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ORIGINAL ARTICLE

Investigation of Suicide Rates for Mental Disorders in OECD Countries by Gender and Time

OECD Ülkelerinde Ruhsal Bozukluklar için İntihar Oranlarının Cinsiyet Göre ve Zaman Ekseninde İncelenmesi

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ABSTRACT

Purpose: The aim of the study is to evaluate the suicide rate in individuals with mental disorders in terms of gender and time.
Design and Methods: In this study, a retrospective research design was used and secondary data were used. The sample of the study consisted of OECD countries.
Findings: Although the suicide rate is higher in men than in women, there is no statistical difference ($p>0.05$). Suicide rate increases during hospitalization, 30 days after discharge, and in follow-ups within one year ($p<0.001$).
Conclusion: It is believed that the results will guide healthcare professionals in diagnosing suicide risk and planning related actions (policy and interventions).

Keywords: Gender, health professional, suicide rate, mental disorder, time

ÖZ

Amaç: Bu çalışmanın amacı ruhsal bozukluğu olan bireylerde intihar oranını cinsiyet ve zaman ekseninde değerlendirmektir.
Gereç ve Yöntem: Bu çalışmada retrospektif araştırma deseni kullanılmış ve ikincil veriler kullanılmıştır. Araştırmanın örneklemini OECD ülkeleri oluşturmuştur.
Bulgular: Erkeklerde intihar oranı kadınlara göre daha yüksek olmasına rağmen istatistiksel olarak fark yoktur ($p>0.05$). İntihar oranı; hastanede yatış sırasında, taburcu olduktan 30 gün sonra ve bir yıl içinde yapılan izlemlerde artmaktadır ($p<0,001$).
Sonuç: Sonuçların, sağlık profesyonellerine intihar riskini tanılamada ve ilgili eylemleri (politika ve müdahaleler) planlamada rehberlik edeceğine inanılmaktadır.

Anahtar Kelimeler: Cinsiyet, sağlık profesyoneli, intihar oranı, ruhsal bozukluk, zaman

Introduction

One person dies from suicide every 40 seconds and nearly 800.000 people every year across the world, and it is known that people, 20 times more of these figures, may commit suicide (1). In addition to the loss of lives, suicide gives harm to families, friends, and society (1) with its devastating effects and causes increased healthcare costs and disability (2). Therefore, suicide is a serious mental health problem with no national borders (1).

Suicide is different from many causes of death, and it does not occur due to a single cause (3, 4). Biological factors such as genetics, psychological factors such as personality traits, clinical factors such as comorbid psychiatric diseases, and social and environmental factors are associated with suicide (4). However, having a psychiatric disorder is an important risk factor (5-7). It is stated that mental disorders play a role in at least 90% of suicides, and there is usually a causal relationship between the two (8).

The suicide rate in people diagnosed with mental disorders is much higher than global suicide rates, (7, 9, 10) with the reported difference being approximately 30 times higher (11). In a study with a retrospective design, it was reported that approximately 9% of the 174.001 people who lost their life from suicide had been diagnosed with a known serious mental disorder, such as schizophrenia, bipolar disorder, and major depression and that 33% had been diagnosed with other mental disorders (6). In a similar study, it was determined that 56% of those who lost their life from suicide had a mental disorder and that 24% had been showing symptoms of mental disorder although they did not have a registered diagnosis (12). In studies with different designs, it was stated that the life-long suicide risk of the population with a serious mental disease was 5-13% (13, 14). These rates underline the necessity of "suicide risk diagnosis" to prevent suicide.

Prevention of suicide is an urgent, priority, and key attempt (1, 2, 4). However, the prevention of suicide is usually a low priority for governments and policymakers (1). The World Health Organization (WHO) states that the development of awareness about suicide, increasing commitment to live, and planning related

actions are among the important suicide prevention interventions (1). Given that individuals diagnosed with mental disorders have a high risk for suicide (5-7, 9, 10) health professionals have important responsibilities in managing this risk (9).

It is important to investigate the risk factors in people with mental disorders in predicting and preventing suicide (3). At this point, determining the periods in which suicide attempts in individuals diagnosed with mental disorders increase can be a guide for health professionals in terms of determining the risk for suicide and managing this process. It has been reported that discharging from the psychiatry center is an extraordinary risk period for suicide, especially in the first week and in the first month (15). In addition to the time variable, revealing the relationship between a basic variable such as gender and the suicide rate may help health professionals to make an effective diagnosis of suicide risk during follow-up. However, the number of studies revealing the risk factors for the increase in the suicide rate in individuals diagnosed with mental disorders after hospitalization is still limited (2, 7, 11, 16). In the light of this information, the suicide rate in individuals diagnosed with a mental disorder will be examined together with the variables of gender and time. It is believed that the results of the study will guide health professionals in diagnosing risk and planning related actions (policy and interventions).

Aim and research question

This study was conducted to investigate suicide rates in individuals with mental disorders in terms of gender and time. For this purpose, the research question was designed as follows: Does the suicide rate differ according to gender and time in individuals with mental disorders?

Materials and Methods

Type of the research

A retrospective design was used in this study.

Participants

Data on the suicide rate in individuals diagnosed with mental disorders were obtained from the Organization for Economic Co-operation and Development (OECD) database. For this reason, the evaluations done under the purpose of the research apply to OECD countries, which consist of 38 countries. However, the data of some countries could not be accessed because they did not share data. The country that did not have data based on the relevant variable was excluded in the analysis process. Therefore, the number of countries included in the study differed according to the relevant variable. In addition, the suicide rate data of OECD countries included in the study also differed on a yearly basis. However, it is stated that when the data of the variables for the desired year cannot be reached, the most up-to-date data of those countries can be used (17). Accordingly, the suicide rate data used in the study belonged to the years between 2013 and 2020.

Variables

The OECD database collects the suicide-related data of individuals diagnosed with mental disorders under three headings: (i) suicide rate during hospitalization; (ii) suicide rate within 30 days of discharge; (iii) suicide rate within one year of discharge. Country-specific suicide rate data represent individuals aged 15 and over who were diagnosed with a mental disorder. Suicide rate data is the age-sex standardized ratio for 100 patients. In the relevant database, the data shared by OECD countries in these three time categories are distributed by gender at the same time.

Data collection

Secondary data obtained from the "Mental Health Care" sub-theme of the "Health Care Quality Indicators" theme in the OECD database were utilized (18).

Data collection tools

Data collection tool was not used in this study. In accordance with the purpose of the study, data showing the suicide rates of countries based on time (suicide rate during hospitalization, within 30 days and one year of discharge) and gender were used.

Data analysis

Descriptive statistics in the study were presented as median (min.-max.) and standard error values. The conformity of the data to the normal distribution was analyzed with the Shapiro-Wilk test, and it was observed that the data did not have a normal distribution. Mann-Whitney U test was used to compare suicide rates by gender, and Friedman's Two-Way Analysis of Variance test was used to compare the rates by time. A statistical software package was used in the analysis of the data. The significance value was determined as $p<0.05$.

Ethical aspect of the research

The data on the OECD database is "open access"; therefore, no ethics committee approval was obtained for the study.

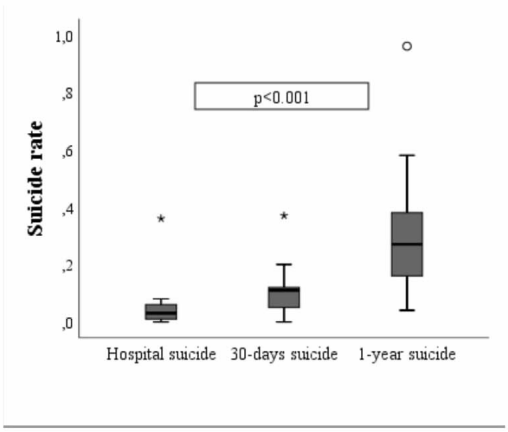
Findings

In this study, in which the suicide rates of individuals diagnosed with mental disorders were investigated, 25 of the 38 OECD countries shared the data set regarding the during-hospitalization process, while 18 countries shared the data set including data about the first 30 days and one year after discharge on the OECD database. The count of countries included in the study and its variation according to the variables are given in Table 1.

Table 1. Suicide Rate in Individuals Diagnosed with a Mental Disorder in OECD Countries

Suicide rate in individuals diagnosed with mental disorders	n*	Median	Standard Error	Min.-Max.	p**
During hospitalization					
Male	25	0.03	0.03	0-0.67	0.524
Female	25	0.02	0.01	0-0.3	
Within 30 days of discharge					
Male	18	0.14	0.02	0-0.36	0.103
Female	18	0.1	0.02	0-0.39	
Within one year of discharge					
Male	18	0.35	0.06	0.07-0.96	0.079
Female	18	0.19	0.06	0,03-0.97	

*n: OECD countiries ****** Mann-Whitney U test



* Friedman's Two-Way Analysis of Variance test

Figure 1: Variation in Suicide Rate by Time in Individuals Diagnosed with Mental Disorders

The distribution of suicide rates specific to individuals with mental disorder in OECD countries by gender is given in Table 1. Accordingly the male-specific suicide rate of OECD countries; during hospitalization (Median=0.03), within 30 days of discharge (Median=0.14) and within one year after discharge (Median=0.35). In the suicide rate of OECD countries especially within one year after discharge, the difference increased approximately twice (Male median=0.35, Female median=0.19), but this difference was not statistically significant in any period (p>0.05).

The change in suicide rate for individuals with mental disorder in OECD countries over time is presented in Figure 1. In this context, the suicide rate in measurements made within one year after discharge (Median=0.28) was statistically significantly higher than the suicide rate in calculations made during hospitalization (Median=0.03) and within 30 days of discharge (Median=0.11) (p<0.001).

Discussion

Psychological autopsies performed since the middle of the last century have shown that most people who commit suicide suffer from mental disorders (3) and revealed that all mental disorders increase suicide-related death rates (10). In addition to effective implementation of preventive measures to manage this situation, more research is needed to diagnose the risk for suicide in mental disorders (3). In this context, it was found in this study, in which suicide rates in individuals with mental disorders in OECD countries were investigated in terms of gender and time, that the suicide rate was higher in males than in females and that it increased over time.

The inclusion of more than one risk factor in the process of determining the suicide risk makes it difficult to determine it (10). On the other hand, considering the WHO recommendations (1) and the information that individuals with mental disorder show a decreasing trend in suicide rates during the follow-up period (7), achieving the follow-up of these individuals during and after hospitalization to prevent suicide in this vulnerable group is an important suicide prevention strategy (5). In this respect, the information about the scope and course of the suicide risk in the hospital and the weeks after discharge can guide health professionals about the timing and duration of interventions aimed at reducing these tragic events.

Gender is one of the demographic risk factors for suicide in individuals with a mental disorder. Being male is a strong risk factor for suicide in individuals with mental disorders (16, 19). It is known that the probability of dying from suicide in males is approximately two times more than in females (1, 7). In fact, in some regions, this rate is up to four times (1). In this study, although not statistically significant, similar to the literature, the rate of suicide in OECD countries in males was higher than in females. In fact, it was observed that the rate of suicide in males within a year after discharge was nearly twice the rate of suicide in females. These results indicate that health professionals should be more careful about individuals with the male gender in the process of suicide risk diagnosis.

The suicide rate in individuals discharged from psychiatric centers reaches up to 100 times of the global suicide rate, and the discharge process poses a higher risk for suicide-related death than many other risk factors (20). Psychiatric inpatients are at high risk for suicide in the first few months after discharge from the centre (16). For example, the rates of suicide in patients who are admitted to a psychiatry center with suicidal ideation or behavior and who are in the 3-month period after discharge from the center are approximately 200 and 100 times higher than the rates in the general population, respectively (11). Also, in a meta-analysis study examining the suicide rates of these individuals after discharge from psychiatry clinics, it was reported

that the rate was 2950 (100.000 people-year) in the first week after discharge and 2060 (100.000 people-year) in the first month (15). In a different study, it was reported that the suicide rate was 484 (100.000 people-year) as a result of follow-up at any time during one year after discharge in individuals with psychiatric disorders (11). In this study, OECD countries suicide rates were found to increase over time, but this result may be due to the cumulative data characteristic of the data. The OECD data set was obtained under three categories as "hospitalization period, 30 days after discharge, and one year after discharge," and suicide rates were obtained by adding these data to the previous ones. For this reason, the data type should be considered in the evaluation performed in terms of time.

Suicide risk assessment is an important component of psychiatric care in individuals with mental disorders, and this assessment should be performed at every step of health care delivery (19). In a study, it was stated that 22% of the cases visited a health care institution at least once, and 6% visited twice or more times within the six weeks before the suicide (12). In other words, individuals who are likely to commit suicide visit health professionals shortly before this attempt. In this respect, identifying high-risk groups for suicide emerges as an effective strategy to reduce suicide rates.

Limitations of the research

This study has some limitations. First, the data cover OECD countries and two variables (gender and time). The second limitation is the inaccessibility of data for every country. The third limitation is that only difference tests were used in the study in accordance with the nature of the variables. The last limitation of the study is the inability to control the potential of differences in the provision of mental health services by countries to affect suicide rates. Therefore, the results should be interpreted with caution.

Within the limitations of the study, it is recommended to expand the sample (increase the number of countries) in future studies, to include different variables that may be associated with the suicide rate in the evaluation process, and to use different statistical methods/ research designs according to the variable type. In this study, the most up-to-date data of each country were used. However, if the data sets are updated in the following years and the data for each year are shared, conducting new studies will contribute to the planning of the steps to be taken regarding the management of the suicide risk.

Implications for Nursing Practice

In line with the literature and study results, health professionals have some responsibilities in preventing suicide. These responsibilities can be listed as follows; (a) short-term follow-up of discharged patients should be increased with a more focus on the safe transition from hospital to community care (15); (b) patients presenting with suicidal thoughts or behaviors should be monitored more carefully in the first months after discharge (11); (c) individuals discharged from psychiatric centers should be provided with access to long-term care (11). In this direction; this study underlines the necessity for nurses to be aware of the high suicide rates in individuals with mental disorders and to take political and operational steps to increase the assessment of the psychological/suicide risk and follow-up in the post-discharge period.

Conclusion

The results of the study reveal that the suicide rate in individuals with mental disorders is higher in males and increases over time in OECD countries. Considering that suicide does not have a single cause and has multifactorial features, it is important to interpret this result carefully.

Conflict of Interest

The authors report no actual or potential conflicts of interest.

Declaration of Interest Statement

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