

Factors associated with suicidal tendency in people over 15 years of age in Peru - 2020

Abstract

Introduction: Suicide is a topic of great relevance worldwide and whose figures unfortunately have not seemed to decline in recent years; so each year, about 703,000 people take their own lives and many more than that try to do so without success. Suicidal tendency is a term coined at the first indications (suicidal ideation) and taking into account that it can be linked to different factors; the detection of these is proposed as a means of action and prevention.

Objective: To determine the factors associated with suicidal tendency in the population of Peru in the year 2020.

Methods: The research is descriptive, analytical, cross-sectional, retrospective and quantitative; in which data from the Demographic and Family Health Survey (ENDES) carried out at the national level were used, which were collected by the National Institute of Statistics and Informatics (INEI), also publicly available on its website, obtaining a sample of 4786 people to then analyze the data using IBM SPSS V27, STATA version 15 and Microsoft Excel.

Results: A percentage of suicidal tendency of 13.9% was evidenced in the study sample; also considered as factors associated with suicidality: depression (PR=4.93; 95% CI=2.49–9.74), anxiety (PR=3.09; 95% CI= 2.21–4.32), being married or cohabiting (PR=1.45; 95% CI= 0.95–2.20), and domestic violence (PR=1.17, CI 95%= 0.81–1.68).

Conclusion: The suicidal tendency has as main factors associated with depression, anxiety, followed by domestic violence and marital status married or cohabiting. It is recommended to take them into account for future control and prevention strategies, as well as for future research.

Keywords: Suicidal tendency, depression, anxiety, marital status, violence.

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Introduction

Suicide is a topic of great relevance worldwide and whose figures unfortunately have not seemed to decline in recent years; each year about 703,000 people take their own lives and many more than that attempt to do so without success; At the same time, each case represents a tragedy that affects both families, communities and countries, being in 2019 the fourth cause of death in the age group of 15 to 29 years in the world.¹ If we talk about the process of suicide, it is evident that it is based on the characteristics of the subject's personality and their interaction with their environment; this process begins with the onset of suicidal thoughts, being considered the first link in the chain; then it goes through the realization of the first suicide attempts, with a gradual increase in the lethality of the attempt, until it is achieved (completed suicide), thus constituting a progressive sequence. In addition, three characteristics dependent on this trait are described:

- Thoughts of defeat;
- Perceptions of "impossibility of escape", associated with alterations in autobiographical memory and deficit in solving problems
- Perception of "impossibility of rescue", such as hopelessness, the abandonment of attempts to respond to stressful situations due to lack of control over them.^{2,3}

Likewise, if we talk about depressive pathology, we also describe a worldwide problem; This is why the World Health Organization

(WHO) predicted that by the year 2020, depression will become the second leading cause of disability worldwide; In addition, in developed countries, it would occupy the third place and, in developing countries such as Peru, this disease would occupy the first place.⁴

According to disease burden data, the analysis by disease categories found that mental and behavioral disorders ranked first in Peru, producing a loss of 668,114 years, which represents a ratio of 21.2 per thousand inhabitants, with the burden being this category almost completely disabled, 99% of years lived with disability (YLD); and being more frequent in people between 15 and 44 years old. Delving deeper, unipolar depression ranked first, considering the greatest loss in years of healthy life lost with a total of 218,277 years, which represents a ratio of 6.9 per thousand inhabitants, with the burden being almost completely disabling (YLD: 99.9%).⁵ Likewise, it is estimated that depression by itself increases the risk of suicide; and in fact some authors consider that depressed people have a risk of suicide 44 times higher than people without depression, and in turn 8 times higher than other psychiatric patients. In addition to this, marital problems and marital violence have been reported as possible factors associated with people who attempt suicide.⁶

Although the 3 mental health pathologies (depression, anxiety and suicidality) are not the same, they have been associated with similar symptoms. In addition, the fact of suffering from any of them leads to a greater probability of developing any of the other 2; that is why talking about only one is not enough, since the same social and emotional environment can aggravate or complicate the mental state

and be associated with one of the others.^{7,8} Because large-scale studies have not been conducted in the country to specifically determine associations directly linked to suicide, a primary focus was on suicidal thoughts and possible implicated associations, representing what we call “suicidality.” Likewise, the most extensive annual census and the most reliable survey available at the national level were used for its study,⁹ with which it is expected to provide relevant data on mental health in the country.

Therefore, the present work aimed to determine the factors associated with the suicidal tendency in the population of Peru in the year 2020.

Méthods

Research type and design

This work is observational, descriptive, analytical, cross-sectional, retrospective and quantitative. In which data from the Demographic and Family Health Survey (ENDES) carried out in Peru at the national level in 2020 were used.

Sample and procedure

The population was given by private households and their members, people who are habitual residents and those who, being non-residents, spent the night in the dwelling the night before the day of the interview; being the person of an age range between 15 years and over for each private household; Likewise, the sampling framework used by the INEI for its data collection is made up of the statistical and cartographic information from the National Censuses, including the updated cartographic material for this purpose, from which the INEI obtained a representative sample with a sample size of the ENDES 2020 of 37,390 dwellings, characterized by being two-stage, probabilistic of a balanced, stratified and independent type, at the departmental level, in addition to being by urban and rural area.

Instrument

Data collection was carried out by the National Institute of Statistics and Informatics (INEI) through the ENDES-2020 Survey; likewise, the present study focuses on the family health survey in

people over 15 years of age, specifically in the different questions corresponding to the Mental Health section.

Likewise, let us remember that the ENDES survey is a database collected every year and of great relevance for scientific research, therefore it represents a secondary source of great reliability and free access that allowed us to obtain representative results at the national level; Therefore, by analyzing the data on both suicidal tendency, anxiety and depression, an overview of mental health reflected at the national level can be provided.¹⁰

This survey is based on the Patient Health Questionnaire (PHQ) instrument in its Spanish version, which was designed to detect depressive syndrome or depressive symptoms in general. This instrument is used in the ENDES survey for both question 700 and question 704; it was decided to use question 704 with its respective 9 sub-questions that would correspond to the variables: suicidal tendency, depression and anxiety; which are included in the depressive syndrome.

The data obtained from the questions was also taken: 709 corresponding to the marital status variable, 710 and 711 corresponding to domestic violence.

Analysis of data

The databases corresponding to the ENDES-2020 in SPSS version were downloaded from the official INEI website. The variables in the ENDES questionnaire were identified and a single database containing the variables of interest was created; all the variables to be studied are found in the data file corresponding to module 414 of the CSALUD01.sav data file, and the variables such as: stratum, conglomerate and weighting factor were found in module 66 of the REC0111 file. Having the variables and considering the evaluation mechanism of the ENDES survey with respect to the PHQ survey on which it is based, a summary table was made specifying: the variable, type, number of questions and questions within the ENDES survey, measurement within of the survey, and interpretation according to the scores obtained for the analysis in the statistical programs and subsequent interpretations of results, which can be verified in Table 1.

Table 1 Summary of the characteristics considered for the taking, analysis and interpretation of the study variables in the investigation, ENDES. Peru 2020

Variable	Variable Rate	N° Preg.	Ask	Measurement	Interpretation
Suicidal Tendency	Dependent	704 H	Have you had thoughts that it would be better to be dead or that you wanted to harm yourself in some way by seeking to die?		0 a 2 pts. = No 3 a 6 pts. = Si
		704 I	Have you felt bad about yourself or felt that you are a failure or that you have failed yourself or your family?		
		704 A	Have you had little desire or interest in doing things?		
Depression	Independent	704 B	Have you felt discouraged, depressed, sad or hopeless?		0 a 5 pts. = No 6 a 15 pts. = Si
		704 C	Have you had trouble sleeping or staying asleep, or sleeping too much?	0 = Not at all	
		704 D	Have you felt tired or had low energy for no good reason?	1 = Several days (1 to 6 days)	
		704 F	Have you had difficulty paying attention or concentrating on the things you do?	2 = Most days (7 to 11 days)	
Anxiety	Independent	704 E	Have you had a poor appetite or have you overeaten?	3 = Almost every day (12 to + days)	0 a 2 pts. = No 3 a 6 pts. = Si
		704 G	Have you moved or spoken more slowly than usual or felt more restless or restless than usual?		

Table Continued...

Variable	Variable Rate	N° Preg.	Ask	Measurement	Interpretation
Marital status	Independent	709	In the last 12 months, that is, from _____ of last year to _____ of this year, have you been married or living together?	1 = Si 2= No	1 = Si 2= No
Domestic Violence	Independent	710	In the last 12 months, how many times did your partner hit you with his foot, fist, or other body part (head, elbow, knee)?	1 = Never / No 2 = Rarely (1-2 times)	2 pts. = No 3 a 8 pts. = Si
		711	In the last 12 months, how many times did your partner hit you, assault you with an object such as: belt, stick, knife or weapon?	3= Sometimes (3-5 times) 4= Often (6 times)	

Question Number: Location of the question number in the ENDES-2020 survey.

Through the statistical programs, a univariate analysis of the variables was carried out, showing them in frequency tables using frequencies and percentages. Subsequently, the differentiation (Yes or No) was made in each of the variables, and then the bivariate analysis was carried out through contingency tables, calculating crude prevalence ratios (crude PR) with their respective confidence intervals. Finally, the associated factors were identified from the results of the Poisson regression model with robust variance, resulting in the adjusted prevalence ratios (adjusted PR). To obtain the results, the complex samples module of the IBM SPSS V27 statistical software was used, respecting the sample design of the survey with the weighting factors, the stratification variable, and the cluster variable. For the calculation of the raw and adjusted RP, the statistical software STATA version 15 was used, while with Microsoft Excel some graphs were obtained from the results analyzed.

Ethical considerations

For the preparation of this work, the database of the INEI public access platform was used, which includes the ENDES-2020 Survey from which the data for this project was collected.

This study has no repercussions on the privacy of the respondents, nor on the ethics of research; since only the data already registered were processed, these being anonymous and public, in addition to this when using a secondary database, the use of informed consent was not required; Likewise, the evaluation was requested by the research ethics committee of the Faculty of Human Medicine of the Ricardo Palma University, which approved the project.

Results

The sample consisted of 4,786 people over 15 years of age of both sexes interviewed in the ENDES 2020; the amount of the sample corresponds to the number of people who fully answered the questions corresponding to the variables of interest. The sample was made up of both sexes, with the female group being the most predominant (Female: 62% and Male: 38%). Likewise, the sample was made up of participants older than 15 years old up to 94 years old, the age with the highest proportion being participants in the age range of 15 to 30 years with 30.15%; following by those older than 60 years with 21.72%, continuing the range of 31 to 40 years with 18.94%, following with the range of 51 to 60 years with 14.89%, culminating in the age range with the lowest proportion among 41 to 50 years old representing only 14.30%. Finally, the sample was made up of the inhabitants of all the regions at the national level, the most predominant being that of Lima (32.87%); and therefore from both residential areas, both rural (23%) and urban (77%), the latter being the most predominant in the sample studied.

Descriptive results were obtained first, in which it can be seen that 13.9% of the population have a suicidal tendency, 48.2% have depressive symptoms, 30.3% have anxiety symptoms, 53.8% are married or cohabiting, and only 8.5% have been victims of domestic violence by their partner. The general frequencies of each of the 5 study variables can be seen in Figure 1. Likewise, in the bivariate analysis between the suicidal tendency (dependent variable) and the other independent variables; it was more relevantly observed that of all the patients with suicidal tendency, 87% also coincided with depressive symptoms; that 72.9% of patients with suicidal tendencies also had symptoms of anxiety; that 51.8% of the patients with suicidal tendencies were married or cohabiting; and that 12.1% of patients with suicidal tendencies suffered from domestic violence by their partner. The detailed analysis can be seen in Table 2.

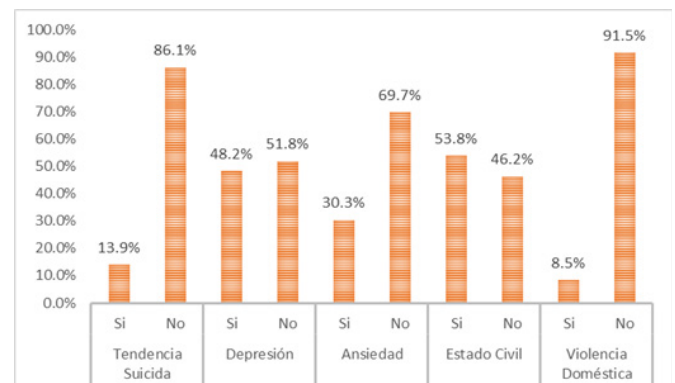


Figura 1 General frequency of variables in the Peruvian population over 15 years of age, year 2020.

Table 2 Bivariate analysis between Suicidal tendency and independent variables of the study at the national level, Peru 2020

		Suicidal Tendency			
		SI		NO	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Depression	Si	579	87.00%	1727	41.90%
	No	86	13.00%	2394	58.10%
Anxiety	Si	485	72.90%	966	23.40%
	No	180	27.10%	3155	76.60%
Marital status	Si	344	51.80%	2230	54.10%
	No	321	48.20%	1891	45.90%
Domestic Violence	Si	42	12.10%	177	7.90%
	No	303	87.90%	2053	92.10%

In the bivariate and multivariate analysis, it was possible to show that all the variables studied as possible associated factors (depression,

anxiety, marital status and domestic violence) represented a greater probability of suffering a suicidal tendency for the sample studied,

turning out to be statistically significant with an interval of confidence at 95%. The detailed analysis can be seen in Table 3.

Table 3 Bivariate and multivariate analysis for Suicidal Tendency in the population over 15 years of age, Peru 2020

Variables	RP Crudo	IC 95%		RP Ajustado	IC 95%	
		Inferior	Superior		Inferior	Superior
Depression	7,10	4,54	11,09	4,93	2,49	9,74
Anxiety	6,36	4,92	8,22	3,09	2,21	4,32
Marital status	0,91	0,72	1,15	1,45	0,95	2,20
Domestic Violence	1,45	0,95	2,20	1,17	0,81	1,68

RP, prevalence ratio; IC, confidence interval

Discussion

This research work aims to reflect the current situation of suicidality at the national level in 2020 and the associated factors that may be linked to it directly or indirectly; Being the suicidal tendency a public health problem and being dangerously increasing both nationally and globally, the World Health Organization (WHO) declares that every 40 seconds at least one person over 15 years of age commits suicide, which reflects the seriousness and importance of the issue.

First, a percentage of suicidal tendency of 13.9% was found, considering a high percentage with risk of a subsequent completed suicide; This corresponds to what was commented in a MINSA press release that stated the fact of 614 suicides at the national level in the year 2020, in addition to studies that reflect that the suicides reported in the year 2020 were 34.4%.^{11,12} This may be the result of the quarantine measures and restrictions adopted in the country due to the spread of the SARS-COV-2 virus that led to a general neglect of mental health in the Peruvian population.¹³ Regarding the associated factors, this study shows that depression is a factor associated with suicidality in the population studied (OR=4.93; 95% CI=2.49–9.74); which is similar to what was found in different investigations that have mentioned an association between these two elements, finding an association between the level of depression suffered or negative mood and the risk of suicide, with suicidal ideation being higher in women as well as in university students, which can be increased by practicing an unproductive coping style on them.^{14–19} In addition to this, in this study anxiety was found to be a factor associated with suicidality (PR=3.09; 95% CI=2.21–4.32); which coincides with what was found in similar studies in which anguish or anxiety played a relevant role, in addition to the fact that the female sex was the most likely to suffer from it together with suicidal ideation and groups under 20 years of age.^{17,20}

Other associated factors were: marital status (PR=1.45; 95% CI=0.95–2.20); this variable had differences in the comparison of the crude PR (not significant) with the adjusted PR (significant), and this may be due to the adjustment with the other variables of interest, which allowed it to obtain a significant result; therefore, it suggests that this variable depends on other factors to be relevant in the patient and contribute as an associated factor in suicidal tendency; however, there are discrepancies with other studies that indicate that having a partner reduces suicidal ideation. Likewise, domestic violence inflicted by the partner was a factor associated with suicidality (PR=1.17; 95% CI=0.81–1.68); this is related to another study that evidenced the relationship between suicidality and couple conflicts, as well as domestic violence against women.^{18,21,22}

It is also important to point out that the main limitation of the study derives from being retrospective, where it has been possible to analyze the data already collected and this tends to have a greater probability

of bias; Therefore, it is suggested that prospective studies be carried out in the future as a basis for this important main topic and thus give a different vision that would imply an important bias limitation. However, one of the greatest strengths of this study is having taken advantage of the ENDES survey and projecting results associated with the risk factors included in the mental health of the sufferer, since previous studies only projected the factors corresponding to socioeconomic or demographic levels with the main variable.

Conclusion

It was determined that there are possible factors associated with suicidality in the population over 15 years of age in Peru in 2020, such as depressive symptoms, anxiety, marital status (married or living together) and physical domestic violence, which despite from being known problems they have been neglected; At the same time, it is evident that the emotional, mental and social environment is highly relevant for triggering suicidality in the population. Although the data of these associations have already been documented in various studies, these results reinforce the proximity between different psychiatric pathologies; In fact, it is suggested that suffering from some of the pathologies or conditions studied can lead to an approach to later suffering from a suicidal tendency, as long as this pathological behavior is not resolved in time. For this reason, it is of great importance to attend to the mental health of the population, since treating it in time can also limit the possible later scope of said pathology, such as suicidal tendency in the future; being able to be considered as an indirect prevention alternative to suicide itself in a population, and at the same time the quality of life of patients suffering from this type of pathology would be improved, which would represent a social, economic and labor gain for the country.

Conflicts of interest

The authors report no conflicts of interest.

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