



DEPRESSIVE SYMPTOMS AND SUICIDAL RISK EVALUATION IN MILITARY HEALTH STAFF BY MEANS OF A DIGITAL INSTRUMENT

EVALUACIÓN DE SÍNTOMAS DEPRESIVOS Y RIESGO DE SUICIDIO EN PERSONAL MILITAR DE SALUD POR MEDIO DE UN INSTRUMENTO DIGITAL

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ABSTRACT

Suicide is defined as: "self-inflicted death with implicit or explicit evidence that the person had the intention of self-inflicting death. There is no single explanation for why people commit suicide". Surveys were applied to 1517 health care staff of the Military Central Hospital in Mexico City. The respondents were both military personnel with different hierarchies and civilians who had different jobs and academic levels, and were within the age range from 18 to 60 years and older.

In the PHQ-2 scale, the results obtained are the following: 1.8% of the surveyed population had a probable depression, while 98.2% is considered normal; in the PHQ-9 survey, a final result of 8.1% of the population showed different grades of depression, 105 patients with a mild grade (6.9%), 8 participants in a moderate order (0.5%), as well as with a moderately severe grade and with the highest grade, which corresponds to severe, 3 participants (0.2% of the population); considering that the important groups that should receive medical attention are the ones in the moderate, moderately severe and severe grades. In addition, the personnel also answered the Beck Hopelessness Scale, which measures pessimism, hopelessness and negative attitudes toward life (suicidal ideation), showing as a result 277 participants (13.3%) with a mild grade, 45 participants (3%) with a moderate grade and 5 (0.3%) with severe grade.

Seeing that the personnel who is considered to have suicidal ideations is in the moderate category, they require specialized medical attention in order to prevent suicide. Based on these results we can highlight the importance of assessing the mental health the personnel that is part of the armed institute.

**Key words:** Suicide, depressive symptoms, hopelessness, suicidal ideation, PHQ-2, PHQ-9, Beck Hopelessness scale

RESUMEN

El suicidio se define como: "la muerte auto infligida con evidencia implícita o explícita de que la persona tenía la intención de darse muerte. No hay explicación única de por qué las personas cometen suicidio". Se aplicó una encuesta a 1517 individuos, personal de salud del Hospital Central Militar en la Ciudad de México. Participaron personal militar con diferentes jerarquías y civiles con diversas profesiones y grados académicos, cuyas edades estaban en el rango entre 18 y 60 años o más.

En la escala PHQ-2, los resultados son los siguientes: 1.8% de la población encuestada estuvo probablemente deprimida y al 98.2% se le consideró normal. En la encuesta PHQ-9, el resultado final fue que 8.1% de la población mostró diferentes grados de depresión, 105 pacientes con grado leve (6.9%), 8 participantes en nivel moderado (0.5%), y además con grado de moderadamente severo y con el mayor, que corresponde a severo, 3 participantes (0.2% de la población). Considerando que los grupos importantes deben recibir atención médica son aquellos con grado moderado, moderadamente severo y severo. Además, el personal también respondió la Escala de Desamparo de Beck, que mide pesimismo, desamparo y actitudes negativas ante la vida (ideas suicidas), dando como resultado 277 participantes (13.3%) con grado leve, 45 (3%) con grado moderado y 5 (0.3%) con grado severo.

En vista que el personal al que se considera que tiene ideaciones suicidas está en la categoría moderada, estas personas requieren atención médica para evitar el suicidio. Con base en estos resultados, podemos resaltar la importancia de la evaluación de la salud mental del personal que forma parte del instituto armado.

**Palabras clave:** Suicidio, síntomas depresivos, desamparo, ideas suicidas, PHQ-2, PHQ-9, Escala de Desamparo de Beck

## INTRODUCTION

Being suicide a highly complex phenomenon, there is a large number of definitions; for its better comprehension, it may be defined as: "self-inflicted death with implicit or explicit evidence that the person had the intention of self-inflicting death."<sup>(1)</sup> When discussing this topic, we can assure "there is no single explanation for why people commit suicide".<sup>(2)</sup>

Statistics on suicide for the United Mexican States indicate that the most frequent reasons for suicide are: familiar distaste, love and serious or incurable diseases.<sup>(3)</sup>

The three most common means for men and women are: hanging 77%, shooting a firearm 10.4%, and poisoning 9.1%. Sex: men 79.6%, women 20.4%. Marital status: single 44.3%, common-law union 17.9%, married 27.9%. Schooling level: middle school 34.5%, primary school 32.8%, and professionals 6.3%. Place of occurrence: private home 72.3%, other 8.8%, not specified 8.9%.<sup>(4)</sup> In 2013, the suicide rate for the military population was 6 per 100,000, a noticeable drop in relation to previous years. The total number of suicides registered by the General Directorate of Military Health of Mexico over such period was 392.<sup>(5)</sup>

The sensation of feeling sad, emotionally down and losing interest in things that were previously enjoyed is called depression. It should be known that depression is a disease such as diabetes or arthritis, and it is not just a feeling of sadness or discouragement. This disease progresses every day, affecting the individuals' thoughts, feelings and physical health as well as the way they behave. Most of those who have suicidal ideas are also depressed. The two main reasons for an individual to become depressed are, firstly, the loss of control over their life situation and emotions and, second, the loss of any positive vision of the future (despair). In the face of depression and the suicidal ideas that derive from it, only therapy that helps to regain control and hope can be effective.<sup>(6)</sup>

## OBJECTIVE

Evaluating depressive symptoms and suicide risk in health military and civilian staff through a digital instrument.

## MATERIAL AND METHODS

The study design has a theoretical scientific orientation with a qualitative approach; it has an exploratory scope, non-experimental design and cross-sectional temporality, while it is descriptive in nature.

Surveys were applied to 1517 health care staff of the Military Central Hospital in Mexico City, who provided their digital consent to participate. The respondents were military personnel with different hierarchies and civilians with various jobs and academic levels, all within the age range from 18 years to 60 and older.

The 1517 respondents answered the survey satisfactorily, so our population is the same number. The inclusion criteria were working in the Military Central Hospital and being of legal age; whereas the exclusion criterion was to fail to answer the survey in full, which did not occur in any case.

The questionnaires PHQ-2, PHQ-9 and Beck Hopelessness Scale (HS) were applied with a view to assessing depressive symptoms and suicide risk over the platform Survey Monkey®. PHQ-2 survey consists of 2 items that seek to evaluate central symptoms of depression (depressed mood and anhedonia). PHQ-9 survey comprises 9 items that evaluate the presence of depressive symptoms over the last 2 weeks.<sup>(7)</sup> HS consists of 20 binary items that allow detecting pessimism and negative attitudes regarding the future in patients with depression and suicidal ideation, and also their ability to overcome difficulties and achieve success in life.<sup>(8)</sup> The results were collected in an Excel spreadsheet and the Statistical Package for Social Sciences (SPSS v27) was resorted to for frequency analysis and incidence calculation.

To find out the presence of depressive symptoms, PHQ-2 survey has a test range from 0 to 9 points, taking the cut-off point at 3.<sup>(9)</sup> In PHQ-9 survey, the test ranges from 1 to 27 points. The cut-off points were: 9. 1 to 4 = minimum, 5-9 = mild, 10 to 14 = moderate, 15 to 19 = moderately severe, 20 to 27 = severe. Finally, SM-Bk3 survey has a range that oscillates from 0 to 20 points. A cut-off point at 9; 0 to 3 normal, 4 to 8 mild hopelessness, 9 to 14 moderate hopelessness, and 15 to 20 severe hopelessness.<sup>(10)</sup>

## RESULTS

The survey was responded by 1517 people working at the Military Central Hospital, out of which 536 were men and 981 were women.

From these, the age group with the highest participation was the one between 30 and 39 years (42%), followed by the groups 21-29 (28%), 40-49 (26.9%), and 50-59 (1.3%); the groups with the least participation were those between 18 and 20 years (0.7%) and those older than 60 (0.1%).

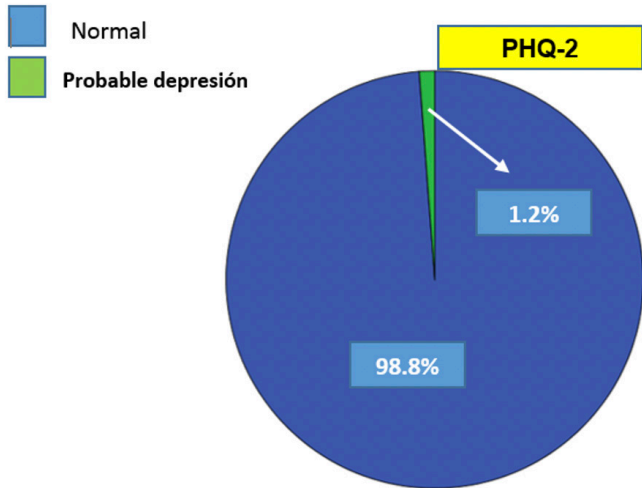
Regarding their origin and hierarchy, our population showed that the group of troop classes (corporal and sergeants) had the highest participation, with a total of 458 (30.2%), followed by the group of soldiers with 411 (27.1%), then officers with 403 (26.6%), as well as 207 chiefs (13.6%), 36 civilians (2.4%) and 2 generals (0.1%).

Regarding their employment, the survey was answered by 486 general nurses (32.0%), 217 cleaning/kitchen staff (14.3%), 208 administrative personnel (13.7%), 199 specialist doctors (13.1%), 116 specialist nurses (7.6%), 32 resident doctors (2.1%), 9 general doctors (0.5%), 4 interns (0.2%) and other 246 with health-related jobs (16.2%).

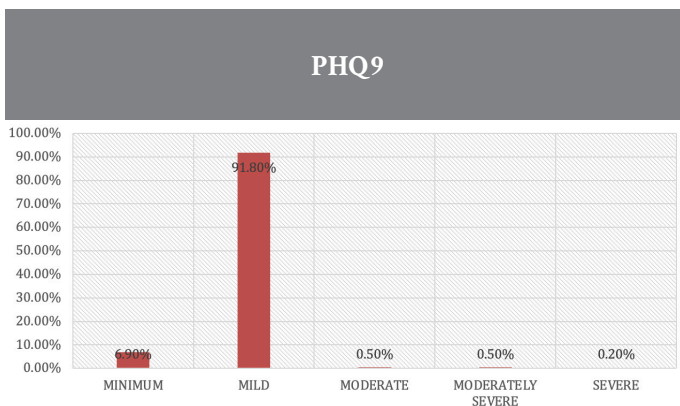
As mentioned above, PHQ-2 has only 2 items and seeks to find

symptoms of depression in people who answer the scale; it classifies the results as “normal” and as “probable depression”, this time the 1517 answered the questionnaire correctly and completely, which produced the following results, as it is seen in the graph: 18 people with probable depression (1.2%) and 1499 participants with a normal result (1499).

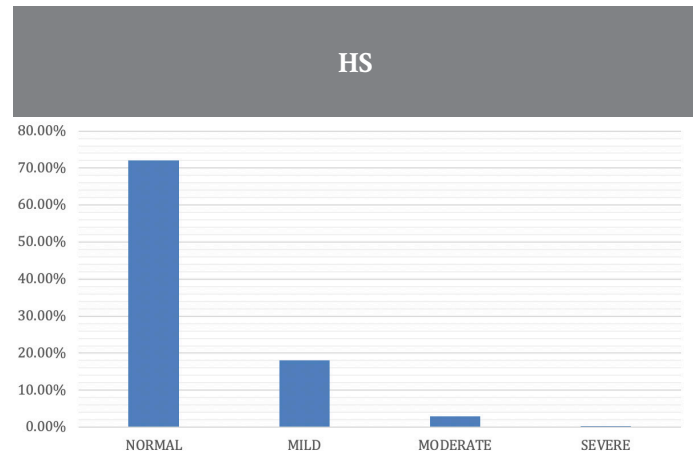
**Table 4. Risk of gender violence by population**



The second scale, PHQ-9, is a more complete survey. It has 8 items and classifies the results assigning a degree of depression. As in the case of PHQ-2, this survey was answered correctly by all respondents, we see such results in the following table and graph. Most respondents 1393 (91.8%) obtained a score that corresponds to a “minimal depression”, 105 (6.9%) “mild depression”; other results were 8 participants (0.5%) with “moderate” and also 8 with “moderately severe”. Finally, the group with the qualification of “severe” had only 3 classified participants (0.2%); the personnel in the last 3 categories become important because they are considered individuals who require immediate medical attention.



Finally, HS consists of 20 binary items which intend to find hopelessness (pessimism and negative attitudes). In the table and graph, we observe the following results: 1190 respondents (78.4%) classified as normal, 277 (18.3%) with mild hopelessness, followed by the moderate hopeless group with 45 participants (3%), and finally, 5 participants (0.3%) with severe hopelessness; people in the last 2 categories become important because they are in need of immediate medical attention. Personnel detected with depressive symptoms were reassessed and treated by psychology and psychiatry specialists, accordingly.



**DISCUSSION**

At present, technology helps us carry out daily activities that previously involved more effort, time and work, in the assessment of the personnel working in the Military Central Hospital, we discovered the efficiency and speed for data collection through digital means as it provides the Hospital personnel with a more comfortable, dynamical and updated way to answer surveys. Our study showed that 100% of the people who participated in these evaluations had no problem answering the surveys, which gives us an efficient way to work with large groups of people.

After applying the aforementioned evaluations, we are able to conclude there are participants with depressive symptoms and risk of suicide in the military hospital environment. In relation to the depressive symptoms measured with PHQ-2 and PHQ-9, 8.6% of the participants had varying degrees of depression, out of which 3 participants are in the category of severe depression, which according to the measurement scale is the highest degree of depression. Regarding the measurement of suicide risk, the scale used (SM-BK3) shows that 21.6% of the participants had a degree of suicidal ideation, from which 5 participants experience severe suicidal ideations. Detecting these personnel working in the Military Central Hospital is essential, for they are people who are holding positions of great importance and have staff under their charge in the institution. With the results obtained and the im-

portant work performed by the staff, we conclude that carrying out the annual psychological examination is essential to be able to timely detect people who need special psychological attention in order to increase their productivity and prevent them from committing suicide.

Finally, we must mention that this study was carried out in a medical area, nevertheless, it is important that it is applied to the entire Mexican Army and Air Force since they undergo stressful situations such as confrontations against armed groups, military operations that can last for long periods and can affect mental health, give rise to depressive symptoms and risk of suicide, all of which can indirectly harm national security due to the effect they have.

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#### Conflict of interest:

None

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None

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