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## THE URGENT NEED FOR FURTHER STUDY OF SPECIFIC SUICIDE PREVENTION MEASURES IN THE REPUBLIC OF KAZAKHSTAN

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### Abstract

**Background:** The high suicide rates in the Republic of Kazakhstan (Kazakhstan) are a serious social problem.

**Objective:** In order to prevent suicide, we as researchers need to present a view from an academic perspective that leads to effective suicide prevention measures. In Kazakhstan, this may help with suicide prevention measures to reduce suicide rates.

**Materials and Methods:** In this study, the key words 'suicide' and 'Kazakhstan' were used to search PubMed for articles on suicide prevention measures in Kazakhstan. Articles published before December 16, 1991, when Kazakhstan declared its independence as a republic, were excluded from among the identified articles. The characteristics of studies on suicide prevention measures in Kazakhstan were examined. These characteristics suggest the need for detailed studies of specific suicide prevention measures in Kazakhstan.

**Results:** When the key words 'suicide' and 'Kazakhstan' were used to search PubMed, 33 articles were identified, of which the search yielded 36 articles, but 3 were redundant, so 33 articles in total were examined. Two of the 33 articles were published before December 16, 1991, yielding a total of 31 articles for consideration for inclusion. Of these 31 articles, it was determined that 18 were studies on suicide prevention measures in Kazakhstan. Of the 18 studies, 8 were related to "completed suicide", 6 to "suicidal ideation", and 4 to "suicidal behavior". The characteristics of the studies were demarcated by the year 2018: before 2018, most of the studies were concerned with completed suicide, while after 2018, most of the studies were concerned with suicidal ideation or suicidal behavior.

**Conclusions:** Based on the characteristics identified in this study, future studies on effective suicide prevention measures in Kazakhstan need to accelerate the examination of completed suicide, suicidal ideation, and suicidal behavior, and effective suicide prevention measures need to be explored and implemented.

**Keywords:** Republic of Kazakhstan, completed suicide, suicidal ideation, suicidal behavior, discussion, acceleration.

### Резюме

## СРОЧНАЯ НЕОБХОДИМОСТЬ ДАЛЬНЕЙШЕГО ИЗУЧЕНИЯ КОНКРЕТНЫХ МЕР ПРОФИЛАКТИКИ СУИЦИДОВ В РЕСПУБЛИКЕ КАЗАХСТАН

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**Введение:** Высокие показатели суицидов в Республике Казахстан являются серьезной социальной проблемой.

**Цель:** Для того чтобы снизить показатели суицидов, исследователям следует представить академическую перспективу, которая способствует разработке эффективных мер по профилактике суицидальности.

**Материалы и методы:** В данном исследовании, такие ключевые слова, как "суицид" и "Казахстан" использовались для поиска статей о мерах по профилактике суицидов в Казахстане в базе данных PubMed. Статьи, опубликованные до 16 декабря 1991 года, когда Казахстан объявил о своей независимости как республики, были исключены из числа обнаруженных статей. Были изучены характеристики исследований о мерах по профилактике суицидов в Казахстане. Данные характеристики указывают на необходимость детального изучения конкретных мер по профилактике суицидов в Казахстане.

**Результаты:** При использовании таких ключевых слов, как "суицид" и "Казахстан", в PubMed было обнаружено 36 статей, из которых 3 статьи были исключены, по причине отсутствия актуальности в исследовании, поэтому, всего было рассмотрено 33 статьи. Из 33 статей две были опубликованы до 16 декабря 1991 года, что дало в общей сложности 31 статью для рассмотрения на включение. Из 31 статьи было установлено, что 18 из них являются исследованиями по мерам профилактики суицидов в Казахстане. Из 18 исследований, 8 были связаны с "завершенным суицидом", 6 с "суицидальными мыслями" и 4 с "суицидальным поведением". Характеристики исследований были разграничены по 2018 году: до 2018 года большинство исследований были связаны с завершенными суицидами, в то время как после 2018 года большинство исследований были связаны с суицидальными мыслями или суицидальным поведением.

**Выводы:** Необходимо дальнейшее изучение случаев завершенных суицидов, суицидальных мыслей и поведения, а также активное внедрение эффективных стратегий по профилактике суицидальности.

**Ключевые слова:** Республика Казахстан, завершенные суициды, суицидальные мысли, суицидальное поведение, обсуждение, ускорение.

Түйіндеме

## ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДА СУИЦИДТІҢ АЛДЫН АЛУДЫҢ НАҚТЫ ШАРАЛАРЫН ОДАН ӘРІ ЗЕРДЕЛЕУДІҢ ШҰҒЫЛ ҚАЖЕТТІЛІГІ

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**Кіріспе:** Қазақстан Республикасында суицидтің жоғары көрсеткіштері елеулі әлеуметтік мәселесі болып табылады.

**Мақсаты:** Суицид көрсеткіштерін төмендету үшін, зерттеушілер суицидтің алдын алуы бойынша тиімді шараларды әзірлеуге ықпал ететін академиялық перспективаны ұсынуы керек.

**Материалдар мен әдістер:** Бұл зерттеуде "суицид" және "Қазақстан" түйінді сөздері PubMed деректер базасында, Қазақстандағы суицидтің алдын алу шаралары туралы мақалаларды іздеу үшін пайдаланылды. 16 желтоқсан 1991 жылы Қазақстан тәуелсіздігін жариялаған, сондықтан 16 желтоқсан 1991 жылға дейінгі жарияланған мақалалар зерттеуге кіргізілмеді. Қазақстанда суицидтің алдын алу шаралары туралы зерттеулердің сипаттамалары зерделенді. Бұл сипаттамалар, Қазақстанда суицидтің алдын алуы бойынша нақты шараларды егжей-тегжейлі зерделеу қажеттігін көрсетеді.

**Нәтижелері:** "Суицид" және "Қазақстан" түйінді сөздерін пайдаланған кезде PubMed-те 36 мақала табылды, оның ішінде 3 мақала зерттеудегі өзектіліктің болмауына байланысты алынып тасталды, сондықтан барлығы 33 мақала қаралды. 33 мақаланың екеуі 1991 жылдың 16 желтоқсанына дейін жарық көрді, сондықтан барлығы 31 мақала қарастырылды. 31 мақаланың 18-і Қазақстанда суицидтің алдын алу шаралары бойынша зерттеулер болып табылатыны анықталды. 18 зерттеудің 8-і "аяқталған суицид", 6-ы "суицидтік ойлар" және 4-і "суицидтік мінез-құлық" тақырыбында болды. Зерттеулердің сипаттамалары 2018 жыл бойынша бөлінді: 2018 жылға дейін зерттеулердің көпшілігі аяқталған суицидтермен байланысты болды, ал 2018 жылдан кейін зерттеулердің көпшілігі суицидтік ойлармен немесе суицидтік мінез-құлықпен байланысты болды.

**Қорытынды:** Аяқталған суицид, суицидтік ойлар мен мінез-құлықтарды одан әрі зерделеу, сондай-ақ суицидтің алдын алу бойынша тиімді стратегияларды белсенді енгізу қажет.

**Түйінді сөздер:** Қазақстан Республикасы, аяқталған суицидтер, суицидтік ойлар, суицидтік мінез-құлық, талқылау, жеделдету.

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**Introduction**

Suicide is often the result of a variety of factors and issues; it is crucial to fully understand that context. Of course, epidemiological studies should be conducted, and suicide statistics also need to be examined. There have been many previous studies on suicide worldwide [2,3,14,15,20,28], and studies on suicide statistics [1,22] and studies on factors contributing to suicide and aspects related to suicide have also been conducted [5,12,23,27].

The Ministry of Foreign Affairs of Japan has suggested that the most common diseases and injuries in the Republic of Kazakhstan (Kazakhstan) are infectious colitis, allergic disease, hepatitis A, B, C, and D, HIV infection/AIDS, brucellosis, anthrax, tick-borne diseases, tuberculosis, meningitis, trichinosis, echinococcosis, rabies, traffic accidents, and mental health problems [17]. Suicide is also a major issue that needs to be addressed by the government [17]. Suicide rates in Kazakhstan are among the highest in the world for males [18]. This indicates the need to examine effective suicide prevention measures from various perspectives. Suicide in Japan, South Korea, Hong Kong, and Taiwan has been studied in various ways [4,7-9,11,13,24,25]. In 2023, Kazakhstan had an area of 2,724,900 square kilometers and a population of 19.6 million [16]. In terms of trade, it exports mineral products, metal and metal products, animal and plant products, prepared foods, chemical products, automobiles and machinery, and it imports automobiles and machinery,

chemical products, animal and plant products, prepared foods, metal and metal products, and mineral products [16].

Academic suggestions for effective suicide prevention measures in Kazakhstan are urgently needed. The current study summarizes the academic aspects of previous studies on suicide in Kazakhstan and discusses them.

**Materials and Methods**

The current study proceeded as shown in Table 1. This study identified international studies that can be viewed as studies on suicide prevention measures in Kazakhstan and examined their characteristics. International studies were defined as those with at least an abstract in English. The specific research methodology was as follows.

(1) The key words 'suicide' and 'Kazakhstan' were used to search PubMed [21].

(2) Articles identified in (1) that were redundant or that dated from before December 16, 1991, when Kazakhstan declared its independence as a republic [21], were excluded.

(3) Abstracts of the articles that met criteria (1) and (2) were reviewed, studies on suicide prevention measures in Kazakhstan were identified, and the characteristics of those studies were examined. Studies were selected and their characteristics were identified twice, and the results of the second selection matched those from the first.

(4) An examination of the characteristics identified in (3) based on (1), (2), and (3) indicated the importance of detailed studies on specific suicide prevention measures in Kazakhstan.

Table 1.

**Progression of the current study.**

(1) The key words 'suicide' and 'Kazakhstan' were used to search PubMed on January 5 and January 6, 2024.

(2) Articles identified in (1) that were redundant or that dated from before December 16, 1991, when Kazakhstan declared its independence as a republic, were excluded.

(3) Abstracts of the articles that met criteria (1) and (2) were reviewed, studies on suicide prevention measures in Kazakhstan were identified, and the characteristics of those studies were examined. Studies were selected and their characteristics were identified twice, on January 5 and January 6, 2024, and the results of the second selection (on January 6, 2024) matched those from the first (on January 5, 2024).

(4) An examination of the characteristics identified in (3) based on (1), (2), and (3) suggested the need for detailed studies on specific suicide prevention measures in Kazakhstan.

**Results**

(1) Our PubMed search identified a total of 33 articles were identified on January 5 and January 6, 2024. In more detail, 36 articles were identified, but 3 of them were redundant, so 33 articles in total were examined.

(2) Of the 33 articles, and 2 were published before December 16, 1991, yielding a total of 31 articles for

consideration for inclusion. It was ultimately determined that 18.

(3) 18 of these 31 studies were on suicide prevention in Kazakhstan. The breakdown of the 18 studies by year is shown in Table 2. Specifically, 1 study was published in 1995, 3 in 1998, 1 in 2012, 1 in 2013, 2 in 2018, 2 in 2020, 3 in 2021, 4 in 2022, and 1 in 2023.

Table 2.

**Studies on effective suicide prevention measures in Kazakhstan by year of publication.**

1995: 1 study	1998: 3 studies	2012: 1 study
2013: 1 study	2018: 2 studies	2020: 2 studies
2021: 3 studies	2022: 4 studies	2023: 1 study

Table 3 shows the 18 articles by year of publication and further categorized by topic (completed suicide, suicidal ideation, and suicidal behavior). Of the 18 articles, 8 discussed completed suicide (1 from 1995, 3 from 1998, 1 from 2013, 1 from 2021, 1 from 2022, and 1 from 2023), 6 articles were about suicidal ideation (1 from 2012, 1 from 2018, 1 from 2021, and 3 from 2022), and 4 articles examined suicidal behavior (1 from 2018, 2 from 2020, and 1 from 2021). Note that these characteristics show a clear demarcation by the year 2018. Before 2018, there were more studies on completed suicide, while after 2018, there were more studies on suicidal ideation and suicidal behavior.

Table 3.

**Studies on effective suicide prevention in Kazakhstan by year and topic.**

<b>Completed suicide: 8 studies</b>		
1995: 1 study	1998: 3 studies	2013: 1 study
2021: 1 study	2022: 1 study	2023: 1 study
<b>Suicidal ideation: 6 studies</b>		
2012: 1 study	2018: 1 study	2021: 1 study
2022: 3 studies		
<b>Suicidal behavior: 4 studies</b>		
2018: 1 study	2020: 2 studies	2021: 1 study

**Discussion**

A closer look at the results revealed that 3 of the studies on completed suicide published in 1995 and 1998 were primarily statistical examinations of trends while the remaining 5 studies (from 1998, 2013, 2021, 2022, and 2023) examined factors contributing to suicide. Factors related to completed suicide, suicidal ideation, and suicidal behavior need to be examined further with new aspects in each topic. Suicidal ideation and suicidal behavior were most recently examined in relation to students and COVID-19, and many of the most recent studies have also examined the relationship between suicide and COVID-19 in Japan [6,10,19,26].

In Kazakhstan, there have been few studies on suicide that have led to suicide prevention measures.

**Conclusion**

Future studies on effective suicide prevention measures in Kazakhstan need to accelerate the examination of completed suicide, suicidal ideation, and suicidal behavior, and effective suicide prevention measures need to be explored and implemented.

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**Author Contributions:**

**Ken Inoue:** Conceptualization, methodology, data collection, validation, study analysis, writing-original draft, writing-review and editing, and funding acquisition;

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**Nargul Ospanova:** Methodology, and writing—review and editing;

**Nursultan Seksenbayev:** Conceptualization, methodology, data collection, validation, study analysis, and writing—review and editing.

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