Revista de la Facultad de Medicina Humana

Volume 21 | Issue 4 Article 15

2021

Epidemiological statistics of adolescent suicide during confinement due to the Covid-19 pandemic in Ecuador

Andres J. Guarnizo Chávez
Universidad de Cuenca, Cuenca, Ecuador., guarnizohca@gmail.com

Nathaly A. Romero Heredia

Follow this and additional works at: https://inicib.urp.edu.pe/rfmh

Recommended Citation

Guarnizo Chávez, Andres J. and Romero Heredia, Nathaly A. (2021) "Epidemiological statistics of adolescent suicide during confinement due to the Covid-19 pandemic in Ecuador," *Revista de la Facultad de Medicina Humana*: Vol. 21: Iss. 4, Article 15.
DOI: https://doi.org/10.25176/RFMH.v21i4.3984
Available at: https://inicib.urp.edu.pe/rfmh/vol21/iss4/15

This Article is brought to you for free and open access by INICIB-URP. It has been accepted for inclusion in Revista de la Facultad de Medicina Humana by an authorized editor of INICIB-URP.

Rev. Fac. Med. Hum. Octubre 2021;21(4):797-803.
DOI 10.25176/RFMH.v21i4.3984
ISSN Versión Online: 2308-0531
Facultad de Medicina Humana URP
ARTÍCULO ORIGINAL

ORIGINAL PAPER

EPIDEMIOLOGICAL STATISTICS OF ADOLESCENT SUICIDE DURING CONFINEMENT DUE TO THE COVID-19 PANDEMIC IN ECUADOR

ESTADÍSTICA EPIDEMIOLÓGICA DEL SUICIDIO ADOLESCENTE DURANTE CONFINAMIENTO POR PANDEMIA DE COVID-19 EN ECUADOR

Andrés Joaquín Guarnizo Chávez[1,a], Nathaly Alejandra Romero-Heredia[2,b]

ABSTRACT

Objetivo: Presentar las características del suicidio adolescente, durante el periodo de confinamiento por pandemia en el año 2020 en el Ecuador, para con su conocimiento atender las necesidades de salud mental en este grupo etario. **Método:** Se realizó un estudio observacional, descriptivo, de corte transversal retrospectivo, con la información de la base de datos de muertes violentas del Ministerio de Gobierno, desde el 17 de marzo al 13 de septiembre que duró el estado de excepción. El análisis se llevó a cabo por provincia, sexo, edad, método de suicidio y frecuencia en días de ocurrido el evento. Se estimó la tasa de mortalidad de suicidio (por 100 000 habitantes) para cada provincia. Todos estos resultados se compararon con estadísticas del 2019 durante el mismo periodo de tiempo. **Resultados:** Durante el confinamiento por estado de excepción en el año 2020 en el Ecuador, se registraron 97 suicidios en adolescentes de entre 10 a 19 años de edad. Se estimó el número más alto en varones de 15 a 19 años, siendo la edad más frecuente a los 19. El día con más frecuencia de levantamiento de cadáveres fueron los lunes, y el modo preferido de suicidio fue la ahorcadura con 81 casos reportados, seguido con diferencia de la intoxicación y envenenamiento. **Conclusiones:** Las características del suicidio adolescente durante la pandemia por COVID-19 en Ecuador indican que merece una atención especial en nuestro medio, al tratarse de un problema de salud pública.

PALABRAS CLAVE: COVID-19, Salud Pública, Suicidio, Cuarentena, Adolescente, Aislamiento

ABSTRACT

Objective: To present the characteristics of adolescent suicide, during the period of confinement due to pandemic in 2020 in Ecuador, in order to satisfy the mental health needs of this age group with their knowledge. **Method:** Observational, descriptive, cut-off study It was carried out. Cross-sectional retrospective, with information from the database of violent deaths of the Ministry of Government, from March 17 to September 13, which lasted the state of emergency. The analysis was carried out by province, sex, age, suicide method and frequency in days after the occurrence of the event. The suicide mortality rate (per 100,000 inhabitants) was estimated for each province. All of these results were compared to 2019 statistics for the same time period. **Results:** During the confinement due to a state of exception in 2020 in Ecuador, 97 suicides were registered in adolescents between 10 and 19 years old. The highest number was estimated in males between 15 and 19 years of age, with the most frequent age being 19. The most frequent day of removal of corpses was Monday and the preferred form of suicide was hanging with 81 reported cases. followed by much by intoxication and poisoning. **Conclusions:** Adolescent suicide deserves special attention in our environment, as it is a public health problem, influenced by various psychological and emotional factors, which can be neglected in a context of pandemic and isolation. They are, therefore, essential psychosocial interventions aimed at mitigating the mental effects of the pandemic and confinement, as well as promoting prevention and mental health programs in the adolescent population.

KEY WORDS: COVID-19, Public Health, Suicide, Quarantine, Adolescent, Isolation

[1] Universidad de Cuenca, Cuenca, Ecuador
[2] Ministerio de Salud Pública (MSP), Quito, Ecuador
[a] University Master in Health Management
[b] University Master in Drug Addiction and other Addictions

Cite as: Andrés Joaquín Guarnizo Chávez, Nathaly Alejandra Romero-Heredia. Epidemiological statistics of adolescent suicide during confinement due to the COVID-19 pandemic in Ecuador. Rev. Fac. Med. Hum. Octubre 2021; 21(4):797-803. DOI 10.25176/RFMH.v21i4.3984

Journal home page: http://revistas.urp.edu.pe/index.php/RFMH

Article published by the Magazine of the Faculty of Human Medicine of the Ricardo Palma University. It is an open access article, distributed under the terms of the Creative Commons License: Creative Commons Attribution 4.0 International, CC BY 4.0 (https://creativecommons.org/licenses/by/4.0/), that allows non-commercial use, distribution and reproduction in any medium, provided that the original work is duly cited. For commercial use, please contact revista.medicina@urp.pe

ORIGINAL PAPER

INTRODUCTION

Data reported by the World Health Organization indicate that since 2012 there has been an average of 804,000 suicides per year, which represents a rate of 11.4 suicidal deaths per 100,000 inhabitants. In addition, the same report indicates that for every completed suicide, there are 20 unsuccessful attempts, figures that historically have been higher in the male sex with a ratio of 15 men for every 8 women[1]. For its part, the Pan American Health Organization, in its regional report on suicide mortality in the Americas 2014, indicates that Latin America has lower suicide rates than the world average in all these years[2].

Suicide is a public health problem, even more so in vulnerable groups such as adolescents, where there has been a gradual increase in this phenomenon in recent times, to the point of being considered the second most frequent cause of mortality in adolescents between 12 and 19 years of age[3], and in turn within the five leading causes of mortality between 15 and 19 years of age[4]. Although in the adolescent population, suicide attempts have a lower lethality rate than in young adults[5], there are age-related determinants that deserve to be studied. Most suicidal thoughts and actions are often associated with social isolation and loneliness, situations that have been aggravated by the health emergency since the risk of suicide increases as people lack connections with others. Adolescence is in itself a difficult period of social and personal adaptation, and in times of health contingency, the closure of educational institutions, the cancellation of public activities, restrictive measures of communication and social interaction have caused the loss of moments of youth that influence the proper development of psychological stability in young people[6].

In COVID-19 pandemic situations, there has been evidence of exacerbation of psychological disorders such as anxiety and depression, as well as high levels of emotional stress and post-traumatic symptoms, factors directly proportional to the appearance of suicidal ideas[7]. Strict security measures such as social isolation have had negative repercussions not only on physical health, but mainly on the mental health of vulnerable groups such as children and adolescents[8]. At the national level, the problem of adolescent suicide has manifested itself even before the pandemic, having between 2001 and 2014 a total of 4 885 suicides in this age group, with the highest risk being in males over 15 years of age and residents in Amazonian provinces; with a second place in provinces of the Ecuadorian highlands. Similarly, the literature indicates that the most common method of suicide has been hanging, followed by poisoning by pesticides[9]. Suicides in pandemic period have not been well described so far, however local reports indicate that far from reducing, they have remained constant, for example the Consejo de Protección de los Derechos de Quito, reported in 2020, a total of 10 suicides in minors, including a child of 9 years[10]. Therefore, the objective of this study is to present the characteristics of adolescent suicide during the period of pandemic confinement in the year 2020 in Ecuador, according to the databases of violent deaths of the Ministry of Government.

METHODS

Design and study area

For the present article, we chose to conduct an observational, descriptive, cross-sectional and retrospective study, which collects statistical data concerning deaths of suicidal etiology occurred nationwide, during the state of emergency 2020, which lasted 181 days, from March 17 to September 13.

Population and sample

The information was obtained directly from the database of violent deaths of the Directorate of Security Studies, belonging to the Ministry of Government of the Republic. The inclusion criteria were all deaths due to suicidal etiology in the period of time described, between 10 and 19 years of age, with a total of 97 cases. Exclusion criteria were deaths with inconsistencies in diagnosis and cases with incomplete information.

Variables and instruments

For age, measures of central tendency such as mean, median and mode were obtained. The data were also divided into two groups, 10 to 14 years, and 15 to 19 years, following the ranges as stated in the Modelo de Atención Integral del Sistema Nacional de Salud Familiar, Comunitario e Intercultural (MAIS- FCI), and by sex, male and female. Data on the total population of adolescents by province was obtained from the Instituto Nacional de Estadísticas y Censos (INEC), projection by age, provinces and national 2010-2020, which in turn made it possible to calculate the provincial suicide rate per 100,000 inhabitants. Of the 24 provinces in Ecuadorian territory, four had no cases of suicides during the "state of emergency". Finally, the

https://incmb.upp.edu.pe/rfmh/vol21/iss4/15
DOI: https://doi.org/10.25176/RFMH.v21i4.3984

frequency of suicide cases is measured, according to the method used by the adolescents to commit the act, and the frequency of the days on which the reported act occurred, with the respective removal of the corpse.

Procedures

The suicide rate was determined according to international parameters established by the WHO. All figures and statistical data were contrasted with those obtained during the same period of time (March 17 to September 13) in the year 2019, in order to make a pre-pandemic and post-pandemic comparison. Although the database of violent deaths does not contain a detailed autopsy report that would allow a chronological determination of the death, in order to know if the day of death is the same day of the removal or prior to it, it was considered relevant to include the frequency of the days when the body was removed,

Statistical analysis

The statistical analysis carried out was the description through frequencies and percentages of the characteristics evaluated.

Ethical aspects

Since this was a study from which information was collected from a database without data allowing patient identification, it was not necessary for the study to pass through an ethics committee.

RESULTS

Suicide etiology by sex and age. - The database of violent deaths 2020 reports a total of 97 deaths of suicidal etiology in the period established for the study, of which the majority, i.e. 59, correspond to the male sex, distributed in 19 cases for adolescents aged 10 to 14 years, and 40 cases for adolescents aged 15 to 19 years. Meanwhile, in the female sex, with a total of 39 suicides, 11 correspond to the age range of 10 to 14 years, and 27 to 15 to 19 years, a male prevalence that has been present since before the pandemic. (Figure 1) There is a male predominance over female in this type of deaths, with 61% in the first case, compared to 38% in the second, and it is even more evident the superiority of deaths registered after 15 years of age with 67% in balance with those before that age, with 30% of the cases. Compared to the pre-pandemic counterpart figures of 103 for the year 2019 versus 97 cases for the year 2020, showing a slight increase of 3 cases in males aged 10 to 14 years (Table 1).

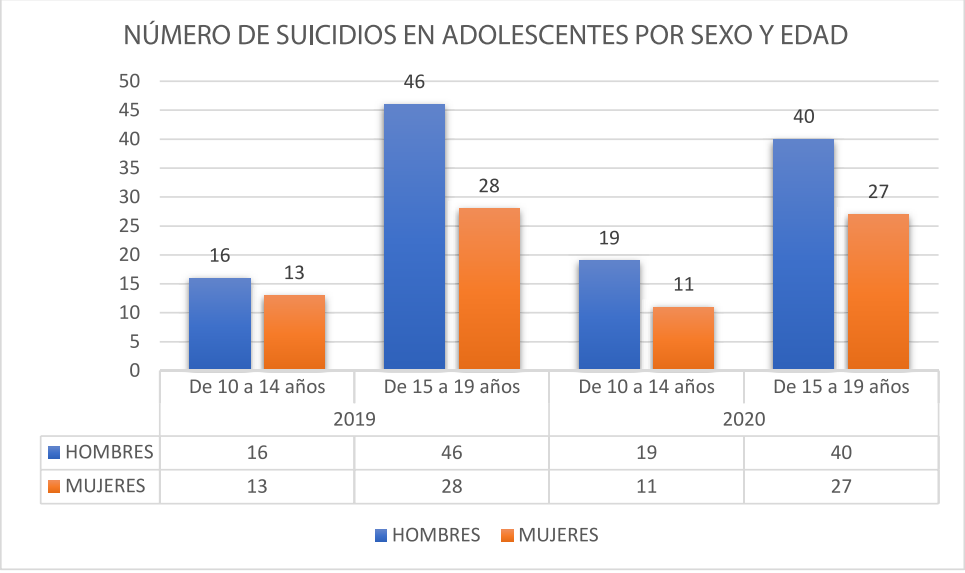

Figure 1. Number of suicides in adolescents by sex and age during the state of emergency 2020.

Published by INICIB-URP, 2021

Table 1. Total percentages of adolescent suicides during the state of emergency 2020.

	2019			2020		
	From 10 to 14 years	From 15 to 19 years	TOTAL	From 10 to 14 years	From 15 to 19 years	TOTAL
MEN	16	46	**62** (60%)	19	40	**59** (61%)
WOMEN	13	28	**41** (40%)	11	27	**38** (39%)
TOTAL	**29** (28%)	**74** (72%)	**103**	**30** (31%)	**67** (69%)	**97**

On the other hand, the measures of central tendency for the year 2020 showed the following results: The mean of the total number of suicides recorded was 15.91 years, and the median was 16 years. In terms of mode, the most repeated age among the deceased adolescents was 19 years of age.

Provincial statistics. - Ecuador has 24 provinces within its political division, of which, during the period under study, four had no cases of adolescent suicide: Cañar, Galapagos, Bolivar and Pastaza. The rest of the provinces described vary in number, with Pichincha and Azuay in 2020 leading with 14 cases each, followed by Guayas with 10 cases. Orellana was found to have the highest rate with 13.73 deaths per 100,000 inhabitants, followed by Azuay with 8.84 and Cotopaxi with 7.07 respectively.

These statistics contrast with the homologous period of 2019, where the Province of Orellana did not present any cases, as well as Santo Domingo, Galapagos and Santa Elena. It should be noted that Azuay is in second place both pre-pandemic and during the state of emergency. (Table 2)

ORIGINAL PAPER

Table 2. Provincial suicide rate per 100,000 inhabitants during the state of emergency.

	2019			2020		
PROVINCE	**No**	**Adolescent population 2019**	**Rate x 100 000 hbt.**	**No**	**Adolescent population 2020**	**Rate x 100 000 hbt.**
ORELLANA	0	35 517	0	5	36 437	13,72
AZUAY	15	157 712	9,51	14	158 326	8,84
COTOPAXI	9	98 445	9,14	7	99 319	7,05
SANTO DOMINGO	0	90 479	0	5	90 913	5,5
LOJA	6	100 495	5,97	5	100 311	4,98
TUNGURAHUA	9	103 133	8,73	5	103 384	4,84
IMBABURA	2	92 084	2,17	4	92 080	4,34
SUCUMBIOS	3	46 914	6,39	2	47 456	4,21
CHIMBORAZO	4	103 019	3,88	4	103 180	3,88
ZAMORA CHINCHIPE	1	25 758	3,88	1	26 163	3,82
NAPO	3	29 338	10,23	1	29 633	3,37
EL ORO	1	131 902	0,76	4	132 291	3,02
CARCHI	2	34 748	5,76	1	34 615	2,89
ESMERALDAS	1	139 816	0,72	4	141 354	2,83
LOS RIOS	4	184 658	2,17	5	185 820	2,69
PICHINCHA	23	546 917	4,21	14	552 101	2,54
MORONA SANTIAGO	1	45 126	2,22	1	45 894	2,18
MANABI	3	306 502	0,98	4	305 751	1,31
SANTA ELENA	0	77 252	0	1	78 870	1,27
GUAYAS	11	792 819	1,39	10	797 963	1,25
BOLÍVAR	1	44 230	2,26	0	44 723	0
PASTAZA	1	24 022	4,16	0	24 373	0
CAÑAR	3	55 362	5,42	0	55 838	0
TOTAL	**103**	**3 266 248**	**3,15**	**97**	**3 286 795**	**2,95**

https://incab.urp.edu.pe/rfmh/vol21/iss4/15
DOI: https://doi.org/10.25176/RFMH.v21i4.3984

Suicide method. - Of the total number of deaths registered, hanging is the method chosen by far the most in both periods described, with a total of 81 cases, divided into 51 for males and 30 for females during the year 2020. Next in frequency is poisoning/poisoning with 10 reports, with females being slightly more likely to choose this method, a similar comparison during the pre-pandemic period, and it seems to be a constant in the method chosen according to sex. They are followed with a low frequency by deaths produced by firearms, precipitation, submersion and suffocation No suicides with sharps in adolescents were reported during the 2020 period, as there were during 2019. (Table 3)

Table 3. Suicide methods during the state of emergency 2020 in adolescents

	2019			2020		
SUICIDAL ETIOLOGY	MAN	WOMAN	TOTAL	MAN	WOMAN	TOTAL
HANGING	55	29	84	52	30	81
INTOXICATION	2	12	14	4	6	10
FIREAMRS	1	0	1	2	1	3
FALL/ PRECIPITATION	2	0	2	0	1	1
SUBMERSION	0	0	0	1	0	1
KNIFE	2	0	2	0	0	0
TOTAL	**62**	**41**	**103**	**59**	**38**	**97**

Frequency of corpse removal by day. - The daily frequency of corpses resulting from suicide in adolescents is described, with the highest prevalence during the state of emergency being on Monday, with 21.65%, in relation to the other days of the week (Table 4). In comparison with the dates included in 2019, a tendency to decrease as the week passes, while pre-pandemic, increased as the weekend approached. (Figure 2)

Table 4. Frequency of body removal by day of the week

	2019		2020	
DAYS	No	%	No	%
MONDAY	13	12,62	21	21,65
TUESDAY	10	9,71	16	16,49
WEDNESDAY	15	14,56	9	9,28
THURSDAY	18	17,48	12	12,37
FRIDAY	15	14,56	13	13,40
SATURDAY	12	11,65	12	12,37
SUNDAY	20	19,42	14	14,43
TOTAL	**103**	**100**	**97**	**100**

ORIGINAL PAPER

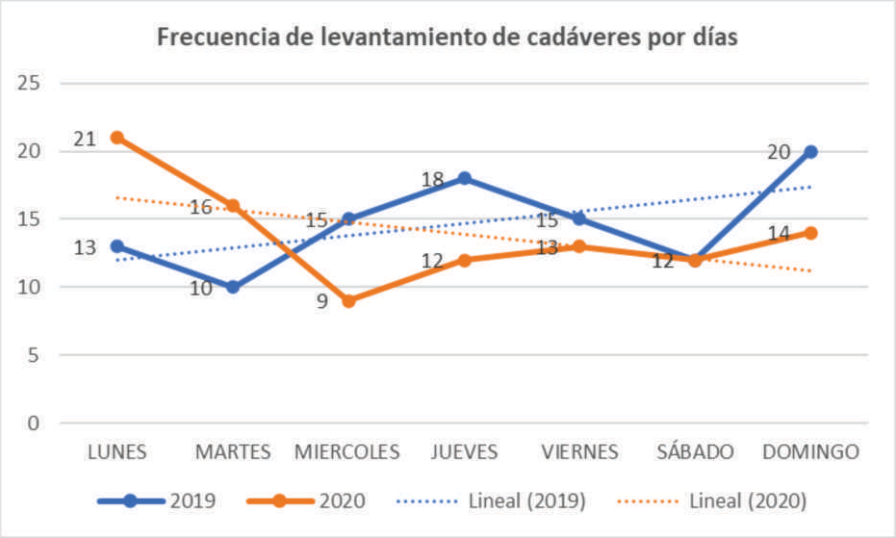

Figure 2. Trend according to frequency of corpse removal by days of the week.

DISCUSSION

Recent studies indicate that there have been no statistically significant increases in the suicide rate worldwide, at least during the first months of the pandemic; even in several countries there is evidence of a decrease in cases[11]. In our study, reports have been maintained with little variability in the expected rate, at least during the most problematic time as was the state of emergency in 2020, where we noted a slight reduction in total cases. According to INEC and the MSP, the national suicide rate had increased by 380% in ages 10-14 as of 2017, and an increase of 36% among 15-19 year olds[12].

Although our statistics show an evident male predominance, in line with worldwide figures (of about 79% of all suicide deaths[13]), authors point out that, in age groups from 10 to 19 years of age, this difference is not significant, in contrast to data reported in young adults, where the difference ratio is as high as 4.3:1 in favor of the male sex[14]. It has also been described in the literature that, although completed suicide is higher in males, suicidal ideation and attempted suicide are much more frequent in females[15].

Although the numbers of suicides by province have varied during the pandemic, it is interesting to note that the province of Azuay remains in second place in frequency, both before and during the pandemic, being necessary in the future to study the determinants for such prevalence. In both periods of time, we note the hegemony of the hanging method followed by poisoning, the latter more frequent in women. Finally, it is necessary to note that in 2019 suicidal deaths had a tendency to increase as the days of the week progressed, being more frequent on Sunday, while, in the confinement of 2020, it became more frequent on Mondays with a tendency to decrease in the rest of the week. This difference is not so marked, perhaps due to the confinement condition itself, where most people saw the time pass indistinctly, without any variation between days.

The psychosocial determinants of adolescent suicide are a separate issue, which must be analyzed in order to address them in a comprehensive manner. The context of COVID-19 has increased the burden of psychological distress, situations such as fear of infection, anxiety, stress, depression, loss of family or friends, which may lead adolescents to think about suicide[16]. Evidence suggests that, to counteract the statistics of self-inflicted deaths in times of Pandemic, they should be correctly identified in the ideation phase[17]. An important factor in suicidal ideation is the subjective or objective feeling of isolation and loneliness, which should be intervened to recognize and avoid the inherent risk[18]. The actions and public policies that should be taken to safeguard the health of the population in general, and of adolescents based on their special needs, should not only focus on the infectious disease, but also on improving the individual and collective mental state of a population that has been hard hit by the pandemic[19].

The present study was limited by the fact that secondary data were handled that were not designed to answer a research question as such; however, the data are useful to describe an important reality. On the other hand, as they were only reported cases, there could be an underreporting, nevertheless, we consider that the information is useful because it serves to characterize this problem, which is the objective of the study.

https://incab.urp.edu.pe/rfmh/vol21/iss4/15
DOI: https://doi.org/10.25176/RFMH.v21i4.3984

ORIGINAL PAPER

CONCLUSIONS

In Ecuador, there was a slight total decrease in deaths due to suicidal etiology in adolescents, during the period called "state of emergency" that comprised 181 days from March 17 to September 13, 2020, this if we compare it with the same period of days in 2019 as a pre-pandemic reference, we note that, during both periods, the trend is

Adolescent suicide deserves special attention in our

environment, as it is a public health problem, influenced by several psychological and emotional factors, which can be neglected in a context of pandemic and isolation. Psychosocial interventions aimed at mitigating the mental effects of the pandemic and confinement are therefore indispensable, as well as promoting prevention and mental health programs in the adolescent population.

Authorship contributions: The authors participated in the conception and design of the project; collection, analysis and interpretation of the results; writing, critical review and approval of the final version of the article.

Financing: The project was financed by the competitive fund of the National Center of Public Health of the National Institute of Health of Peru.

Correspondence: *Andrés Joaquín Guarnizo Chávez*
Telephone: *+593 958957098*
Address: *170105 Quito – Ecuador*
E-mail: *guarnizohca@gmail.com*

Acknowledgments

To Richard Milton Carvajal Salazar, security information analyst at the Ministry of Government of the Republic of Ecuador, who kindly provided the data on violent deaths for the year 2020, information necessary to carry out this study.

Conflict of interest: The authors declare that they have no conflicts of interest in the publication of this article.

Received: June 7, 2021
Approved: July 23, 2021

BIBLIOGRAPHY REFERENCES

1. Navarro N. El suicidio en jóvenes en España: cifras y posibles causas. Análisis de los últimos datos disponibles. Clin Salud. 2017;28(1):25–31. DOI: https://dx.doi.org/10.1016/j.clysa.2016.11.002
2. Cuesta D. Aspectos epidemiológicos del suicidio en adolescentes. Rev Mex Pedriatr. 2017;84(2):72-77. [cited on June 1, 2021]. Available at: https://www.medigraphic.com/pdfs/pediat/sp-2017/sp172f.pdf
3. Martín del Campo A, González C, Bustamante J. El suicidio en adolescentes. Rev médica Hosp Gen Méx. 2013;76(4):200–9. [cited on June 1, 2021]. Available at: https://www.elsevier.es/en-revista-revista-medica-del-hospital-general-325-pdf-X0185106313687322
4. Ventura R, Carvajal C, Undurraga S, Vicuña P, Egaña J, Garib MJ. Prevalencia de ideación e intento suicida en adolescentes de la Región Metropolitana de Santiago de Chile. Rev Med Chil. 2010;138(3). DOI: http://dx.doi.org/10.4067/s0034-98872010000300008
5. Cazar J. Incidencia y causas más comunes de suicidio en el periodo 2008 al 2012 en Pichincha, Quito - Ecuador. Quito: Universidad de las Américas, 2014; 2014. [cited on June 1, 2021]. Available at: https://rraae.cedia.edu.ec/Record/UDLA_08a3f3ef5308e86d0979ac084aca60ee
6. Hernández J. Impact of COVID-19 on people´s mental health. Medicentro (Villa Cl). 2020;24(3):578–94. [cited on June 1, 2021]. Available at: http://scielo.sld.cu/pdf/mdc/v24n3/1029-3043-mdc-24-03-578.pdf
7. Arias Y, Herrero Y, Cabrera Y, Chibás D, García Y. Manifestaciones psicológicas frente a la situación epidemiológica causada por la COVID-19. Rev habanera cienc médicas. 2020;19(1):1-13. [cited on June 2, 2021]. Available at: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1729-519X2020000400012
8. Huyhua S, Tejada S, Diaz R. Feelings of adolescents facing social isolation due to COVID-19 from the phenomenological methodology. Rev Cubana Enferm. 2020;36(1)1-12. [cited on June 3, 2021]; 36(0). Available at: http://revenfermeria.sld.cu/index.php/enf/article/view/4176/659
9. Gerstner R, Soriano I, Sanhueza A, Caffe S, Kestel D. Epidemiology of suicide among adolescents and young adults in Ecuador. Rev Panam Salud Publica. 2018;42(1)1-7. DOI: https://doi.org/10.26633/RPSP.2018.100
10. Tenorio M, Veintimilla D, Reyes M. La crisis económica del COVID-19 en el Ecuador: implicaciones y proyectivas para la salud mental y la seguridad. Inv & Des. 2020;13(1):102–24. [cited on June 2, 2021]. Available at: https://revistas.uta.edu.ec/erevista/index.php/dide/article/view/1008
11. Al-Halabi S. Impacto de la COVID-19 en las tasas de suicidio: una oportunidad para la prevención [Internet]. Infocop.es. 2021 [cited on June 2, 2021]. Available at: http://www.infocop.es/view_article.asp?id=17018
12. Campo L. El suicidio en ecuador como caleidoscopio de la vida. Congreso Internacional Cuerpos, despojos, territorios: La vida amenazada [Internet]. Quito: Universidad Andina Simón Bolívar; 2018 [cited on June 3, 2021]; Available at: https://www.academia.edu/41060091/EL_SUICIDIO_EN_ECUADOR_COMO_CALEIDOSCOPIO_DE_LA_VIDA_AMENAZADA20191125_32000_si9r6x
13. Organización Panamericana de la Salud. Mortalidad por Suicidio en las américas [Internet]. Paho.org. [cited on June 3, 2021]. Available at: https://www.paho.org/hq/dmdocuments/2014/PAHO-Mortalidad-por-suicidio-final.pdf
14. Gerstner R, Lara F. Trend analysis of suicide among children, adolescent and young adults in Ecuador between 1990 and 2017. An Sist Sanit Navar. 2019;42(1):9–18. DOI: https://doi.org/10.23938/ASSN.0394
15. Cañón S, Carmona J. Ideación y conductas suicidas en adolescentes y jóvenes. Pediatr aten primaria. 2018;20(80):387–97. [cited on June 3, 2021]. Available at: https://scielo.isciii.es/pdf/pap/v20n80/1139-7632-pap-20-80-387.pdf
16. Castro M, Cano J, Vereau E, Vásquez A, Izaguirre D. Socio-affective program to reduce the risk of suicide in adolescents. SCIÉNDO. 2020;23(3):173–9. DOI: http://dx.doi.org/10.17268/sciendo.2020.022
17. Rodríguez U, León Z, Ceballos G. Ideación suicida, ansiedad, capital social y calidad de sueño en colombianos durante el primer mes de aislamiento físico por COVID-19: Psicogente. 2020;24(45):1–20.DOI: https://doi.org/10.17081/psico.24.45.4075
18. Santana M, De Luna L, Lozano E, Hermosillo A. Exploración del riesgo de suicidio en estudiantes universitarios mexicanos durante el aislamiento social por Covid-19. Rev psicologia. 2020;9(18):54. DOI: https://doi.org/10.36677/rpsicologia.v9i18.15582
19. Cruz F. Impacto psicológico del COVID-19 en la salud mental de niños y adolescentes. Cajamarca: Universidad Privada Antonio Guillermo Urrelo, 2021; 2021. [cited on June 3, 2021]. Available at: http://repositorio.upagu.edu.pe/handle/UPAGU/1526