов. Основными факторами высокой тревожности являются: социальные (буллинг, одиночество, проблемы в семье, давление со стороны сверстников), экономические (бедность, безработица родителей, финансовая нестабильность в семье) и психологические (депрессия, тревожность, низкая самооценка, отсутствие поддержки, психические расстройства).

Недостаточна доступная психологическая помощь и профилактика тревожности, как фактора подросткового суицида. Важно развивать поддержку в семьях, школах и на рабочих местах родителей или опекунов.

Ключевые слова: подростковый суицид, факторы риска, профилактика.

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Түйіндеме

АЛМАТЫ ҚАЛАСЫНЫҢ ОҚУШЫЛАРЫ АРАСЫНДА ЖАСӨСПІРІМДЕР СУИЦИДИНІҢ ЫҚТИМАЛ ФАКТОРЫ РЕТІНДЕ МАЗАСЫЗДЫҚТЫ АНЫҚТАУ ЖӘНЕ ОНЫҢ АЛДЫН АЛУ БОЙЫНША ЖОБАЛЫҚ ЖҰМЫС ТӘЖІРИБЕСІ

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Кіріспе: Қазақстанда жасөспірімдер суициді 15-19 жас аралығындағы жасөспірімдер арасындағы өлім себептері арасында жол-көлік оқиғаларынан кейін екінші орында тұр. ЮНЕСКО мәліметтері бойынша, елде жыл сайын жасөспірімдер арасында 300-ден астам суицид оқиғасы тіркеледі және бұл көрсеткіш өсуде. Көбінесе жасөспірімдер арасындағы суицид жоғары мазасыздық, депрессия, мектептегі стресстік жағдайлар, әлеуметтік мәселелер және құрдастарының қысымы салдарынан болады. 2023 жылы 11 мен 17 жас аралығындағы балалар арасында аяқталған суицидтің 204 жағдайы тіркелді.

Мақсаты: Алматы қаласының оқушылары арасында жасөспірімдер суицидінің ықтимал факторы ретінде мазасыздықты анықтау және оның алдын алу бойынша жұмыс тәжірибесін жариялау.

Материалдар мен әдістер. Алматы қаласы Алматы және Бостандық аудандары мектептерінің 5-11 сыныптарының 7862 оқушысының қатысуымен 2024 жылғы 7 қазаннан 2024 жылғы 31 желтоқсанға дейін перспективалық когорттық зерттеу жүргізілді. Зерттеуге қатысушылармен мазасызданған балаларды анықтау мақсатында тестілеу және ауызша сауалнама жүргізілді. 5-8 сынып оқушыларын тестілеу "Мектептегі мазасыздық сауалнамасы" әдісі арқылы жүзеге асырылды (Филлипс Б.Н. [5]). 9-11 сынып оқушыларын тестілеу "Дабыл деңгейін диагностикалау әдістемесі" (Бек А. [2]) әдістемесі арқылы жүзеге асырылды.

Нәтижелер: Орталықтың психологтары мен мектеп мамандары жеке жұмыс жасаған 327 (4,2%) балада жоғары мазасыздық белгілері анықталды.

Қорытынды: 5-11 сынып оқушылары арасында жоғары мазасыздық қазірдің өзінде тіркелуде. Жоғары мазасыздықтың негізгі факторлары: әлеуметтік (қорқыту, жалғыздық, отбасындағы проблемалар, құрдастарының қысымы), экономикалық (кедейлік, ата-аналардың жұмыссыздығы, отбасындағы қаржылық тұрақсыздық) және психологиялық (депрессия, мазасыздық, өзін-өзі бағалаудың төмендігі, қолдаудың болмауы, психикалық бұзылулар) болып бөлінеді. Жасөспірімдердің суицид факторы ретінде қол жетімді психологиялық көмек пен

мазасыздықтың алдын алу жеткіліксіз. Ата-аналардың немесе қамқоршылардың отбасыларында, мектептерінде және жұмыс орындарында қолдауды дамыту маңызды.

Түйінді сөздер: жасөспірімдердің суициді, қауіп факторлары, алдын алу.

Дәйексөз үшін: Молдагасимова А.Б., Тусупбекова Д.М., Шарипова А. Т., Рысбекова Р.К. Алматы қаласының оқушылары арасында жасөспірімдер суицидінің ықтимал факторы ретінде мазасыздықты анықтау және оның алдын алу бойынша жобалық жұмыс тәжірибесі // Ғылым және денсаулық сақтау. 2025. Vol.27 (1), 130-136 ББ. doi 10.34689/SH.2025.27.1.016

Introduction

According to the World Health Organization (WHO), Kazakhstan is among the countries with a high suicide rate. According to the Statistics Committee of the Republic of Kazakhstan, the suicide rate among men is significantly higher than among women. The most vulnerable group are young people aged 15 to 29. Statistics show that in rural areas the suicide rate is higher than in cities, which may be due to the low availability of medical and psychological care. In recent years, there has also been an increase in the number of suicides among children and adolescents, which requires special attention from society and the state [10].

In Almaty, there is an alarming trend of increasing suicides among adolescents, which makes the problem one of the key ones in the field of public health [11].

The main factors aggravating the situation are:

- lack of qualified specialists,
- low awareness of teachers about the signs of suicidal behavior,
- insufficient parental involvement,
- stigmatization of seeking psychological help.

In 2024, the city experienced several tragic incidents, including suicides of 12-year-old girls, highlighting the need for urgent measures to prevent suicidal behavior among young people.

To address this issue, Kazakhstan approved a Comprehensive Plan to Protect Children from Violence, Prevent Suicide, and Ensure Their Rights and Well-Being for 2023–2025. This plan aims to improve the mental health of adolescents, develop prevention programs, and raise public awareness of the importance of mental well-being among young people.

Adolescents facing crisis situations often do not know where to turn. Existing hotlines are not well-known, which reduces their effectiveness.

On July 26, 2023, at a meeting of the Academic Council (Protocol No. 6), a scientific and technical project was considered on the topic: "Center for psychological support of minors with suicidal tendencies" (hereinafter referred to as the Center) on the basis of the State Enterprise on the Right of Economic Management "City Polyclinic No. 3" of the Health Department of Almaty. The members of the Council recognized the problem as relevant and approved the proposed project.

This Center pursues the goal of a comprehensive study of the problem of suicide among children, identifying its main risk factors, as well as analyzing existing preventive measures in the school environment, which corresponds to the points of the Comprehensive Plan for 2023-2025.

At the preparatory stage, the scientific and methodological basis for conducting the experimental study

was determined, methodological recommendations "Psychological support for minors with suicidal tendencies" were prepared, an analysis of scientific literature on the possibilities of diagnosing anxiety in students of comprehensive schools was made, and testing procedures were selected aimed at identifying signs of anxiety in students of comprehensive schools using digital and cloud technologies.

Throughout its activities, the Center has been actively cooperating with the Organizational and Analytical Center for Suicides at the Almaty Mental Health Center (MHC). The management of the MHC is familiar with the progress of the research, facilitates part of the work and does not object to further coverage of the research results in the open press. Within the framework of this project, the management of the MHC allocated a suicidologist, together with whom an individual treatment, health improvement and psychological rehabilitation plan was developed within the framework of clinical diagnostic and treatment protocols approved by the Ministry of Health of the Republic of Kazakhstan. An individual plan was drawn up for each parent and child separately, which are adjusted during the course of treatment by a suicidologist, psychologist and the deputy director for medical work of CP No. 3.

In 2024, the Center continued its work to identify children and adolescents with suicidal tendencies. Since 21.02.2024, the Center's work has been expanded to the district level. Joint events were held with district educational organizations to identify mental disorders and deviations in the school contingent.

On April 10, 2024, a tripartite memorandum was signed between the Center, the heads of the education departments of the Almaty and Bostandyk districts and the heads of educational schools, with the aim of interconnected work between teachers, school psychologists and psychologists of the Center on the interaction of government agencies to prevent suicides among students.

Aim: to highlight the experience of project work on identifying anxiety as a possible factor in teenage suicide and its prevention among schoolchildren in the city of Almaty.

Materials and methods.

A prospective cohort study involving 7862 students in grades 5-11 of schools in the Almaty and Bostandyk districts of Almaty was conducted from October 7, 2024 to December 31, 2024. Inclusion criteria: students in grades 5-11 of schools in the Almaty and Bostandyk districts. Exclusion criteria: students in elementary grades, as well as other schools and those who refused to undergo testing or an oral survey. Testing and an oral survey were conducted by psychologists of the center in order to identify children

with anxiety. All participants have informed voluntary consent to participate in the study, provided by their parents (legal representatives). Testing of students in grades 5-8 was carried out using the School Anxiety Questionnaire (Phillips B.N. [5]) method. to study the level and nature of anxiety associated with school learning. The test consists of 58 questions. The answers were supposed to be closed, either "Yes" or "No". This test provided information on the general level of school anxiety, which was structured according to the degree of expression in various aspects of learning: social stress, educational needs, self-expression, knowledge testing, failure to meet the expectations of others, low resistance to stress, relationships with teachers.

Testing of students in grades 9-11 was carried out using the method "Method of diagnostics of anxiety level" (Beck A. [2]), on the subject of anxiety and assessment of the degree of its severity. The questionnaire consists of 21 items. Each item includes one of the typical symptoms of anxiety, physical or psychological. Each item was assessed by the respondent from 0 (the symptom did not bother) to 3 (the symptom bothered very much). Filling out the scale took no more than 10 minutes, independently. Persons who received high scores on the scale should be referred for consultation to a specialist.

Children with identified high anxiety were administered individual questionnaires that took into account the specifics of a certain age group. These methods allowed us to obtain information about the child's mental state. Specialized tests were also used for middle and adolescent age: Eysenck Personality Questionnaire (Eysenck G., Eysenck S) [1], Cattell Personality Questionnaire R.: adolescent modification [6]. The questionnaire is designed to identify the personality traits of adolescents and high school students aged 12 to 16-18 years, their mental status. The adolescent 14-factor technique contains 142 questions with three answer options for choosing the most appropriate one. The average time to complete Cattell R.'s questionnaire for adolescents was 30-40 minutes. Suicidal Risk Questionnaire (Razuvaeva T.N. [8]) for assessing the degree of risk of developing suicidal behavior. Serves as an express test. It evaluates the socio-cultural risks of suicidal behavior and obtains generalized information about the mental state of the individual.

For senior school-age participants, the method of diagnosing interpersonal relationships (T. Leary [7]) was used, designed to study the subject's ideas about himself and the ideal "I", as well as to study relationships in small groups. With the help of this method, the predominant type of relationship to people in self-assessment and mutual assessment is revealed.

Personality questionnaire Mini-Mult (Berezina F., Miroshnikov M. [3]). The questionnaire is clinical and is aimed at diagnosing pathological personality traits. It is important to note that it only indicates their severity, but not the presence of the disease. The questionnaire allows you to assess the communicative, behavioral side of the personality of adolescents.

Results:

In 2023, a trial testing stage was launched among children of educational schools (hereinafter referred to as ES) attached to GP No. 3 to identify anxiety. The total

number of participants covered by the study was 1,295, of which 810 were students in grades 5-8 and 485 were students in grades 9-11.

Among students in grades 5-8, 62 (7.7%) were identified who needed a psychologist's consultation to clarify their current mental state.

Among students in grades 9-11, 55 (11.3%) were identified who were experiencing moderate anxiety. Of the 55, 47 also needed a psychologist's consultation.

Thus, the total number of students with anxiety symptoms according to the testing results was 117 students (9%) in grades 5-8 and 9-11. Of these, 2 students (1.7%) were referred to the CPC to work with a psychotherapist.

In 2024, psychodiagnostic testing was conducted in 17 schools in the Almaly and Bostandyk districts among 7,862 students, of which 4,914 were students in grades 5-8 and 2,948 were students in grades 9-11.

Among students in grades 5-8, 172 students (3.5%) were identified with moderate anxiety, of which 11 (6.3%) needed to consult a psychologist to clarify their current mental state.

Among students in grades 9-11, 155 (5.2%) were identified as experiencing moderate anxiety. Of which 10 (6.4%) also needed to consult a psychologist.

Thus, the total number of students with anxiety symptoms according to the testing results was 327 students (4.1%) in grades 5-8 and grades 9-11.

Medical psychologists work with 21 students, of which 10 children (47.6%) undergo psycho-correctional work, for the remaining 11 (52.4%) children a schedule of personal meetings with the Center's psychologist for further psycho-correctional work has been drawn up. 9 children were referred to the Center for Mental Health, of which 5 students contacted the Center for Mental Health, 4 students contacted private psychotherapists, the remaining 297 students were referred to school psychologists for consultation.

Corrective work was carried out with the identified children and consultations for parents. 235 parents (72%) covered by the information activities of the Center agreed to participate in psychological support, which increases the level of awareness of the risks of anxiety and self-destruction of children.

Consulting and work with 327 children with anxiety and their parents demonstrate a significant contribution to improving the psychological stability of families.

The behavior of adolescents with anxiety has various causes, which can be divided into psychological, social, biological and informational violence. In the process of interviewing and testing, the main causes of anxiety in children of the specified groups were identified (Table 1).

Psychologists of the center in the process of preventive measures for the identified category of children with anxiety and their teachers for the prevention of child suicide carried out the following measures:

➤ Psychological training for students on the topic "You can't do this to me!" with the aim of providing an opportunity to "think" about various forms of violence and develop rules for responsible and safe behavior. Participants discussed how to recognize manifestations of violence in their own behavior and the behavior of others, learned how to develop their own potential, as well as effective ways to resist violence.

➤ Training on the topic: "Mobbing, bullying, khayzing - how are they dangerous for schoolchildren?" to create a safe psychological space for children in an educational organization and to form a stable friendly attitude in the school community. As a result of the training, children acquired the skill of constructive response in conflict, reducing aggression and self-image.

➤ Training for school teachers on the topic "Suicide. Understanding and prevention at school". The purpose of the training is improving the professional competencies of class teachers and school teachers in matters of preventing suicidal behavior of students and preventing child neglect and juvenile delinquency.

Table 1.

Causes of anxiety in adolescents in grades 5-8 and 9-11.

Category of factors	Specific factors
Psychological	— Depression, anxiety disorders; — Emotional instability; — Low self-esteem; — Feelings of loneliness, helplessness; — Autoaggression, tendency to self-punishment.
Social	— Family conflicts (divorce, violence, neglect); — Bullying (bullying at school, online); — Lack of support from peers and adults; — Social isolation; — Pressure from the environment.
Biological	- Hereditary predisposition (family history of mental disorders or suicide); - Neurotransmitter dysfunction; - Pubertal hormonal changes.
Information violence	— Exposure to destructive content on social networks; — Participation in suicidal online groups; — Romanticization and propaganda of suicide in the media.

In the course of the work of the Center, aimed at preventing suicidal behavior among schoolchildren, the following **difficulties** arose:

➤ **Low level of perception and acceptance of the initiative** – at the initial stage of the project implementation, there was insufficient understanding of the importance of the services provided and the effectiveness of the proposed work methods on the part of the administration of educational institutions, school psychologists and the students themselves.

➤ **Lack of clear delineation of functional responsibilities** – at present, there is no clear boundary between the areas of responsibility of school psychologists and medical specialists, which leads to duplication of functions, inconsistency of actions and a decrease in the overall effectiveness of providing psychological assistance.

➤ **The competitive factor** – there are elements of competition between the various specialists and institutions involved in the work to prevent suicidal behavior, which can hinder constructive interaction and coordination of efforts

within the framework of a unified approach to solving the problem.

Medical effectiveness:

1. Provision of specialized assistance. The center provides psychological support to children, including work with suicidal tendencies in children, which reduces the likelihood of repeated suicide attempts. Individual treatment and rehabilitation plans have been developed for children with identified psychoemotional problems.

2. Development of technologies and availability of assistance. The introduction of a chat bot and a hotline simplifies access to psychologists, ensuring anonymity and involvement of children and parents.

3. The use of tests (school anxiety, Beck test [2], etc.) allows us to systematize the work and quickly identify those in need of help.

Discussion of results

Childhood anxiety is a common mental disorder. It is estimated that more than 7% of adolescents aged 13 to 17 years have been diagnosed with anxiety, and more than 36% of children with behavioral problems have been diagnosed with anxiety disorders [1].

A systematic review of studies conducted in 27 countries estimated that the global prevalence of anxiety disorders in children is 6.5%. [2] In the United States, nearly 1 in 12 children aged 3 to 17 years have anxiety. [12] The National Institute of Mental Health estimates that the prevalence of anxiety disorders in adolescents aged 13 to 18 years is 1 in 4, and the prevalence of severe anxiety is about 1 in 17. [3] Prevalence rates are approximately 20% for specific phobias, 9% for social anxiety disorder, 8% for separation anxiety disorder, and 2% each for agoraphobia, panic disorder, and generalized anxiety disorder [3].

The relevance of the problem is confirmed by international studies. According to the UNICEF report [10] "Child Suicide in Kazakhstan" (R. Haarr, 2012), the level of teenage suicides in the country remains one of the highest. However, due to cultural taboos and social pressure, official statistics may be understated, since many cases are recorded as accidents.

A study conducted in 2015–2019 in Ust-Kamenogorsk and Semey revealed an alarming link between Internet addiction and suicide attempts. Of the 477 cases studied, 321 were boys, 156 were girls, the average age was 16.3 ± 1.1 years. It was found that teenagers addicted to the Internet are 74.2% more likely to attempt suicide. This is especially evident in the 16–18 age group. Our study also found a link between internet addiction and suicide attempts. [13]

With the increasing digitalization of society, it is important to:

- control the online environment,
- increase the digital literacy of teenagers,
- develop psychological support programs on the Internet.

Strengths of the study:

- for the first time, a comprehensive methodology has been developed,
- use of several types of questionnaires,
- availability of a Telegram bot for anonymous communication with children and parents,

- development of a website for registration and analysis of all cases.

The study examines all factors that influence suicidal behavior in adolescents: psychological, familial, social, biological, and the impact of cyberbullying.

Risk factors for anxiety disorders in children and adolescents include low socioeconomic status, exposure to violence, trauma, and biological factors such as heredity and temperament. Parental anxiety predisposes children to a higher risk of functional impairment and anxiety disorders [4].

Over the past decade, concern has grown about the impact of social media use and interaction with online content on anxiety symptoms and the development of anxiety disorders in children and adolescents. The impact can have positive and negative associations and vary by gender, age, social media platform, and time spent using. Fear of missing out and confirmation seeking drive interactions and time spent on social media and can lead to increases in general anxiety symptoms (more common in boys) and body image anxiety (more common in girls) [5]. Cyberbullying can lead to increased anxiety and risk of anxiety disorders, particularly in marginalized young people, although positive effects of increased connections to online communities have been noted [5]. The impact of the COVID-19 pandemic on the mental health of children and adolescents has become a growing concern.

A 2021 meta-analysis of over 80,000 young people in 29 studies found a pooled prevalence of clinically elevated anxiety symptoms of 21%, with higher prevalence rates found in data collected later in the pandemic and among girls [6].

The U.S.A. Preventive Services Task Force recommends screening for anxiety disorders in children and adolescents aged eight to 18 years (grade B recommendation). There is insufficient evidence to support screening in children under eight years of age. [7]

There is sufficient empirical evidence to show significant improvement in childhood anxiety disorders with psychotherapy or pharmacotherapy, with a combination of treatments. In this regard, and given the age-related perception and interpretation of questionnaire questions, the study did not include primary school-aged children, since the reliability of self-assessment data in this group is limited.

Only joint efforts by society will help change the situation and reduce the number of tragedies. To do this, it is necessary:

- popularize psychological assistance among teenagers and their parents,
- implement preventive programs in schools,
- improve the qualifications of teachers and doctors,
- create accessible and convenient support services in the digital space.

Conclusions

The social effectiveness of the Center's activities is manifested in improving the psychological climate among children and adolescents, reducing suicide cases, raising awareness among parents and teachers, and creating a safer school and family space. The Center solves significant social problems and contributes to strengthening the well-

being of society, but expanding its scope requires active work with schools that have failed, attracting funding, and deepening interaction with government agencies.

The Center is a link between the school and the clinic (diagnosing self-destructive behavior is a complex task for both psychologists, teachers, and other school specialists, as well as for the medical staff of the clinic, but at the moment there is no strong relationship between the specialists of the clinic and the school).

Reducing anxiety in adolescents is one of the key points in reducing suicides among young people. This problem remains serious for the city of Almaty and requires joint efforts of the state, society, healthcare, and education. Implementing effective prevention programs, ensuring access to psychological assistance and improving socio-economic conditions will help reduce the suicide rate among teenagers.

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