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## GUIDELINES ON SUICIDE PREVENTION MEASURES FOR SOUTH KOREA AND JAPAN BASED ON RECENT SUICIDE TRENDS: THE NEED TO UTILIZE THIS APPROACH TO DEVISE FUTURE SUICIDE PREVENTION MEASURES FOR THE REST OF ASIA AND THE REST OF THE WORLD

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### Abstract

**Introduction:** Devising and implementing effective suicide prevention measures is an urgent matter for countries around the world. South Korea and Japan have some of the world's highest suicide rates, so the current study examined more effective suicide prevention measures for those countries with a focus on recent suicide rates by age group.

**Materials and Methods:** This study examined the suicide rate for each sex by age group in South Korea and Japan in 2009 and 2012, and this study then calculated the ratio of South Korea's suicide rate to Japan's suicide rate. Based on the suicide trends that were noted, this study then indicated specific suicide prevention measures for the two countries.

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Results and Conclusion: The ratio of South Korea's suicide rate to Japan's suicide rate was 1 or greater for both sexes in all age groups except for males ages 15–24 in 2009 and 2012 and for individuals ages 25–34 in 2009. South Korea needs to implement more effective suicide prevention measures for males and females in all age groups (young, middle-aged, and elderly), and it needs to promptly implement suicide prevention measures for the elderly in particular. Japan needs to implement more effective suicide prevention measures for males ages 15–24. Suicide prevention measures need to be promptly devised for at-risk age groups and measures to deal with specific motivations for committing suicide need to be devised. In addition, implementation of community-wide suicide prevention measures is crucial. Japan and other countries around the world must seek to devise specific suicide prevention measures based on suicide trends and results of studies on suicide.

**Key words:** suicide prevention, community-wide, recent, world.

### Резюме

# РЕКОМЕНДАТЕЛЬНЫЕ МЕРЫ ПО ПРЕДОТВРАЩЕНИЮ САМОУБИЙСТВ В ЮЖНОЙ КОРЕЕ И ЯПОНИИ НА ОСНОВЕ ПОСЛЕДНИХ РЕЗУЛЬТАТОВ ИССЛЕДОВАНИЙ СУИЦИДА: ДАННЫЙ ПОДХОД НЕОБХОДИМО ИСПОЛЬЗОВАТЬ ПРИ РАЗРАБОТКЕ БУДУЩИХ МЕР ПО ПРЕДОТВРАЩЕНИЮ САМОУБИЙСТВ НА ОСТАЛЬНОЙ ТЕРРИТОРИИ АЗИИ И МИРА

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Введение: разработка и реализация эффективных мер по предотвращению самоубийств является актуальным вопросом для всего мира. Южная Корея и Япония имеют одни из самых высоких в мире уровней самоубийств, поэтому в данном исследовании нами были изучены более эффективные меры по предотвращению самоубийств для этих стран, с разделением по возрастным группам последних самоубийств.

Материалы и методы: В данном исследовании рассмотрены уровни самоубийств в возрастных группах в зависимости от пола, на территории Южной Кореи и Японии в 2009, 2012 годах, в этом исследовании рассчитано отношение числа самоубийств в Южной Корее к уровню самоубийств в Японии. На основе суицидальных тенденций, которые были отмечены, в настоящем исследовании, были разработаны конкретные меры по предотвращению самоубийств для двух стран.

Результаты и выводы: Отношение числа самоубийств в Южной Корее, к уровню самоубийств в Японии было равно или больше 1, для обоих полов во всех возрастных группах среди мужчин в возрасте 15-24 лет в 2009, 2012 годах, за исключением и для физических лиц в возрасте 25-34 в 2009 году. Южная Корея нуждается в реализации более эффективных мер по предотвращению самоубийств среди мужчин и женщин во всех возрастных группах (молодых, среднего возраста и пожилых людей), в том числе необходимо незамедлительно принять меры по предотвращению самоубийств среди пожилых людей. Япония должна осуществлять более эффективные меры по предотвращению самоубийств среди мужчин в возрасте 15-24 лет. Незамедлительно должны быть разработаны меры по предотвращению суицида для возрастных групп риска, а так же меры направленные на работу с конкретными мотивами для совершения самоубийства. Реализация мер по предотвращению самоубийств в обществе, имеет решающее значение. Япония и ряд других стран должны стремиться разработать конкретные меры по предотвращению самоубийств, основанные на тенденциях самоубийства и результатах исследований по самоубийству.

Ключевые слова: профилактика самоубийств, общество, последние данные, мир.

### Түйіндеме

## СУИЦИД СОҢҒЫ ЗЕРТТЕУЛЕР НӘТИЖЕЛЕРІНІҢ НЕГІЗІНДЕ ОҢТҮСТІК КОРЕЯ МЕН ЖАПОНИЯ АДАМНЫҢ ӨЗІН-ӨЗІ АЛДЫН АЛУ ҮШІН СІЛТЕМЕЛЕР ШАРАЛАР: КӨЗҚАРАС АЗИЯ ҚАЛҒАН ЖӘНЕ ӘЛЕМДЕГІ АДАМНЫҢ ӨЗІН-ӨЗІ АЛДЫН АЛУ ҮШІН БОЛАШАҚ ШАРАЛАРДЫ ӘЗІРЛЕУ КЕЗІНДЕ ПАЙДАЛАНЫЛУЫ ТИІС

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**Кіріспе:** өзін-өзі алдын алу үшін тиімді шараларды әзірлеу және іске асыру бүкіл әлем үшін маңызды мәселе болып табылады. Оңтүстік Корея мен Жапония әлемдегі ең биік жанкештілік мөлшерлемесін бар, сондықтан, адамның өзін-өзі алдын алу үшін аса тиімді шаралары суицид өткен жасы бойынша бөле отырып, осы елдер үшін осы зерттеуге біз зерттелген.

Материалдар мен әдістер: Бұл есеп 2012 жыл, 2009 жылы Оңтүстік Корея мен Жапония аумағында, жынысына байланысты, жас топтарында суицид деңгейі қарайды. Осы зерттеуде Жапонияда суицид деңгейіне Оңтүстік Кореяның суицид санының арақатынасы есептелген. Қазіргі зерттеуде байқалады суицидтік негізінде, екі ел үшін өзін-өзі алдын алу үшін нақты шаралар әзірленді.

Результаты и выводы: Жапонияда суицидтің деңгейіне Оңтүстік Кореяның суицид санының арақатынасы, тең немесе 1 көп, 2009 жылы 15-24 жас аралығындағы ерлер арасында барлық жас топтарында екі жыныс үшін, 2009 жылы 25-34 жас аралығындағы жеке тұлғалар үшін қоспағанда 2012 жылдың. Оңтүстік Корея барлық жас топтарының ерлер мен әйелдер арасында суицидтің алдын неғұрлым тиімді шаралар (жас, орта жастағы және қарт адамдар) жүзеге асыру қажет, оның ішіндеқарт арасындағы суицидтің алдын алу үшін шұғыл шаралар қабылдау қажеттілігі. Жапония 15-24 жас аралығындағы ерлер арасындағы суицидтің алдын алу үшін аса тиімді шараларды жүзеге асыруы керек. Шұғыл шаралар жас топтары үшін суицид тәуекел алдын алу үшін әзірленген болуы тиіс, сондай-ақ өзін-өзі жасағаны үшін белгілі бір ниетпен жұмыс істеуге арналған іс-шаралар. Қоғамдастықта суицид оқиғасы болдырмау үшін шараларды жүзеге асыру, маңызды болып табылады. Жапония және басқа да елдер суицид зерттеулер бойынша суицид үрдістер мен нәтижелерінің негізінде, суицидтің алдын алу бойынша нақты шаралар әзірлеу үшін ұмтылуы тиіс.

Түйінді сөздер: суицид алдын алу, қоғам, соңғы деректер, әлем.

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### Introduction

According to a report by the Cabinet Office, Government of Japan [1], South Korea has the second highest suicide rate for both sexes while Japan has the eighth highest. South Korea has the third highest suicide rate among males while Japan has the twelfth highest, and South Korea has the highest suicide rate among females while Japan has the third highest. Both countries have high suicide rates among males and females. I previously described suicide trends in South Korea and Japan in 2001 and 2002 [14], and I noted the need for prompt measures to prevent suicides by females in South Korea and Japan based on suicide trends in 2006 [11]. A number of studies in Japan have cited unemployment as a potential factor for suicide [9.19,25]. South Korea is similar to Japan, and a study in South Korea has indicated that unemployment is a likely factor for suicide [13]. Studies in both South Korea and Japan have examined suicide from numerous perspectives [4,15,16,23]. South Korea and Japan have some of the world's highest suicide rates, so the current study compared recent suicide rates in the two countries in detail. Based on those findings, this study has recommended suicide prevention measures that each country should promptly implement, and this study has also suggested age groups that should be the target of suicide prevention efforts.

### Materials and methods

This was descriptive study.

Methods of selection of study participants

We researched official data about suicide rate in South Korea and Japan without individual information. We described necessity of suicide prevention in both countries based on the results.

The current study examined the suicide rate (per 100,000 population) for each sex by age group in South Korea and Japan in 2009 and 2012 [6,7,8].

Those age groups were ages 5–14, ages 15–24, ages 25–34, ages 35–44, ages 45–54, ages 55–64, ages 65–74, and age 75 or over. However, the suicide rate in South Korea in 2009 was indicated for age groups of ages 5–14, ages 15–24, ages 25–34, ages 35–54, ages 55–74, and age 75 or over.

This study calculated the ratio of South Korea's suicide rate to Japan's suicide rate (the ratio of suicide rates was calculated for individuals ages 35–44, ages 45–54, ages 55–64, and ages 65–74 in 2009 as a reference). Based on these findings, this study discussed age groups in South Korea and Japan that should be the target of further suicide prevention efforts and what those efforts should entail.

This report was study in official data without individual information.

### Results

In 2009, the suicide rate among South Korean males in all age group was 39.9. The suicide rate among males ages 5–14 was 1.2, that among males ages 15–24 was 15.8, that among males ages 25–34 was 31.3, that among males ages 35–54 was 47.0, that among males ages 55–74

was 79.5, and that among males age 75 or over was 173.9. The suicide rate among Japanese males in all age group was 36.2. The suicide rate among males ages 5–14 was 0.6, that among males ages 15–24 was 20.3, that among males ages 25–34 was 33.3, that among males ages 35–44 was 40.3, that among males ages 45–54 was 53.6, that among males ages 55–64 was 55.1, that among males ages 65–74 was 41.7, and that among age 75 or over was 42.8.

In 2012, the suicide rate among South Korean males in all age group was 38.2. The suicide rate among males ages 5-14 was 1.0, that among males ages 15-24 was 13.3, that among males ages 25-34 was 31.9, that among males ages 35-44 was 37.5, that among males ages 45-54 was 48.5, that among males ages 55-64 was 59.1, that among males ages 65-74 was 87.0, and that among males age 75 or over was 152.5. The suicide rate among Japanese males in all age group was 30.1. The suicide rate among males ages 5-14 was 1.0, that among males ages 15-24 was 20.9, that among males ages 25-34 was 30.4, that among males ages 35-44 was 32.5, that among males ages 45-54 was 42.5, that among males ages 55-64 was 39.2, that among males ages 65-74 was 36.0, and that among males age 75 or over was 39.1.

In 2009, the suicide rate among South Korean females in all age group was 22.1. The suicide rate among females ages 5-14 was 1.4, that among females ages 15-24 was 14.7, that among females ages 25-34 was 29.2, that among females ages 35-54 was 21.3, that among females ages 55-74 was 27.0, and that among females age 75 or over was 77.2. The suicide rate among Japanese females in all age group was 13.2. The suicide rate among females ages 5-14 was 0.4, that among females ages 15-24 was 9.8, that among females ages 25–34 was 14.1, that among females ages 35-44 was 13.8, that among females ages 45-54 was 14.4, that among females ages 55-64 was 14.8, that among females ages 65-74 was 17.8, and that among females age 75 or over was 19.4.

In 2012, the suicide rate among South Korean females in all age group was 18.0. The suicide rate among females ages 5–14 was 0.8, that among females ages 15–24 was 9.4, that among females ages 25–34 was 20.3, that among females ages 35–44 was 18.3, that among

females ages 45–54 was 18.2, that among females ages 55–64 was 16.6, that among females ages 65–74 was 30.3, and that among females age 75 or over was 61.4. The suicide rate among Japanese females in all age group was 12.3. The suicide rate among females ages 5–14 was 0.4, that among females ages 15–24 was 8.4, that among females ages 25–34 was 13.1, that among females ages 35–44 was 12.0, that among females ages 45–54 was 14.7, that among females ages 55–64 was 13.9, that among females ages 65–74 was 16.7, and that among females age 75 or over was 17.2.

The ratio of South Korea's suicide rate among males to Japan's suicide rate among males in all age group in 2009 was 1.10. The ratio of the two countries' suicide rates among males ages 5-14 was 2.00, the ratio of the suicide rates among males ages 15-24 was 0.78, the ratio of the suicide rates among males ages 25–34 was 0.94, and the ratio of the suicide rates among males age 75 or over was 4.06. The ratio of South Korea's suicide rate among females to Japan's suicide rate among females in all age group was 1.67. The ratio of the two countries' suicide rates among females ages 5-14 was 3.50, the ratio of the suicide rates among females ages 15-24 was 1.50, the ratio of the suicide rates among females ages 25–34 was 2.07, and the ratio of the suicide rates among females age 75 or over was 3.98. The South Korean suicide rate for individuals ages 35-54 was broken down into the suicide rate for individuals ages 35-44 and that for individuals ages 45-54. The suicide rate for individuals ages 55-74 was broken down into the suicide rate for individuals ages 55-64 and that for individuals ages 65-74. The ratio of South Korea's suicide rate among males ages 35-44 to Japan's suicide rate among the same age group was 1.17, the ratio of South Korea's suicide rate among males ages 45-54 to Japan's suicide rate among the same age group was 0.88, the ratio of South Korea's suicide rate among males ages 55-64 to Japan's suicide rate among the same age group was 1.44, and the ratio of South Korea's suicide rate among males ages 65-74 to Japan's suicide rate among the same age group was 1.91. The ratio of South Korea's suicide rate among females ages 35-44 to Japan's suicide rate among the same age group was 1.54, the ratio of South Korea's suicide rate among females

ages 45–54 to Japan's suicide rate among the same age group was 1.48, the ratio of South Korea's suicide rate among females ages 55–64 to Japan's suicide rate among the same age

group was 1.82, and the ratio of South Korea's suicide rate among females ages 65–74 to Japan's suicide rate among the same age group was 1.52 (figure 1).

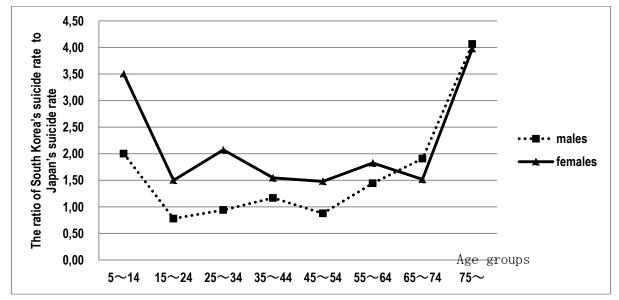


Figure 1. The ratio of South Korea's suicide rate to Japan's suicide rate in 2009 (the ratio of suicide rates was calculated for individuals ages 35–44, ages 45–54, ages 55–64, and ages 65–74 in 2009 as a reference).

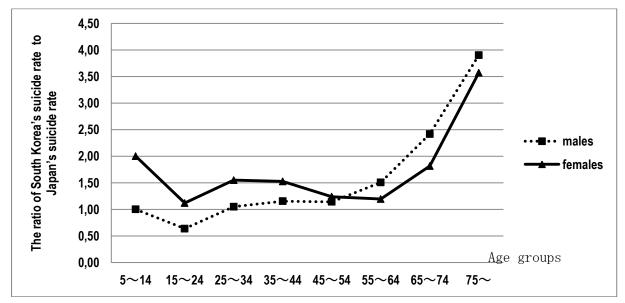


Figure 2. The ratio of South Korea's suicide rate to Japan's suicide rate in 2012.

The ratio of South Korea's suicide rate among males to Japan's suicide rate among males in all age group in 2012 was 1.27. The ratio of the two countries' suicide rates among males ages 5–14 was 1.00, the ratio of the suicide rates among males ages 15–24 was 0.64, the ratio of the suicide rates among males ages 25–34 was 1.05, the ratio of the suicide rates among males ages 35–44 was 1.15, the ratio of the suicide rates among males ages 45–54 was 1.14, the ratio of

the suicide rates among males ages 55–64 was 1.51, the ratio of the suicide rates among males ages 65–74 was 2.42, and the ratio of the suicide rates among males age 75 or over was 3.90. The ratio of South Korea's suicide rate among females to Japan's suicide rate among females in all age group in 2012 was 1.46. The ratio of the two countries' suicide rates among females ages 5–14 was 2.00, the ratio of the suicide rates among females ages 15–24 was 1.12, the ratio of the

suicide rates among females ages 25–34 was 1.55, the ratio of the suicide rates among females ages 35–44 was 1.53, the ratio of the suicide rates among females ages 45–54 was 1.24, the ratio of the suicide rates among females ages 55–64 was 1.19, the ratio of the suicide rates among females ages 65–74 was 1.81, and the ratio of the suicide rates females age 75 or over was 3.57 (figure 2).

### **Discussion**

Two countries with some of the world's highest suicide rates were compared. Results of that comparison indicated that the ratio of South Korea's suicide rate to Japan's suicide rate was 1 or greater for both sexes in all age groups except for males ages 15-24 in 2009 and 2012 and for males ages 25-34 in 2009. In other words, South Korea's suicide rates were same or higher than Japan's (the ratio of the two countries' suicide rates among males ages 45-54 in 2009 was less than 1, but this value was excluded since it was only for reference). South Korea needs to implement additional suicide prevention efforts for males and females in all groups of young, middleaged, and elderly. These efforts need to be promptly implemented for the elderly in particular. One study in South Korea has reported that health problems are a key aspect of measures to prevent suicide by the elderly [22]. South Korea can look to a number of effective suicide prevention measures that Japan implemented to deal with suicide due to health problems [18,20,24]. Key aspects of these measures to deal with suicide due to health problems are early detection of a depressive state or depression through screening and coordinated responses by medical personnel (e.g. physicians and public health nurses), administrative bodies, and the community. Japan needs to implement further suicide prevention efforts for males ages 15-24. Among individuals ages 15-24, there are several key motivations for committing suicide. Among individuals in their teens, school problems and health problems are motivations for suicide, and health problems are a motivation for suicide among individuals in their 20s [10,12]. Bodies and institutions encountering individuals with health problems and school problems need to enhance their suicide prevention measures and they need to coordinate their efforts with relevant institutions.

Suicide prevention is a key topic that different countries must deal with in numerous ways [2,3,5,17,21], and there is evidence that suicide prevention efforts are yielding results.

### **Conclusions**

In conclusions, suicide prevention measures for all generation groups must be considered in order for those measures to continue yielding results in the future as the current study has indicated. Suicide prevention measures need to be promptly devised for at-risk age groups and measures to deal with specific motivations for committing suicide need to be devised. In addition, such measures also need to be implemented community-wide. Steadily conducting studies of suicide and implementing suicide prevention measures should lead to a decrease in suicides.

### Conflict of interest: None

**Author's contributions:** KI designed the study, and KI analyzed the data. All authors in this study performed trends and discuss based on the results. All authors also read and approved the report for submission.

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