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FACTORS ASSOCIATED WITH SUICIDE IDEATION IN PATIENTS OF A HOSPITAL IN PERU

FACTORES ASOCIADOS A IDEACIÓN SUICIDA EN PACIENTES DE UN HOSPITAL DE PERÚ

Rosa Chávez-Cáceres[1,a], Consuelo Luna-Muñoz[2,3,b,c], Sandra Mendoza-Cernaqué[4,a], José Jacinto-Ubillus[5,d], Lucy Correa-López[3,e]

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ABSTRACT

Introduction: Suicide manifests itself through multiple behaviors, begins with suicidal ideation, and ends with suicide. **Objective:** To determine the factors associated with suicidal ideation in patients treated at a level of care at III-2 Hospital in Peru. **Methods:** Observational, analytical, transversal, quantitative study. The sampling was non-probabilistic for convenience; the sample consisted of 201 patients treated by an external psychiatric office of the Hospital Maria Auxiliadora, from January to February 2020. The survey technique, a data collection form, and the Beck Depression Inventory instrument were used. **Results:** From the total of 201 patients 46 (22.9%) had suicidal ideation, of them, 25 were young in age (54.3%), 27 females (58.7%), 27 single (58.6%), 32 born in Lima (69.7%), 43 received treatment longer than one year (93.5%), 42 had a regular to bad family relationships (91.3%), 33 consumed alcohol (71.7%), 26 tobacco (56.5%), and 16 drugs (34.8%). The factors associated with suicidal ideation in the bivariate analysis were young in age, males, born in Lima, single, with treatment time greater than one year and alcohol, Tobacco, and drug use ($p<0.05$). In the multivariate analysis, only drug use was associated (ORa: 11.31 95% CI: 2.05-62.46). **Conclusion:** Drug use is associated with suicidal ideation in patients treated at a level of care III-2 hospital.

Key words: Depression; Suicidal ideation; Self-Injurious Behavior (source: MeSH NLM).

RESUMEN

Introducción: El suicidio se manifiesta por múltiples comportamientos, inicia con la ideación suicida y culmina con el suicidio. **Objetivo:** Determinar los factores asociados a ideación suicida en estos pacientes en pacientes atendidos en un hospital de nivel de atención III-2 de Perú. **Métodos:** Estudio observacional, analítico, transversal, de enfoque cuantitativo. El muestreo fue no probabilistico por conveniencia; conformaron la muestra 201 pacientes atendidos por consultorio externo de psiquiatría del hospital María Auxiliadora, de enero a febrero 2020. Se utilizó la técnica de la encuesta, una ficha de recolección de datos y el instrumento fue la escala de Beck adaptada. **Resultados:** De los 201 pacientes, 46 (22,9%) tuvieron ideación suicida, de ellos, fueron jóvenes 25 (54,3%), de sexo femenino 27 (58,7%), no tenían pareja 27 (58,6%), nacieron en Lima 32 (69,7%), recibían tratamiento mayor a un año 43 (93,5%), tenían relación familiar regular a mala 42 (91,3%) y consumían alcohol 33 (71,7%), tabaco 26 (56,5%) y drogas 16 (34,8%). Los factores asociados a ideación suicida en el análisis bivariado fueron edad joven, sexo masculino, lugar de nacimiento Lima, estado civil sin pareja, tiempo de tratamiento mayor a un año y consumo de alcohol, tabaco y drogas ($p<0,05$); y en el análisis multivariado sólo se asoció el consumo de drogas (ORa: 11,31 IC 95%: 2,05-62,46). **Conclusión:** El consumo de drogas se encuentra asociado a ideación suicida en pacientes atendidos en un hospital de nivel de atención III-2.

Palabras clave: Depresión; Ideación suicida; Conducta autodestructiva (fuente: DeCS BIREME).

[1] Dirección de Redes Integradas de Salud (DIRIS) Lima Sur, Lima-Perú.
[2] Hospital Edgardo Rebagliati Martins, Lima-Perú.
[3] Instituto de Investigación en Ciencias Biomédicas, Universidad Ricardo Palma, Lima-Perú.
[4] Centro de Salud Quinua, Ayacucho-Perú.
[5] Hospital María Auxiliadora, Lima-Perú.
[a] Medical Surgeon, [b] Pediatrics Specialist, [c] Doctor in Public Health, [d] Psychiatry Specialist, [e] Magister.

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INTRODUCTION

The World Health Organization (WHO) concludes that mental health is an integral and essential component as part of our existence. It is an individual state that is influenced by various social, psychological, and biological factors1. If being negatively altered it can trigger mental disorders, such as anxiety and depression, that could lead to suicidal ideations and culminate in the most dramatic scenario, suicide.

It is estimated that approximately 800,000 people commit suicide each year, and poverty is an essential social factor that increases the risk of suicide; more than a third of these deaths occur in low- and middle-income countries, it is even considered the third cause of death for young people between ages 15 and 192. The individual, family, and social factors that could intervene are considered the most frequent and the suicide attempt that is not consumed constitutes the most important individual risk factor. The spectrum as a whole is called suicidal behavior, which involves the idea of thinking about suicide, suicide planning, suicide attempt, and suicide execution itself3. This behavior can progress vertiginously if it is associated with depression without treatment or with inadequate treatment.

In 2018, the Ministerio de Salud (MINSA) reported 1,384 suicide attempts in all health institutions4. Suicide has become a public health problem in our country which occurs in all social strata, with various manifestations, starting with suicidal, passive, or active ideation, going through its entire spectrum, until it reaches consummate suicide.

The increasing incidence of suicide in the adult population and the frequency of patients with depression and suicidal behavior who complete, partially, or simply do not complete the indicated treatment. They underestimate the presence of suicidal ideation with progressive deterioration of mental health to a fatal outcome; therefore, the objective of this study is to determine the factors associated with suicidal ideation in these patients.

METHODS

Design and setting

The research was observational, analytical, cross-sectional, with a quantitative approach. The study was carried out in the external consulting room of the psychiatry service of the hospital María Auxiliadora (HMA), level of attention III-2 of the MINSA.

Population and sample

The population consisted of patients who went to an external office of the psychiatric service of the HMA focused on the treatment of patients with depression and suicidal behavior, during the period January to February 2020. The sample was non-probabilistic for convenience. We surveyed 201 patients who met the inclusion criteria. Patients indicated psychiatric treatment, older than 18 and less than 65 years of age; patients with an IQ of less than 70, with some psychiatric diagnosis other than depression and suicidal behavior disorder.

A post hoc power calculation was performed after capturing these 201 patients with the G * Power Program version 3.1.9.2 (Universität Düsseldorf, Deutschland), to estimate what power was achieved in the sample obtained. It was concluded that for an F2 effect size of 0.0893 obtained with the estimates of the main analysis, with a pre-established confidence level of 95%, with 6 predictors in the logistic regression model and a sample size of 201 people, statistical power of 89.9% was achieved.

Variables and instruments

The following were considered as independent variables: biological factor (age and gender), psychological factor (time of treatment), family factor (a type of family relationship) and socioeconomic factor (socioeconomic level, use of illicit substances, unemployment, educational level, place of birth, place of provenance, marital status, and religion) and as dependent variable suicidal ideation (recurrent thoughts and verbalizations of self-aggression or death).

To the 201 patients who made up the sample, prior informed consent, the Beck instrument (SSI) was applied. The Beck suicidal ideation scale was adapted in Peru by Eugenio S. and Zelada M. in 2011, with a reliability of 0.79 and validity of 0.015.

On the suicidal ideation scale, the different items are divided into the attitude towards life and death (items 1 to 5), characteristics of ideation or Death Wish (items 6 to 11), characteristics of the planned attempt (items 12 to 15) and update of the attempt (items 16 to 19). It consists of 19 questions with dichotomous answers (Yes-no), which are assessed on a scale of 3 points (0 to 2 points). The total score is obtained by adding all the items. This score can range from 0 to 38, There are no proposed cutoff points, higher score, higher severity.

Procedures

The patients who made up the sample were recruited in the waiting room of the HMA outpatient psychiatric offices. The survey technique was used to measure the dependent and independent variables. Previously, a data collection sheet was prepared to obtain the information to estimate the associated factors, and the medical records of the patients were also reviewed to obtain the value of the IQ.

The data obtained from the surveys were entered into the Excel 2019 program, were sorted, tabulated, and qualified; then the data cleaning procedure was performed in the STATA 14.2 program to verify the correct coding of qualitative and quantitative variables.

Statistical analyzes

In the univariate analysis, frequencies and percentages were calculated for the qualitative variables; in the quantitative ones, measures of central tendency and dispersion were calculated. For the bivariate analysis, the Chi-Square was estimated and Odds Ratio (or) was calculated, with its respective confidence interval as an association measure. Subsequently, the selected covariates were adjusted, which gave us the adjusted coefficients as a result. A significance level of 95% was used. Finally, multivariate analysis with logistic regression was performed.

Ethical aspects

Authorization was obtained from the management, the Departamento de Docencia e Investigación y del Comité de Etica of the HMA. The informed consent of the patients was obtained, the dignity, integrity, privacy, and confidentiality of each of them was protected by protecting patient data according to the Declaration of Helsinki.

RESULTS

Table 1 shows the sociodemographic characteristics of the 201 patients who made up the sample, the female sex predominated 153 (76.1%), married or cohabiting marital status 137 (68.2%), more than half had Lima 103 (51.2%) as their place of birth, most had less than one year of psychiatric treatment 168 (83.6%). Regarding substance use, almost half of the patients reported consuming alcohol 93 (46.3%), a quarter tobacco 53 (26.4%), and only 18 (9.0%) drugs.

Of the 201 patients who made up the sample, 46 (22.9%) had suicidal ideation. The average age of these 46 patients was 32 years and the median 28 years, the standard deviation 15, and the age range 48. Of the patients with suicidal ideation, 13 patients were 18-19 years of age (28.3%), 18 patients between 18-23 years of age (39.1%), 7 patients were between 24 and 29 years of age (15.2%) and 21 patients were between 30 and 66 years of age (45.7%). The female sex was predominant 27 (58.7%), single marital status 27 (58.6%), and Lima as a place of birth 32 (69.7%).

In table 2, it is observed that the age, gender, marital status, place of birth, time of treatment a year or more, consumption of alcohol, tobacco, and drug use are associated factors, due to which its OR are more than the unit, in addition to the values of the confidence interval of the OR does not include the unit, therefore, we can say that suicidal ideation is associated to these variables with a level of significance less than 0.05.

Table 3 shows the relationship between the dependent variable (suicidal ideation) and the independent variables associated in the bivariate analysis (young age, male sex, marital status single/divorced (without a partner), birthplace Lima, treatment time greater than one year, the consumption of alcohol, tobacco, and drug use), showing for each the adjusted OR and corresponding confidence interval and its level of significance. Only the variable "drug use " is shown as an associated factor for suicidal ideation since the adjusted OR is 11.31 and the confidence interval does not take the unit and the p-value is 0.005. No association was found with the other variables.

Table 1. Sociodemographic characteristics of the patients who attended an external clinic of the HMA psychiatric service.

Variable	Total n (%)	Patients with suicidal ideation n (%)
	201 (100.0)	46 (100)
Age		
> 18 to 29 years old (young)	52 (25.9)	25 (54.3)
330 to <65 years old (adult)	149 (74.1)	21 (45.7%)
Gender		
Male	48 (23.9)	19 (41.3)
Female	153 (76.1)	27 (58.7)
Education Level		
Primary	22 (11.0)	2 (4.3)
Secondary and higher	179 (89.0)	44 (95.7)
Marital status		
Single, separated or divorced (without a partner)	64 (31.8)	27 (58.6)
Married / living together (with partner)	137 (68.2)	19 (41.4)
District of origin		
SJM and VMT	142 (70.7)	36 (78.3)
Others	59 (29.3)	10 (21.7)
Place of birth		
Lima	103 (51.2)	32 (69.7)
Provinces	98 (48.8)	14 (30.3)
Religion		
Catholic or other	178 (88.6)	26 (56.5)
None	23 (11.4)	20 (43.5)
Employment status		
Unemployed	123 (61.2)	31 (67.4)
Employee	78 (38.8)	15 (32.6)
Time of psychiatric treatment		
One year and more	33 (16.4)	43 (93.5)
Less than a year	168 (83.6)	3 (6.5)
Type of family relationship		
Regular to bad	169 (84.1)	42 (91.3)
Good	32 (15.9)	4 (8.7)
Alcohol consumption		
Yes	93 (46.3)	33 (71.7)
No	108 (53.7)	13 (28.3)
Tobacco use		
Yes	53 (26.4)	26 (56.5)
No	148 (73.6)	20 (43.5)
Drug use		
Yes	18 (9.0)	16 (34.8)
No	183 (91.0)	30 (65.2)

Table 2. Bivariate analysis between suicidal ideation and study variables in patients who attended an external office of the HMA psychiatric service.

Variable	Characteristic	Suicide ideation				Chicua-drado	p-value	OR	IC 95%	
		Yes		No					LI	LS
		Abs	%	Abs	%					
Age	Young	25	48.1	27	51.9	25.2	0.000	5.64	2.77	11.52
	Adults	21	14.1	128	85.9					
Gender	Male	19	39.6	29	60.4	10.0	0.002	3.06	1.50	6.23
	Female	27	17.6	126	82.4					
Education level	Primary	2	9.1	20	90.9	2.7	0.103	0.31	0.07	1.37
	Secondary / higher	44	24.6	135	75.4					
Marital status	Single / divorced (without a partner)	27	42.2	37	57.8	19.8	0.000	4.53	2.27	9.07
	Married / partner (with a partner)	19	13.9	118	86.1					
Place of origin	SJM/VMT	36	25.4	106	74.6	1.7	0.197	1.66	0.76	3.62
	Others	10	16.9	49	83.1					
Place of birth	Lima	32	31.1	71	68.9	8.0	0.005	2.70	1.34	5.46
	Provinces	14	14.3	84	85.7					
Religion	Catholic or other	26	20.2	103	79.8	1.5	0.217	0.66	0.34	1.28
	None	20	27.8	52	72.2					
Employment	Unemployed	31	25.2	92	74.8	1.0	0.326	1.42	0.71	2.84
	Employee	15	19.2	63	80.8					
Treatment time	More than 1 year	43	25.6	125	74.4	4.3	0.039	3.44	0.99	11.88
	Less than 1 year	3	9.1	30	90.9					
Family relationship	Regular-Bad	42	24.9	127	75.1	2.3	0.127	2.31	0.77	6.98
	Good	4	12.5	28	87.5					
Alcohol consumption	Yes	33	35.5	60	64.5	15.6	0.000	4.02	1.96	8.25
	No	13	12.0	95	88.0					
Tobacco use	Yes	26	49.1	27	50.9	27.9	0.000	6.16	3.01	12.61
	No	20	13.5	128	86.5					
Drug use	Yes	16	88.9	2	11.1	48.8	0.000	40.80	8.91	186.77
	No	30	16.4	153	83.6					

Table 3. Multivariate analysis of factors associated with suicidal behavior disorders in patients who attended an external office of the HMA psychiatric service.

Variables	OR Adjusted	95% confidence interval		p-value
		LI	LS	
Young age	1.63	0.49	5.44	0.427
Male sex	1.08	0.40	2.94	0.878
Marital status single/divorced (without a partner)	1.51	0.53	4.32	0.444
Birthplace Lima	0.97	0.39	2.42	0.951
Treatment time> 1 year	0.48	0.13	1.76	0.270
Alcohol consumption	1.17	0.41	3.33	0.764
Consumption of tobacco	2.48	0.87	7.02	0.088
Drug use	11.31	2.05	62.46	0.005

DISCUSSION

Suicidal ideation is a strong predictor of suicide, although this impact is still being analyzed in psychiatric and non-psychiatric environments[6]. The relevance of this study lies in discovering the factors associated with suicidal ideation based on a mental disorder very common in our current society, such as depression, and that, in the future, perhaps immediate, most of these patients can be identified timely preventing a fatal outcome.

Our results in the bivariate analysis were that being young, male, single, from Lima, having a treatment for depression for more than one year, consuming tobacco, alcohol, and drugs, are associated with suicidal ideation; however, only drug use remained significant in multivariate analysis.

Of the 201 depressive patients, approximately half of the young patients 25 (48%) had suicidal ideation and only one-seventh of the patients in the adult age group 21 (14.09%), and in the patients with depression and suicidal ideation also predominated the young age group 25 (54.3%) but discreetly compared to the adult age group 21(45.7%). This means that even though there are more depressive patients aged 30 years and older, they have less frequency of suicidal thoughts than the group of under 30 years. They may be influenced by the longer period of treatment that helps them use the tools that they need for improvement seeking medical help for their mental illness by going to an external office. Also, it was found that the young population is a factor associated with suicidal ideation, this result is consistent with the study by Dendup T. et al.[7], as they are possibly more exposed to the use of legalized and non-legalized drugs[8].

One-third of depressive patients (28.3%) who presented suicidal ideation were adolescents. Women were the largest population of patients with depression, such as those with suicidal ideation. According to WHO, women are more likely to make suicide attempts but are the least effective[2]. However, in the bivariate analysis, being a male is significant as an associated factor, although it is not maintained in the multivariate, it may be due perhaps to interaction with other variables such as alcohol and tobacco consumption.

Many studies have found that parental support9 is a protective factor against suicidal thoughts and attempts. Our family relationship variable was not significant, however, studies with a larger population can be expanded to see the effect of this relationship.

Lima, the capital of Peru, is an urbanized area with a higher percentage of the population with better sanitation services, but poverty rates persist. This region is affected by the migration of inhabitants of the coast, mountains, and jungle in search of better opportunities, however, it is difficult to achieve these goals. For this reason, many have worse conditions of poverty in which they are going to allocate their children. Apart from this, stress from traffic and work leads to thoughts of hopelessness. Our study concluded that being born in Lima is an associated factor for suicidal ideation, however, it differs from the study by Nie Y. et al.[10] which points out that coming from rural areas increases fatal thinking.

Lu l. et al.[11] concludes that loneliness is an important factor in developing suicidal ideation, in our work, it was found that being single or divorced is an associated factor. Although this result is not maintained in the multivariate analysis, it does not exclude that this condition can worsen the state of depression, therefore generating more often negative thoughts, including that of suicidal ideation.

It has been shown that at the beginning of antidepressant treatment there is a lower adherence due to sociodemographic factors such as level of education, and other factors such as type of funding of pharmaceutical benefit and attendance at consultations[12]. Our cutoff point for treatment time was one year, considered by the authors, to determine it as an associated factor. Time greater than one year was found as an associated factor in the bivariate analysis, however, it did not remain in the multivariate analysis. It may be due to the rejection of treatment because it shows temporary improvement, even, understanding that these drugs can be taken for life. The interaction of this variable with the others may have affected the outcome, so further studies are needed to determine its impact.

Unemployment is one of the leading causes of suicide in the world. Dendup T. et al.[7] concludes that being unemployed is a risk factor for suicidal ideation since economic instability generates mental instability so it is difficult for a patient to adequately control it, and can even worsen their psychiatric disorder and have severe complications with regression of improvement. However, in our study, it was not significant.

Both Dendup T. et al.[7] and Dutta R. et al.[13] agree that alcohol and drug use increases the risk of suicidal ideation. Although alcohol and tobacco consumption variables were not significant in the multivariate, this may be due to interaction with other

factors. Like our study, Chávez-Hernández A. et al.[14] concluded that drug use associated with depression and impulsivity predicted suicidal ideation of high school students, even up to four times. Drugs alter the neurotransmitters of the brain so it limits the ability to control impulses and generates addiction, which in turn leads to acts against your life, from suicidal thoughts to suicide[15].

There were some limitations to the study. The design of the present study is an analytical cross-sectional, so it is impossible to determine temporality relationships between the main variables analyzed, so causal relationships cannot be determined. Another failure of the study is that the results obtained from this study cannot be generalized to a different population than the study because of the non-probabilistic sample. Finally, there is a potential residual confusion bias due to the number of variables not obtained in the present study and that may act as confusing to the main variable under study.

CONCLUSION

In conclusion, drug use is associated with suicidal ideation in patients who attended an external clinic of the HMA psychiatric service.

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Correspondence: *Consuelo Luna Muñoz.*
Address: *Anstituto de Investigación en Ciencias Biomédicas (INICIB), Universidad Ricardo Palma, Av. Benavides 5440, Lima-Perú.*
Telephone number: *(01) 7080000*
E-mail: *luna_consuelo@yahoo.es*

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