

Mini-Review

Characteristics of suicidal male and female soldiers in various military forces

Ishai Nir^{1,*}¹Department of Health and Well-Being, IDF's Medical Corps, Israel Defense Forces, 52620 Ramat Gan, Israel***Correspondence:** Ishai.nir@gmail.com (Ishai Nir)**Abstract**

The gender paradox in suicidality is a documented phenomenon, the existence of which has been established by many studies in recent decades. However, despite being repeatedly shown to exist in civilian populations, it has not been researched much in military settings. This paper aims to explore the existence of the gender paradox in various military forces around the world, as reflected in the published literature and to assess the need for further investigation of the subject.

Keywords

Suicide; Gender paradox; Military; Soldiers

1. Introduction

Suicide is a leading cause of death worldwide, especially in the second and third decades of life [1]. Although global suicide rates have declined in the last decade, they still amount to hundreds of thousands. Moreover, suicide rates in the US have gone up in the last 15 years by 1.5% on average, with about half the US states experiencing a 30% rise between 1999 and 2016 [2].

The WHO reports approximately 800,000 deaths by suicide in 2016 alone [3]. The annual global suicide rate that year was roughly 10.6 per 100,000 people. Rates of suicide attempts were even higher and it is estimated that for every death by suicide there are approximately 20 attempted suicides [4].

Gender differences between males and females are known to exist in suicidal behavior [3]. While women tend to demonstrate more suicidal ideation and suicidal behavior, the death rate by suicide is higher among men. Among males the rate is nearly twice that of females, with the male to female ratio estimated at 1.7 [5]. According to the WHO, this ratio is true for most countries [4].

Previous studies attempting to explain this difference attributed it to association between suicidality and various factors that differ between the genders, including the rates of depression [6, 7], social connections, more impulsivity in males and differences in the lethality of the suicide method or tool [1]. This phenomenon is known as “the gender paradox

in suicide” [8].

Over the years, it was found that there are differences between suicide rates in military versus the general population [9]. Suicide rates in the military are often reported as being higher than rates in civilian populations [10]. Some of those differences may be attributed to the higher exposure of military personnel to stressful events such as deployment or combat [11–13]. Additionally, military personnel have more accessibility to firearms, which can be used for suicide [14]. Some studies focus on situations that are unique to military service such as exposure to violent combat events [15, 16]. In addition, the transition between civilian and military life is characterized by a variety of psychosocial stressors and adjustment challenges [17]. In recent years, a number of reports on differences between male and female soldiers' suicidal behavior have been published by some armed forces. Attempts are made to define and explain the differences, as well as comparing them to those described in the suicide literature about civilians. It is still unclear whether the gender differences among soldiers correspond to those seen in civilian populations or whether they have different characteristics, possibly associated with the military setting. To date, however, there is no outright mention in the military context of the gender paradox.

The aim of the current study was to investigate the characteristics of suicide in the military forces of several countries, with regard to the above-mentioned gender paradox in suicide. Studies from the military forces of countries such

as Mexico, Taiwan, Germany, China and others, were examined. Sufficient details on gender differences were found only in the data from the military forces of the US, Canada, UK, and Israel and therefore, only these were included in the study. Unfortunately, even in these data no distinction was made between the various military branches, services or even armies. The current study thus, treats each country's armed forces as a single organization.

2. The gender paradox in suicide and various armed forces

2.1 United States Armed Forces

Although historically, suicide mortality rates for members of the US Armed Forces were lower than for the general population, they started rising in the last 20 years [18]. According to Pruitt *et al.* [19], by the mid-twenties of the 21st century, the suicide rate among active soldiers had reached 19.9 per 100,000, while among reserve soldiers it stood at 21.9 per 100,000 and in the National Guard, at 19.4 per 100,000. The non-standardized suicide rates per 100,000 by branches were: 23.8 in the army, 18.5 in the air-force, 17.9 in the marines and 16.3 in the navy.

In recent decades, in attempt to gain better understanding of the reasons for the increase in suicides and to devise programs to turn this trend around, the US military conducted numerous studies [20–22]. To this end, since 2008, deaths by suicide and suicide attempts are systematically collected and monitored throughout the US Armed Forces and the collected data is analyzed and used to plan and run several prevention programs, as well as to assess their efficiency [23].

Some of the characteristics found to constitute risk factors for death by suicide in US soldiers included previous history of mental disorders, a reported diagnosis of mood disorder, personal history of psychoactive substance use, and prior history of self-harm [10, 12]. The link between deployment and suicide was found inconclusive. One study found a link between deployment and suicide risk, but others did not find such association [11]. Another study found that exposure to combat, but not deployment as such, was associated with an increased risk of suicidal thoughts and behavior among military personnel [12]. Yet another found a significant correlation between deployment and suicide only among women [24].

A study by Pruitt *et al.* [25] showed that while during the years 2012–2015 the rate of death by suicide for male soldiers was between 20.5 and 24.8 per 100,000 US service members, the rate for female soldiers was 11.7 per 100,000 US service members, namely about half of the men's rate. Firearms were found to be the most common method of suicide (62.3%), followed by hanging or asphyxiation (29.8%) [25]. Results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS) conducted in the US military, showed that female service members attempt suicide more often than males [10, 13, 24, 26]. This finding is also supported by other studies [27–30]. In 2014, a study done as part of STARRS assessed suicidal behavior, using a

modified version of the Columbia-Suicide Severity Rating Scale. It found the lifetime prevalence of suicidal ideation, suicide plans, and suicide attempts among US military service members to be approximately, 13.9%, 5.3%, and 2.4%, respectively. Females were found to have higher rates of ideation and planning than males and almost double the rate of suicide attempts [10]. Another study found that self-harm symptoms, including suicidal ideation, increased during combat-medical training, mainly in female soldiers [31]. Some of those studies attempted to explain the differences as stemming from differences in education [30, 31], younger age for males when entering army service [30] and workplace difficulties, which tend to be associated more with female soldiers' suicidality than with males' [28]. Yet, an additional study demonstrated more similarities than differences between male and female US soldiers with regard to risk factors associated with suicide [28].

In summation, studies in the US army found much evidence supporting the existence of the gender paradox in suicide among service members, namely, more ideation, plans, and attempts among female soldiers than among male ones, but less death by suicide. Some studies tried to explore the reasons for this phenomenon among military personnel, while taking into consideration the numerous aspects of suicidality that distinguish soldiers from civilians. To date, there is some progress in research and understanding but more in-depth investigation is still needed.

2.2 Canadians Armed Forces

Suicide has been mentioned as the 3rd leading cause of death in the Canadian Armed Forces (CAF) [32]. Due to concerns expressed since the early 1990's about increase in suicide rates and their possible relationship to deployment, several initiatives attempting to reduce suicidality, were launched over the years. Those included the establishment of the National Mental Health Commission of Canada, development of a federal framework for suicide prevention, large investments in military and veteran mental health services, and targeted efforts to formulate comprehensive suicide prevention strategies among military and veteran populations [32–34]. Contrary however, to a report on increased suicidality among CAF members, current data suggest otherwise. Between 2015–2018 the suicide rate for male soldiers was approximately 23.8 per 100,000. Among female soldiers, mortality by suicide was virtually non-existent, ranging from 0 to 2 persons per year [35].

Sareen *et al.* [36] compared suicide ideation and attempts between male and female military personnel and Canadian civilians, using data from national surveys that were held in 2002 and 2013. The surveys showed higher rates of suicidal ideation, planning and attempts in military personnel, compared to civilians. It was also demonstrated that suicide attempts over the lifetime and suicidal ideation were more prevalent in females than in males both in 2002 and in 2013. In addition, the 2002 data included previous year's information showing higher rates of suicidal behavior among female military personnel compared to male personnel, in

that year as well. No data on the previous year's suicide attempts was available in 2013. There was, however, data showing a decrease in suicide planning among females in that year, while in males no significant change was detected. The authors theorized the reason for this phenomenon to be the greater likelihood of women in general, including female military personnel, to seek treatment and help [36, 37].

It thus seems that, while the earlier data (2002) suggested the existence of a gender paradox in suicide in the CAF, later data (2013) is inconclusive, possibly due to being incomplete. Additionally, no data that may explain inconsistent findings such as the decrease in suicide planning that occurred in females but not in males, was collected in 2013. Further investigation of gender differences in suicidal behavior in the CAF is needed.

2.3 U.K. Armed Forces

Several studies have been published over the years regarding suicide and self-harm in the U.K. Armed Forces (UKAF). Most of these studies investigated suicide attempts [38] rather than deaths by suicide, since the frequency of the latter in the UKAF has been found to be low. Studies regarding self-harm have shown varying results, ranging from a high of 5.6% to a low of 1.8%. Higher rates were found among army veterans [39]. Some reports show women to be at higher risk for self-harm compared to men [40], but no explanation is provided for this phenomenon.

Official records of the UKAF showed that 94% of the 292 confirmed deaths by suicide in the years 1999–2018, were males. Most deaths (53%) were committed by hanging or suffocation, 17% by firearms and the rest by other methods. Suicide attempts were not included in this report [41]. A 2019 study addressed the issue using data from the King's Centre for Military Health Research and from a telephone survey [40]. The findings from the telephone survey showed that 9.7% of UKAF members had attempted suicide at least once during their lifetime. No difference was found between males and females in this study and no explanation was given to that absence of gender differences that contradicts other studies.

2.4 Israel Defense Forces

A suicide prevention program (SPP) has been used for the last 14 years in the Israel Defense Forces (IDF), resulting in a decline in the rate of military deaths by suicide [42]. However, suicide is still a leading cause of death in the IDF [43]. Prior to SPP implementation, characteristics of the IDF soldier who died by suicide included male gender, Ethiopia as country of origin, low socioeconomic status and low score in adjustment ability, as determined by a mental health officer, following an examination. Additional characteristics included low rank and for male soldiers cluster B personality disorder (i.e., antisocial, borderline, histrionic and narcissistic personality disorders) as well as low to average motivation to serve in a combat unit. Implementation of the SPP changed several of these characteristics however, being of male gender still comprises a risk factor for death by suicide [44].

A recent study found that in a cohort of nearly 250,000 soldiers who served in the IDF between the years 2008–2018, among those who died by suicide the proportion of males was 80.8%. However, only 46.7% of suicide attempts during those years, were performed by males and that despite the rate of all suicidal behavior being higher among males (60.7%) [45].

Differences have also been found in the timing of suicide attempts versus the timing of deaths by suicide. In the IDF, female soldiers are more likely to attempt suicide towards the end of their mandatory service although most completed suicides in women seem to occur closer to the beginning of the military service. Males, on the other hand, tended to both, attempt and die by suicide more often during their first year of service. Other characteristics were not found to be different, although, unsurprisingly, the proportion of combat soldiers among the male suicidal population was higher [45].

The scarcity of research on the association between gender and suicidality in the military may be due to the extremely low suicide rates of female soldiers in comparison to those of male soldiers. Still, several factors were mentioned as possible reasons for the gender differences in those cases. Although military service is mandatory in Israel, males still comprise the majority of soldiers. While service in the IDF is mandatory for both men and women, de facto only 40% of women enlist. Women are exempt for a variety of reasons that include marriage and motherhood. Meanwhile, among men the enlistment rate is 60%. Thus, there are significantly fewer female soldiers than male ones, but the female soldiers tend to have higher military quality screening scores than the males. Differences also exist in the basic training of male versus female soldiers as well as in their military job assignments. Women's basic training is shorter than that of men as are most military professional training programs. This may result in shorter periods of high-level stress for female soldiers compared to males and in less stress over the whole service period. Even in combat roles, more and more of which are opening up for female soldiers in recent years, there are differences between men and women. While for women these are voluntary appointments, for men they are compulsory. Additionally, as mentioned earlier, women tend to seek mental health assistance and support more than men do, thus having more of a protective factor against death by suicide.

3. Conclusions

The gender paradox in suicide is a documented phenomenon, the existence of which has been established by many studies in recent decades [6, 46]. However, despite being repeatedly demonstrated in civilian populations, it has not been thoroughly investigated or discussed in the military context. Data collection and research relating to the gender paradox in the armed forces is scarce, even in the military organizations that invest significant resources in studies on suicide.

The military population differs in some aspects from the general population. Soldiers' screening for severe mental and physical illness prior to recruitment into military service [47], should ostensibly, reduce suicidality rates [41, 48]. Military

service, however, tends to involve greater access to firearms and exposure to high stress environments and situations such as combat and deployment. In addition, availability of mental health services varies greatly, as does the willingness to approach them. Those characteristics are well known to increase significantly the risk of suicide among soldiers.

The current literature search resulted in a few studies relevant to the topic and a few more that actually integrate the relevant findings and further discuss them. However, even from that scarce data, it is clear that the gender paradox in suicide exists in the armed forces and is as relevant to military populations as it is to the general population.

The military population differs from the civilian one with regard to specific and unique psycho-social aspects that may influence significantly the gender paradox in suicide. This was demonstrated in the findings of the US army that showed correlation between deployment and suicide only among women [24]. The findings also showed increases mainly in female soldiers, in self-harm symptoms and suicidal ideation, during combat-medic training [31]. Additionally, it was demonstrated in the IDF study that contrary to male soldiers, female ones are more likely to attempt suicide towards the end of their mandatory service [45]. Further research focusing on suicidality in the military, may find additional gender differences and thus help devise better-suited prevention programs.

Abbreviations

Army STARRS, Army Study to Assess Risk and Resilience in Servicemembers; CAF, Canadian Armed Forces; UKAF, U.K. Armed Forces; IDF, Israel Defense Force.

Author contributions

IN is the sole contributor to this article.

Ethics approval and consent to participate

The manuscript was based on previous published studies, therefore no ethical approval and patient consent are required.

Acknowledgment

Thanks to all the peer reviewers for their opinions and suggestions and to the editors for their guidance.

Funding

This research received no external funding.

Conflict of interest

The author declares no conflict of interest.

References

- [1] Bachmann S. Epidemiology of suicide and the psychiatric perspective. *International Journal of Environmental Research and Public Health*. 2018; 15: 1425.
- [2] Stone DM, Simon TR, Fowler KA, Kegler SR, Yuan K, Holland KM, *et al*. Vital signs: trends in state suicide rates - United States, 1999–2016 and circumstances contributing to suicide—27 States, 2015. *Morbidity and Mortality Weekly Report*. 2018; 67: 617–624.
- [3] World Health Organization. *Suicide in the World: Global Health Estimates*. World Health Organisation: Geneva, Switzerland. 2019.
- [4] National Institute of Health. 2019 Suicide. 2019. Available at: <https://www.nimh.nih.gov/health/statistics/suicide.shtml> (Accessed: 1 January 2019)
- [5] WHO Figure: Age-Standardized Suicide Rates: Male: Female Ratio (Per 100,000). 2017. Available at: http://www.who.int/gho/mental_health/suicide_rates_male_female/en/ (Accessed: 10 October 2017).
- [6] Schrijvers DL, Bollen J, Sabbe BG. The gender paradox in suicidal behavior and its impact on the suicidal process. *Journal of Affective Disorders*. 2012; 138: 19–26.
- [7] Barrigon ML, Cegla-Schwartzman F. Sex, gender, and suicidal behavior. *Behavioral Neurobiology of Suicide and Self Harm*. 2020; 46: 89–115.
- [8] Canetto SS, Sakinofsky I. The gender paradox in suicide. *Suicide & Life-Threatening Behavior*. 1998; 28: 1–23.
- [9] Reimann CA, Mazuchowski EL. Suicide rates among active-duty service members compared with civilian counterparts, 2005–2014. *Military Medicine*. 2018; 183: 396–402.
- [10] Nock MK, Stein MB, Heeringa SG, Ursano RJ, Colpe LJ, Fullerton CS, *et al*. Prevalence and correlates of suicidal behavior among soldiers: results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). *JAMA Psychiatry*. 2014; 71: 514–522.
- [11] Schoenbaum M, Kessler RC, Gilman SE, Colpe LJ, Heeringa SG, Stein MB, *et al*. Predictors of suicide and accident death in the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS): results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). *JAMA Psychiatry*. 2014; 71: 493–503.
- [12] Alexander CL, Reger MA, Smolenski DJ, Fullerton NR. Comparing U.S. Army suicide cases to a control sample: initial data and methodological lessons. *Military Medicine*. 2014; 179: 1062–1066.
- [13] Ghahramanlou-Holloway M, Baer MM, Neely LL, Koltko V, Nielsen MK. Suicide Prevention in the United States Military. In *Handbook of Military Psychology 2017* (pp. 73–87). Springer, Cham. 2017.
- [14] Mann JJ, Michel CA. Prevention of firearm suicide in the United States: what works and what is possible. *American Journal of Psychiatry*. 2016; 173: 969–979.
- [15] Bryan CJ, Cukrowicz KC. Associations between types of combat violence and the acquired capability for suicide. *Suicide & Life-Threatening Behavior*. 2011; 41: 126–136.
- [16] Nademin E, Jobes DA, Pflanz SE, Jacoby AM, Ghahramanlou-Holloway M, Campise R, *et al*. An investigation of interpersonal-psychological variables in air force suicides: a controlled-comparison study. *Archives of Suicide Research*. 2008; 12: 309–326.
- [17] Ravindran C, Morley SW, Stephens BM, Stanley IH, Reger MA. Association of suicide risk with transition to civilian life among us military service members. *JAMA Network Open*. 2020; 3: e2016261.
- [18] Reger MA, Pruitt LD, Smolenski DJ. Lessons from the latest US military suicide surveillance data. *The Journal of Clinical Psychiatry*. 2018; 79: 17111790.
- [19] Pruitt LD, Smolenski DJ, Reger MA, Bush NE, Skopp NA, Campise RL. Department of Defense Suicide Event Report (DoDSER) Calendar Year 2014 Annual Report. Joint Base Lewis-McChord. WA: National Center for Telehealth and Technology. 2015.
- [20] Tsai J, Snitkin M, Trevisan L, Kraus SW, Pietrzak RH. Awareness of suicide prevention programs among U.S. military veterans. *Administration and Policy in Mental Health and Mental Health Services Research*. 2020; 47: 115–125.

[1] Bachmann S. Epidemiology of suicide and the psychiatric perspective. *International Journal of Environmental Research and Public Health*.

- [21] Wyman PA, Pisani AR, Brown CH, Yates B, Morgan-DeVelder L, Schmeelk-Cone K, *et al.* Effect of the wingman-connect upstream suicide prevention program for Air Force personnel in training. *JAMA Network Open.* 2020; 3: e2022532.
- [22] Curley JM, Duffy FF, Kim PY, Clarke-Walper KM, Nugent KL, Penix EA, *et al.* Methodology of the U.S. Army's suicide prevention leadership tool study: the behavioral health readiness and suicide risk reduction review (R4). *Military Medicine.* 2021; 186: 336–343.
- [23] Hoge CW, Ivany CG, Adler AB. Suicidal behaviours within army units: contagion and implications for public health interventions. *JAMA Psychiatry.* 2017; 74: 872–871
- [24] Street AE, Gilman SE, Rosellini AJ, Stein MB, Bromet EJ, Cox KL, *et al.* Understanding the elevated suicide risk of female soldiers during deployments. *Psychological Medicine.* 2015; 45: 717–726.
- [25] Pruitt LD, Smolenski DJ, Bush NE, Tucker J, Issa F, Hoyt TV, *et al.* Suicide in the military: understanding rates and risk factors across the United States' armed forces. *Military Medicine.* 2019; 184: 432–437.
- [26] Gilman SE, Bromet EJ, Cox KL, Colpe LJ, Fullerton CS, Gruber MJ, *et al.* Sociodemographic and career history predictors of suicide mortality in the United States Army 2004–2009. *Psychological Medicine.* 2014; 44: 2579–2592.
- [27] Gradus JL, Shipherd JC, Suvak MK, Giasson HL, Miller M. Suicide attempts and suicide among Marines: a decade of follow-up. *Suicide & Life-Threatening Behavior.* 2013; 43: 39–49.
- [28] Maguen S, Skopp NA, Zhang Y, Smolenski DJ. Gender differences in suicide and suicide attempts among US Army soldiers. *Psychiatry Research.* 2015; 225: 545–549.
- [29] Snarr JD, Heyman RE, Slep AMS. Recent suicidal ideation and suicide attempts in a large-scale survey of the U.S. Air Force: prevalences and demographic risk factors. *Suicide & Life-Threatening Behavior.* 2011; 40: 544–552.
- [30] Ursano RJ, Kessler RC, Heeringa SG, Cox KL, Naifeh JA, Fullerton CS, *et al.* Nonfatal suicidal behaviors in US Army administrative records, 2004–2009: results from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS). *Psychiatry.* 2015;78: 1–21.
- [31] Robinson ME, Teyhen DS, Wu SS, Dugan JL, Wright AC, Childs JD, *et al.* Mental health symptoms in combat medic training: a longitudinal examination. *Military Medicine.* 2009; 174: 572–577.
- [32] Tien HCN, Acharya S, Redelmeier DA. Preventing deaths in the Canadian military. *American Journal of Preventive Medicine.* 2010; 38: 331–339.
- [33] Zamorski MA. Suicide prevention in military organizations. *International Review of Psychiatry.* 2011; 23: 173–180.
- [34] Thompson JM, Heber A, VanTil L, Simkus K, Carrese L, Sareen J, *et al.* Life course well-being framework for suicide prevention in Canadian Armed Forces Veterans. *Journal of Military, Veteran and Family Health.* 2019; 5: 176–194.
- [35] Rolland-Harris E. 2019 Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2018). 2019. Available at: <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/health/2019-report-on-suicide-mortality-in-the-caf-1995-to-2018.html> (Accessed: 30 January 2021).
- [36] Sareen J, Afifi TO, Taillieu T, Cheung K, Turner S, Bolton S, *et al.* Trends in suicidal behaviour and use of mental health services in Canadian military and civilian populations. *Canadian Medical Association Journal.* 2016; 188: E261–E267.
- [37] Thompson AE, Anisimowicz Y, Miedema B, Hogg W, Wodchis WP, Aubrey-Bassler K. The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study. *BMC Family Practice.* 2016; 17: 1–7.
- [38] Fear NT, Ward VR, Harrison K, Davison L, Williamson S, Blatchley NF. Suicide among male regular UK Armed Forces personnel, 1984–2007. *Occupational and Environmental Medicine.* 2009; 66: 438–441.
- [39] Kapur N, While D, Blatchley N, Bray I, Harrison K. Suicide after leaving the UK. *K. Armed Forces—a cohort study.* *PLoS Medicine.* 2009; 6: e1000026.
- [40] Jones N, Sharp M, Phillips A, Stevelink SAM. Suicidal ideation, suicidal attempts, and self-harm in the UK Armed Forces. *Suicide and Life-Threatening Behavior.* 2019; 49: 1762–1779.
- [41] Ministry of Defense. Suicides in the UK Regular Armed Forces: Annual Summary and Trends Over Time 1 January 1984 to 31 December 2019. 2020. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/880253/20200326_UK_AF_Suicide_National_Statistic_2020_0.pdf (Accessed: 30 January 2021).
- [42] Shelef L, Tatsa-Laur L, Derazne E, Mann JJ, Fruchter E. An effective suicide prevention program in the Israeli Defense Forces: a cohort study. *European Psychiatry.* 2016; 31: 37–43.
- [43] Tzur D, Kedem R, Twig G, Ben Yehuda A, Abergil M, Glassberg E. Death circumstances in IDF: description data for 1990–2016. *Journal of Israeli Military Medicine.* 2018; 15: 50–56. (In Hebrew)
- [44] Shelef L, Nir I, Tatsa-Laur L, Kedem R, Gold N, Bader T, *et al.* The effect of the Suicide Prevention Program (SPP) on the characteristics of Israeli soldiers who died by suicide after its implementation. *European Psychiatry.* 2019; 62: 74–81.
- [45] Shakarchy N, Yacobi A, Tatsa-Laur L, Kedem R, Ben Yehuda A, Shelef L. Risk factors associated with suicidal and non-suicidal self-harm of different severities among Israeli Defense Forces soldiers – a nested case-control study. 2021. (in press)
- [46] McKay K, Milner A, Maple M. Women and suicide: beyond the gender paradox. *International Journal of Culture and Mental Health.* 2014; 7: 168–178.
- [47] Cardona RA, Ritchie EC. U.S. military enlisted accession mental health screening: history and current practice. *Military Medicine.* 2007; 172: 31–35.
- [48] Rostami M, Rahmati-Najarkolaei F, Salesi M, Azad E. A systematic review of suicide prevention interventions in military personnel. *Archives of Suicide Research,* 2020; 1–19.