EVALUATION OF PTSD IN MILITARY HEALTH STAFF THROUGH A DIGITAL SURVEY OVER THE COVID-19 PANDEMIC

MAJ. Uriel Castañeda-Bonilla M.D.[1]

Adriana Martínez-Cuazitl M.D., Sc.D. [1]
LTC Juan Rogelio Rios-Morales, M.D. [1]
M.A., MAJ. Jorge Lothar Flores-Vazquez M.D. [1]
MAJ. Yanira Díaz-Sanchez M.D. [1]
MAJ. Damian Rios-Vela M.D. [1]
MAJ. Damian Pantoja-Villagomez M.D. [1]
MAJ. Devince López-Olmos M.D. [1]
LTC. Dora Luz Villegas-Tapia, M.A. Psy.D.[1]

LTC. Daniel Guzman-Pinacho M.D. [1]
LTC. Iván Noé Martínez-Salazar M.D., M.A., Ph.D.[1]

[1]Military Central Hospital, Mexico City, Mexico.
Corresponding author: LTC. Iván Noé Martínez-Salazar M.D., M.A., Ph.D.,
Periférico Blvrd Manuel Ávila Camacho S/N, Miguel Hidalgo, C.P. 11200,
CDMX. Email: drivanmartinez@icloud.com

ABSTRACT

The aim of the present article was to assess PTSD in military health staff, considering the characteristics of this type of environment, and specifically over the COVID-19 pandemic.

A Davidson Trauma scale was presented through the SurveyMonkey® platform; digital consent was given by the personnel; respondents answered the questionnaire on their own personal electronic devices.

Results showed an incidence of PTSD of 0.9% in a sample of 1422 subjects who work in the Military Central Hospital; the most frequent symptoms, and the most serious, were avoiding the performance of activities and being in situations that reminded them of the event, regardless of gender or age. We found higher PTSD risk among females than in males (odds ratio (OD) = 6.4; 95% confidence interval (CI) = 0.83 – 49.66). However, we did not find a correlation between age, hierarchy or professional group and PTSD risk.

Keywords: Post-traumatic stress disorder (PTSD); mental health; stigma; underdiagnosed; Military Central Hospital; COVID-19 pandemic; military health staff; digital evaluation; electronic devices; stressful environment; Davidson trauma; Likert-scale; severity; frequency; gender; evading the event.

RESUMEN

El objetivo de este artículo fue evaluar TEPT en personal militar de salud, considerando las características de este tipo de ambiente, en específico durante la pandemia por COVID-19. Se presenta una escala de trauma de Davidson a través de la plataforma SurveyMonkey®; el consentimiento digital fue otorgado por el personal, quienes respondieron el cuestionario en sus propios dispositivos móviles.

Los resultados muestran una incidencia de TEPT de 0.9% en una muestra de 1422 individuos en el Hospital Central Militar; los síntomas más frecuentes, y más serios, fueron evitar llevar a cabo actividades y estar en situaciones que les recuerden el suceso, independientemente de género o edad. Hallamos mayor riesgo de TEPT en mujeres que en hombres (razón de probabilidades (OD) = 6.4; intervalo de confianza de 95% (IC) = 0.83 – 49.66). Sin embargo, no se encontró correlación entre edad, jerarquía o grupo profesional y riesgo de TEPT.

Palabras clave: Trastorno de estrés postraumático (TEPT); salud mental; estigma; subdiagnóstico; pandemia de COVID-19; personal de salud militar; evaluación digital; dispositivos electrónicos; entorno estresante; trauma de Davidson; escala de Likert; gravedad and frecuencia; género; evasion del evento.

INTRODUCTION

PTSD is a mental health problem that has been studied in several works. It is one of the most important disorders among the military population, therefore it must be prevented and treated as early as possible.

It is well known that exposure to a traumatic event could develop symptoms of PTSD regardless of age, gender or sociocultural background. The stigma of mental health disorders within the armed forces has probably underdiagnosed PTSD, and only in severe cases individuals accept medical and psychological treatment.(1,2)

In the Mexican Army and Air Force, PTSD has been evaluated in a number of scenarios such as activities against delinquency, drug cartels and civilian task support. The general population prevalence of this disorder has been described to be in a range from 1 to 14%; in the studies developed over the years in the Ministry of National Defense, it appears to be an increment of symptoms related to stress produced by regular military activities, however, it is probably underdiagnosed because of the stigma of being mentally ill and resistance to seek medical or psychological attention.(2,3)

The aim of the present article was to assess PTSD in military health staff, considering the characteristics of this type of environment, specifically during the stressful situation of working in a hospital setting over the COVID-19 pandemic.

Digital evaluation using smartphones or other electronic devices has proven to be an easy, fast and reliable method for psychological screening.(4–6) Over the COVID-19 pandemic, this sort of digital interaction has been required in the face of the risk of becoming infected if large numbers of people are gathered in one place.
The Davidson Trauma Scale (DTS) is a 17-item, Likert-scale, self-report instrument that assesses the 17 DSM-IV symptoms of PTSD. A separate score for frequency and severity can be produced. DTS can be resorted to making a preliminary assessment whether the symptoms meet DSM-IV criteria for PTSD.(7,8)

RESULTS

The Davidson Trauma Scale (DTS) was applied to 1517 people who work in the Military Central Hospital in Mexico City, during the COVID-19 pandemic; however only 1422 answered the questionnaire in full. There were 493 men (34.7%) and 929 women (65.3%). The largest age group was the one between 30 and 39 years of age (Table 1).

Regarding their hierarchy, the highest participation was observed in the group of Corporals and Sergeants, followed by Officers, Soldiers, Chiefs, Civilians and Generals (Table 2).

The majority of professionals who participated in this study was general nurses, followed by other kinds of health care professionals, cleaning/kitchen staff, administrative staff, specialist doctors, specialist nurses, resident doctors, general doctors and pre-graduate doctors (Table 3).

Table 1. Age range.

AGE	N (%)
18-20	10 (0.7)
21-29	406 (28.6)
30-39	595 (41.8)
40-49	393 (27.6)
50-59	17 (1.2)
>60	1 (0.1)

Table 2. Hierarchy.

HIERARCHY	N (%)
Soldiers	382 (26.9)
Corporals and Sergeants	433 (30.5)
Officers	384 (27.0)
Chiefs	198 (13.9)
Generals	2 (0.1)
Civilians	23 (1.6)

Table 3. Professional groups.

PROFESSIONAL GROUP	N (%)
Other	229 (16.1)
Cleaning/Kitchen Staff	202 (14.2)
Administrative staff	192 (13.5)
Specialist Nurses	112 (7.9)
General Nurses	456 (32.1)
Specialist doctors	188 (13.2)
Resident doctors	31 (2.2)
General doctors	8 (0.6)
Pre-graduate doctors	4 (0.3)

With respect to the preliminary diagnosis of PTSD in our sample, we found that 13 subjects have a total score equal to or greater than 40 on both subscales (severity and frequency), which means a PTSD incidence of 0.9%. Of them, 1 subject was male (0.2% of men) and 12 subjects were females (1.3% of women). We found an important relation between gender and risk of PTSD, since women present higher risk according to the results (odds ratio (OD) = 6.4; 95% confidence interval (CI) = 0.83 – 49.66). However, we did not find a correlation between age, hierarchy or professional group and PTSD risk.

It is important to mention that the item that was rated by the participants as having the highest frequency in severity was DTS 7; the one referring to avoiding the performance of activities or being in situations that reminded them of the event, regardless of gender or age (frequency: always = 11 subjects (0.8%) and severity: extreme = 5 subjects (0.4%).

DISCUSSION

In this study the risk of becoming infected from being together with large amounts of people in one place was prevented by using digital devices. The mental health of the staff was assessed by means of the digital application of mental health scales in the Military Central Hospital, the information obtained was analyzed and presented to the authorities; then, strategies were developed to promote selfcare and monitor disruptive behaviors in peers. Personnel who presented positive symptoms of PTSD or other mental health symptoms were assessed again by a psychologist and a psychiatrist and received treatment accordingly.

The presence of PTSD symptoms found in this study was lower than the range of prevalence among the general population. A higher incidence was expected, considering the critical situation related to the COVID-19 pandemic, though the resilience and motivation of health care professionals may probably be protecting factors against stressful events. The importance of this study is related to the fact that easy, fast and reliable psychological screenings must be performed. Nevertheless, people were more willing to answer the scales than in previous occasions, probably because of the need to find if they were falling ill due to the COVID-19 stressful environment. Psychoeducation strategies were set into motion, for instance, virtual conferences were held and posters were produced. An important factor that fostered the participation of the personnel was that they noticed that their answers, suggestions and comments were taken into account by the hospital authorities.

ACKNOWLEDGMENTS

REFERENCES

1. Mayo Foundation for Medical Education and Research. Trastorno por estrés postraumático - Diagnóstico y tratamiento - Mayo Clinic. [accessed on 18 Dec 2020] Available at: https://www.mayoclinic.org/es-es/diseases-conditions/post-traumatic-stress-disorder/diagnosis-treatment/drc-20355973

2. de Psiquiatría AA. Manual diagnóstico y estadístico de los trastornos mentales. Arglinton, VA: American Psychiatric Publishing. 2013;

3. Martínez-Salazar IN. Trastorno por estrés postraumático en el Ejército y Fuerza Aérea mexicanos. Revista de Sanidad Militar. 2017;70(2):195–202.

4. Donker T, Petrie K, Proudfoot J, Clarke J, Birch M-R, Christensen H. Smartphones for smarter delivery of mental health programs: a systematic review. J Med Internet Res. 2013 Nov 15;15(11):e247. doi: https://doi.org/10.2196/jmir.2791

5. Kauer SD, Reid SC, Crooke AHD, Khor A, Hearps SJC, Jorm AF, et al. Self-monitoring Using Mobile Phones in the Early Stages of Adolescent Depression: Randomized Controlled Trial. Journal of Medical Internet Research. 2012;14(3):e67. doi: https://doi.org/10.2196/jmir.1858

6. Arenas-Castañeda PE, Bisquert FA, Martinez-Nicolas I, Espíndola LAC, Barahona I, Maya-Hernández C, et al. Universal mental health screening with a focus on suicidal behaviour using smartphones in a Mexican rural community: protocol for the SMART-SCREEN population-based survey. BMJ Open. 2020 Jul 1;10(7):e035041. doi: http://dx.doi.org/10.1136/bmjopen-2019-035041

7. Davidson JR, Book SW, Colket JT, Tupler LA, Roth S, David D, et al. Assessment of a new self-rating scale for post-traumatic stress disorder. Psychol Med. 1997 Jan;27(1):153–60. doi: https://doi.org/10.1017/s0033291796004229

8. Meltzer-Brody S, Churchill E, Davidson JR. Derivation of the SPAN, a brief diagnostic screening test for post-traumatic stress disorder. Psychiatry Res. 1999 Oct 18;88(1):63–70. doi: https://doi.org/10.1016/s0165-1781(99)00070-0