



Military Suicide among Taiwanese Soldiers: A Comparative Study

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Introduction: Military suicide is an important issue; however, no previous studies have examined the prevalence of military suicide in Taiwan. **Methods:** We performed a retrospective analysis of the suicide data from the Military of National Defense and compared the results year-by-year with the suicide rate given in the national data provided by the Ministry of Health and Welfare during 2003–2015 in Taiwan. We also compared the results with the United States army and the Japan Self-Defense Force during 2008–2014. **Results:** The results showed that military suicide rate among Taiwanese soldiers was significantly lower than the general population ($t = 10.89$, $P < 0.001$) and the average suicide rate of the military and the general population was 16.5 ± 1.5 and 8.2 ± 2.2 per 100,000 people, respectively. The results also showed a lower suicide rate among the Taiwanese military personnel (7.2 ± 1.8) compared with the military of America (18.8 ± 2.5) and Japan (36.2 ± 2.6) during 2008–2014. **Discussion:** Taiwanese soldiers have relatively lower suicide rate compared to the general population in Taiwan. However, military suicide prevention program has to adjust the strategy, which is different from country and culture. We should focus on this issue and build on factors that can help avoid suicide incidents by promoting positive mental health and help-seeking.

Key words: Military, suicide, suicide rate

INTRODUCTION

Since 1999, suicide has been the ninth leading cause of death in Taiwan,¹ and it has been the third leading cause of death among the youth aged 15–24 years.² In Taiwan, several young male adults are recruited into military services where they are exposed to changes in lifestyle and stressful military training. Besides, according to a previous study, suicide rate incidence significantly increases from later adolescence to early adulthood.³ Hence, suicide prevention has become one of the most important public issues, especially in the military.⁴

Military suicide is an ongoing phenomenon for the military personnel, and the Medical Affairs Bureau of Taiwan has been working to ameliorate this problematic issue. The Military Suicide Prevention Center was established to provide suicide prevention, which involved examining multifaceted aspects of mental health and psychoeducation since 2012. No matter how the predominance of suicide in the military is about 1–1.4 times higher than that in the civilian population due to the combat stress and lack of family support.⁵ For example, in the year 2014, the suicide rate in Japan Self-Defense Force was about 2 times higher than the general population

(42.1 vs. 20.1 per 100,000),^{6,7} and suicide rate in the United States army was about 1.5 times higher than that in the general population (19.3 vs. 13.0 per 100,000).^{8,9}

Since no previous studies have mentioned about the prevalence of military suicide in Taiwan; therefore, we compared the military suicide rate with the national suicide rate according to the following hypotheses: Soldiers exhibit a more marked tendency and capability for suicide due to their highly stressful environment. Besides, we also collected a series of data to describe the trend of military suicide and draw comparisons with other countries to evaluate the trend of military suicide rate in Taiwan based on the hypothesis that the suicide rate varies in the different culture and countries.

METHODS

To determine the trend of the military suicide, we performed a retrospective analysis of the suicide data from the Military of National Defense in Taiwan. The number of deaths caused by suicide was collected from the report of the Military Suicide

Received: August 22, 2017; Revised: October 19, 2017;
Accepted: November 01, 2017

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How to cite this article: Lee YF, Tzeng DS. Military suicide among Taiwanese soldiers: A comparative study. J Med Sci 2018;38:38-41.

Prevention Center during 2003–2015. The suicide rate was derived from the number of suicide divided by the number of in-active-service soldiers every year. We compared the results year-by-year with the suicide rate given in the national data provided by the Ministry of Health and Welfare.¹⁰ We also compared the results with the United States army⁸ and the Japan Self-Defense Force.⁷ The suicide rates in each country are the number of deaths caused by suicide divided by the number of personnel on active duty in each country.

All numerical and categorical data was generated in the Statistical Product and Service Solutions software version 20.0 for Windows (SPSS, IBM Corp., Armonk, NY, U.S.A.) for cross-tabulation and summarization of the data. We compared the military and national suicide rate with an independent *t*-test. The difference of the military suicide rate among the three countries was analyzed with one-way ANOVA.

The author's institute and the military suicide prevention center have approved this study from its ethical regulation data.

RESULTS

According to the data from the Military Suicide Prevention Center, 272 Taiwanese soldiers committed suicide during 2003–2015, thus showing that 21.0 ± 6.7 people died by committing suicide every year, during the past 13 years. During the period 2003–2015, the average suicide rate of Taiwan and the military suicide rate of Taiwanese soldiers were 16.5 ± 1.5 and 8.2 ± 2.2 per 100,000 people, respectively, [Figure 1]. The results showed a significant difference between the groups according to an independent *t*-test ($t = 10.89$, $P < 0.001$).

The results also showed a lower suicide rate among the Taiwanese military personnel (7.2 ± 1.8) compared with the Military of America (18.8 ± 2.5) and Japan (36.2 ± 2.6) during 2008–2014 [Figure 2]. In addition, a significant difference was observed among these three groups by one-way ANOVA ($F [2, 18] = 234.0$, $P < 0.001$). Tukey honest significant difference *post-hoc* test showed a significantly lower suicide rate among Taiwanese military personnel when compared with the military personnel in America and Japan.

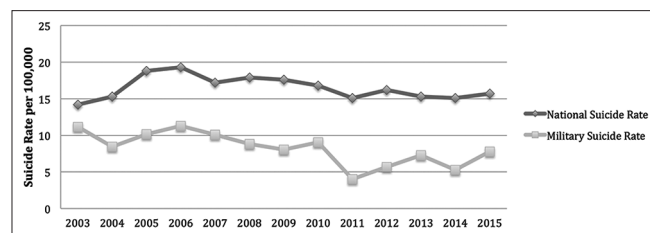


Figure 1: The comparison between the suicide rate in Republic of China Army and the national suicide rate in Taiwan during 2003–2015

DISCUSSION

There are several previous studies on the issues of military suicides in Taiwan; however, these studies are about the forensic psychiatric evaluations for some away-without-leave draftees with suicidal ideations,¹¹ psychiatric disorders-related service suspension draftees with suicidal ideations,¹² theoretic explorations of the reasons of suicides,¹³ or even the correlation between serotonin transporter availability and suicidal ideations in conscripts with major depression.¹⁴ To the best of our knowledge, this is the first study about complete military suicide rates, in a longitudinal, 12-year follow-up, in Taiwan. According to the above data, military suicide rate in Taiwan is significantly lower than not only the data from the soldiers of other countries but also the general population in Taiwan.

The possible reason for lower suicide rate among military personnel could be related to the strict physical examination in connection with military services, in which the mental status examination is regularly checked in detail. Besides, they have to sign the agreement for the military hospital to link their history with the previous medical record from the National Health Insurance Databases. Those diagnosed with the major depressive disorder, psychotic disorders, personality disorders, or other mental disorders are exempted from military service.¹¹ Moreover, the Brief Symptom Rating Scale (BSRS-5)¹⁵ is regularly checked in the military annual mental and physical health examinations. The Military Suicide Prevention Center closely follows-up with those who have advanced BSRS-5 scores. Moreover, personnel with BSRS-5 score of more than 10 or suicide ideation is referred to a psychiatrist specialist for further evaluation and treatment including hospitalization. Those with BSRS-5 score of less than 10 in but will also be referred to the military three-tier counseling system, from grass-roots unit, battalion-level units to the Mental Health Center in each zone.

Besides, the military suicide rate in Taiwan is also much lower when compared with that of the military personnel in other countries including America and Japan. The most prominent reasons of suicide in the US army are alcohol use disorder¹⁶ and posttraumatic stress disorder¹⁷ following a war,

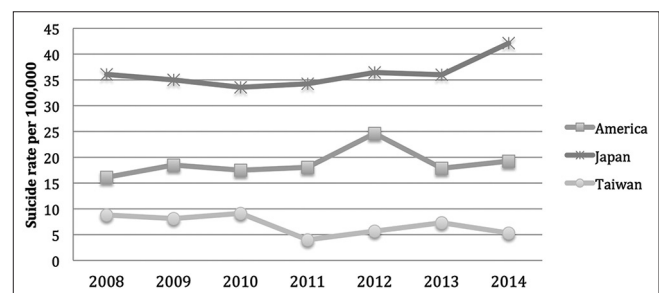


Figure 2: The comparison of military suicide rate in America, Japan, and Taiwan during 2008–2014

Military suicide in Taiwan

including the Iraq, the Afghan, and the Syrian war. The Japan Self-Defense Force has had an extremely high suicide rate in the past few years, and it is about two times higher than the national suicide rate of Japan. The possible reasons for this could also relate to that the military suicide considered to be honored in the Japanese soldiers such as Seppuku (cutting the abdomen) and Banzai Charge during the World War II. This might lead to altruistic suicide. Besides, posttraumatic stress disorder resulting from fighting the Iraq and the Afghan war might also lead to a higher suicide rate. On the other hand, Taiwanese soldiers have had no war in the past decade. Even though the military training is highly stressful, it is still less traumatic than the actual war scene. Even, the weekly mental health education programs in Taiwan could enhance the collective identity and coordinate the social integration and regulation to prevent the suicide trend of this group. What's more, the combat could enhance the military personnel's capacity of commit suicide according to the interpersonal-psychological theory (IPT) of suicide.⁹ As a result, deployment and the cultural difference might be the possible reasons for the lower rate of suicide among the Taiwanese soldiers.

According to the IPT of suicide, people with suicide ideation suffer from perceived burdensomeness and thwarted belongingness.¹⁸ Hence, an individual in the military lacking connection with others or who is rejected by peer groups may have a higher suicidal desire;¹⁹ therefore, it is of prime importance to identify the individuals in the military who are susceptible to maladjustment and at a risk of committing suicide. The previous studies have proved IPT to be a useful predictor of suicide risk in the military.^{13,20,21}

It is important to note that our study had certain limitations. The suicide rate tends to be under report because of social pressures and religious issue. It could also been underestimated by coding errors about the cause of death, especially in the military. For example, some of the deaths caused due to accidents or in the line of duty may be related to suicidal attempts, such as an aircraft crashing into a mountain or falling from height. However, without detailed psychological autopsy, we could not find the actual answer. Besides, the age of suicide personnel is important factor of suicide rate. If possible, further study compare the suicide rate in each country with age-matched suicide data could be a better view of this issue. In addition, psychological autopsy was not widely applied to Taiwanese soldiers who committed suicide. As a result, further guidance into suicide prevention efforts is necessary. Furthermore, the experiences from other countries that also face international safety challenges such as Israel or some Asia-Pacific countries could also contribute the future military suicide studies in Taiwan. For example, in the Israel Defense Forces, identification of risk and protective factors for suicides

and development of practical suicide prevention programs do contribute to the decrease of military suicides.²²⁻²⁴ In the Asia-Pacific regions, few reports are found about military suicides in other countries even though some studies for suicide attempts in armed forces in Singapore and Korea indicate that military suicidal attempts are related to the basic military training situations, personnel with lower rank,²⁵ or conscripts with characteristics such as difficulty-identifying-feelings, difficulty-describing-feelings, and uncooperativeness.²⁶

CONCLUSION

Taiwanese soldiers have relatively lower suicide rate compared to the general population. However, suicide rates vary due to culture, countries, and even their jobs, especially in the military. In fact, there are more than 80% of suicide personnel was not in the list of our suicide prevention center. Hence, we should work harder to early detection and transferal. We still need more specific evidence-based hypothesis and studies to yield more reliable results with regard to suicide prevention. Thus, the Military Suicide Prevention Center needs to conduct further studies specifically focused on this issue and build on factors that can help avoid suicide incidents by promoting positive mental health and help seeking.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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