

Research Article

Suicide in teenagers during the COVID-19 pandemic in Cuba: actions for its prevention

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Abstract

Introduction: Suicidal behavior in teenagers constitutes a health problem that, given the necessary measures of social isolation taken by the global emergency of the COVID-19 pandemic, must generate timely actions for its prevention and control from the public health services.

Objective: To propose an action plan for the prevention of suicide in teenagers of the Remedios municipality, subjected to voluntary home confinement during the COVID-19 pandemic.

Methods: an observational, descriptive, cross-sectional study was carried out in the "XXX Anniversary" Teaching Community Polyclinic of the municipality Remedios. We worked with the population of 25 teenagers between 12 and 19 years old who made suicide attempts in the period 2019-2021. The empirical methods used were: bibliographic and documentary review, participant observation, focus group, semi-structured interview and questionnaire.

Results: The suicide attempt was common in female teenagers aged 17 to 19 years not identified as risk, the lack of motivation due to the study activity and the previous suicide attempts by ingesting psychotropic drugs without serious intention of dying predominated. The most frequent psychological disorders were emotional disorders, stress, depression, irritability, apathy and insomnia. Actions are presented for the prevention of suicide and promote behaviors that contribute to mental health in the context of COVID-19.

Conclusion: The prevention of suicidal behavior in teenagers in conditions of social isolation due to COVID-19, must include actions that facilitate the coping with stress, intra-family communication and resilience.

Introduction

Suicide is a social and health problem that affects young people and teenagers, becoming the leading cause of external death, doubling mortality from traffic accidents in that age group as reported by Castellvi, P & Piqueras JA. [1].

In the studies by Ceballos, et al. [2] found that suicide moves through a process of different nature and severity, ranging from ideation (idea of death as rest, death wishes and suicidal ideation) to increasing behavioral gradation (threats, gestures, attempts and completed suicide). On the other hand, Siabato, Forero and Salamanca, [3] affirmed that suicide is an expression of the lack of adaptive mechanisms

of the subject to their environment, the result of a current or permanent conflictive situation that generates a state of emotional tension, or a consequence of the imbalance of your inner psychology.

The COVID-19 pandemic has had physical, psychological, social, economic and health consequences worldwide, said the researchers Ribot, Chang and González, [4]. In the absence of a definitive cure, the increase in the number of infections globally and the unavoidable implementation of social isolation measures as a way to reduce the risk of disease transmission, this situation currently constitutes, a challenge for healthcare professionals health in all fields.

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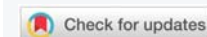
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As a measure to prevent its spread, in Cuba, voluntary home confinement has predominated, and to a lesser extent mandatory quarantine has been ordered, which has impacted on living conditions, which have become threatening to well-being and health.

Teenagers have been subjected to separation from friends, the breaking of the daily routine and adaptation to an unknown and imposed routine, uncertainty about the appropriate behavior in the face of the possibility of death, all of which become stressors. But national health systems must focus on the relevance of addressing the problem with a positive approach, on the potentialities that must be stimulated in individuals so that they can exercise better control over their own lives, so that the perception of risk and health protective factors such as self-efficacy, resilience, optimism.

The Cuban Ministry of Public Health created the Suicidal Behavior Prevention Program in 1989. According to Hernández & Villarreal, [5], among its objectives are the establishment of the surveillance system and the conduct of investigations to classify suicidal behavior, reduce morbidity due to suicide attempt and mortality due to suicide, paying special attention to avoiding the first attempt, the repetition of the act and the fatal outcome of the same. However, the National Directorate of Medical Records and Health Statistics reported in its Anuario Estadístico de Salud, 2019 (Statistical Yearbook of Health, 2019) [6], that the death rate from suicide at the end of 2019 was 13 per 100,000 inhabitants, occupying the third cause of death from 10 to 19 years with 26 deaths and a rate of 2.1 per 100,000 inhabitants of these ages, which exceeded the year 2018 with a rate of 1.7 per 100,000 inhabitants.

In a report from the Department of Health Surveillance (2019) it was reported that in the province of Villa Clara at the end of 2019, suicide was the ninth cause of death and the fifth in years of life potentially lost, with an adjusted rate of 9, 7 deaths per 100,000 inhabitants, the third highest in the country. The 15-49 age groups were the one with the highest contribution. Suicide was the leading cause in years of life lost per deceased, for each of those who stopped living for approximately 19.7 years; this being one of the causes that most contributes to early mortality. The municipality of Remedios, with 8 deaths by suicide and a rate of 20.4 per 100,000 inhabitants, was among those that exceeded the provincial average. In the following year, there were 32 suicide attempts and of these 16 in the health area of the "XXX Anniversary" polyclinic, of which 37.5% occurred in children under 19 years of age.

According to the studies by Pérez [7], the health professional, "due to his close relationship with the community, is in a better position to detect the alleged suicide and knowing the particularities of this anomalous behavior, to exercise the actions of health that prevent this act".

Considering the high incidence of suicide attempts in teenagers in the Remedios municipality and the recognized

need to strengthen the health system through the design and implementation of interventions that mitigate the negative effects of COVID-19 on mental health, it was decided carry out an investigation whose general objective was to propose an action plan for the prevention of suicidal behavior of teenagers subjected to voluntary home confinement during the COVID-19 pandemic. It is intended that the action plan becomes a tool for preventive work with this vulnerable group in the context of Primary Health Care.

Methods

A cross-sectional descriptive observational study was carried out at the "XXX Anniversary" Community Teaching Polyclinic, of the Remedios municipality in the period between January 2019 and December 2020. The risk factors and triggering situations of the suicide attempt were identified in teenagers through the collection and qualitative interpretation of data, to deepen the subjective perspective of teenagers, their expectations, experiences, interests, motivations and it was complemented with the information contained in the medical records from which all the information of the interrogation was collected to the patient, the antecedents and aspects related to the suicidal behavior. An action plan for its prevention was proposed, which was positively valued by specialists.

The techniques used were: semi-structured interview, participant observation, documentary review and questionnaire for the evaluation by specialists of the proposal. The data obtained were stored in an automated data file provided by the statistical package "Statistical Package for Social Sciences" (SPSS) version 20.0 for Windows. In the inferential statistics, the Homogeneity Test (Chi Square) was used, a level of significance was set ($\alpha = 0.05$). The statistical decision was made taking into account the significance (p) of the statistician. When $p < \alpha$, a significant difference was considered between the mean values compared. Absolute and relative frequency distributions were made.

The population was made up of a total of 25 teenagers, aged 12 to 19 years, who made suicide attempts in the period from January 2019 to December 2020, who resided in the municipality of Remedios at the time of the study. Non-probabilistic sampling by criteria was carried out. As no case was excluded from the population, we worked with its entirety.

Inclusion criteria:

- Adolescent between the ages of 12 and 19, who makes a suicide attempt during the investigation.
- Residence in the municipality of Remedios.
- Attended in the Mental Health Center of the municipality.
- Voluntary consent for adolescent participation.

Exclusion criteria: Manifest desire of not wanting to participate in the study, physical or mental disability.

Ethical considerations: The principles of ethics in scientific research related to respect and autonomy, justice and beneficence were complied with. The study was approved by the ethics committee of the Polyclinic “XXX Anniversary” of Remedios.

Results

The research included a total of 25 teenagers who made a suicide attempt in the health area of the “XXX Anniversary” polyclinic of the Remedios municipality during the 2019-2020 periods; table 1 shows the distribution by age and sex. The risk of suicide attempt increased with age, 3 were reported between 12 and 14 years that constituted 12%, with ages between 14 and 16 years there were 9 suicide attempts that constituted 36% and between 17 and 19 years 13 for 52%.

$$X^2 = 0.8547 \quad p = 0.6522 \quad \text{Ratio: Female/male 4: 1}$$

The highest frequency occurred in the female sex, which constituted 80% of the cases. From the statistical point of view, the presence of a significant association between age and sex was not determined, $p = 0.6522$, since the female sex was predominant in all age groups.

Graph 1 shows that according to occupation, students predominated in a number of 19 (76%), this is consistent with the Cuban educational policy that establishes compulsory education for people in middle and early adolescence.

Table 2 lists the risk factors prior to the suicide attempt. Most of the teenagers were dispensed as suicidal risk in their health area, which reveals the work carried out by the basic work group that attends the program for the care of this vulnerable group. Another fact to highlight is the prior communication of the suicidal idea. This is a factor that alerts representatives of public health and the family to preventive work.

Table 1: Distribution of the sample, according to age and sex.

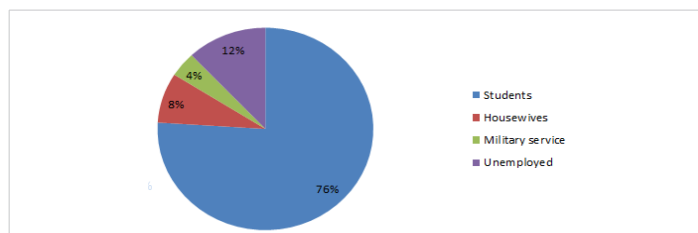
Age (Years)	Sex				Total	
	Male		Female			
	#	%	#	%	#	%
12-14	0	0,0	3	12,0	3	12,0
14 - 16	2	8,0	7	28,0	9	36,0
17 - 19	3	12,0	10	40,0	13	52,0
Total	5	20,0	20	80,0	25	100

Source: Clinical history.

Table 2: Risk factors prior to suicide attempt in teenagers.

Risk factors preview to the suicide attempt	#	%
Be registered as a suicide risk	10	40,0
Suicidal idea communication	4	16,0
Previous suicide attempt	3	12,0
Previous psychiatric treatment	1	4,0
Total	18	72,0

Source: Clinical history.



Graph 1: Distribution according to occupation of teenagers with suicide attempt.

The possible situation or conflict that triggered suicidal behavior in teenagers (Table 3) shows that the most frequent were conflicts at home in 17 cases, representing 68%, partner conflicts in 9 teenagers for 36%, and home confinement, 8 teenagers (32%).

Other reasons were the death of a family member (8.0%), as well as imitation behavior and maladjustment to general military service.

Table 4 shows the methods used by teenagers in the suicide attempt. The ingestion of psychotropic drugs predominated in 15, which constituted 60% of the total under study, and in second place the ingestion of other drugs in 8 teenagers for 32%.

Other forms used were incomplete hanging or vessel section: Performed by 1 adolescent in each case respectively (4%).

The ingestion of psychotropic drugs was the method most used by women and men with 60% in both, in the former the ingestion of other drugs was also frequent (35%). Incomplete

Table 3: Possible situation or conflict that stimulated suicidal behavior in teenagers.

Conflict situations	#	%
Conflicts at home	17	68,0
Couple conflicts	9	36,0
Home detention for COVID-19	8	32,0
Death of a relative	3	12,0
Imitation	2	8,0
Maladjustment to general military service	2	8,0

Source: Clinical history.

Table 4: Methods used by teenagers, according to sex, for the suicide attempt.

Method used	Sex				Total (25)	
	Male (5)		Female (20)			
	#	%	#	%	#	%
Use of psychotropic drugs	3	60,0	12	60,0	15	60,0
Use of other drugs	1	20,0	7	35,0	8	32,0
Incomplete hanging	1	20,0	0	0,0	1	4,0
Blood vessel section	0	0,0	1	5,0	1	4,0
Total	5	100	20	100	25	100

Source: Clinical history.

Table 5: Seriousness of suicidal intention in teenagers.

Seriousness of the suicide attempt	#	%
Not serious	8	32
Bit serious	10	40
Serious	6	24
Very serious	1	4
Total	25	100

Source: Medical records.



Table 6: Action plan for the prevention of suicide in teenagers of the municipality Remedios.

Actions	Methods	Techniques	Verifiable indicators	
Training procedures				
Professional improvement courses. Elective course (subject) for careers in medicine and psychology Postgraduate courses	Workshops Course Training	Participatory diagnosis Interviews Questionnaire Group discussions. Problem Tree. Participatory techniques	Participation certificates Subject programs	
Service procedures				
Social communication	Face to face. Transmission in groups through health hearings Social communication events with themes of adolescence and confrontation with conflicts Work with community organizations.	Interviews, questionnaire, group discussions. TV, radio	Percentage of audiences made and with quality Number of people trained	
Research for the early identification of the risks of suicidal behavior, with the help of representatives of the FMC and CDR	Visits to adolescent homes Interviews with key informants. Work in community organizations	Interviews, questionnaire, group discussions	Quantity and quality of the actions carried out	
Psycho-educational intervention	Psychotherapy (individual and group) Orientation and counseling	Brief, non-exploratory or suppressive techniques Techniques of moderate or long duration (exploratory or reconstructive).	Case reports Evidence of participation	
	Promote new spaces for healthy recreation for teenagers in the locality, using social networks.	Educational games, educational software	Existence of educational games, educational software	
	Link teenagers at risk to the systematic practice of physical activity from home	- Individual orientation interview. - Educational chat	Work journal	
	Family Orientation Workshops on the management of teenagers at risk of suicide attempt	Interviews, questionnaire, group discussions	Events carried out and with quality Number of participating family members	
	Consulting	- Technology transfer.	- Interviews - Questionnaire - Group discussions - Problem Tree.	- Programs - Methodologies - Software
		Thematic advice	Diagnosis and planning of participation Participatory techniques. Diagnosis and planning of participation.	Results reports Evidence of group participation
	Accompaniment of group processes.	Events. - Stakeholder analysis	Documents.	
Investigation procedures				
Participatory and cooperative Action Research	Events Socio-cultural intervention	Participatory techniques Logical framework Resource guides. Inventories Records Observation.	- Amount of research designed and applied. - Report of problems solved through investigations	
Control points				
Actions	Responsible persons	Participants	Verifiable indicators	
Analyze in the Boards of Directors of the health area, the program indicators related to Suicidal Behavior	Municipal Coordinator of the Mental Health Program	Responsible persons of Medical Assistance in each health area.	- Proceedings of the board directors	
Control visits and advice to each office in a systematic way	Head of the Basic Working Group of the health area	Basic health equipment	Results report	
Discussion of 100% of suicide attempts and completed suicides in the first 21 days of known Suicidal Behavior	Municipal Coordinator of the Mental Health Program	Basic health team	Case discussion report	

FMC: Federation of Cuban Women; CDR: Committees for the Defense of the Revolution.

hanging occurred in 1 male adolescent and vessel section in a female adolescent, which represents 20% in both cases. There was no significant dependence between the adolescent's sex and the method used, $p = 0.2095$.

The classification of the attempts according to the seriousness of the suicidal intention (Table 5) shows that they were classified as not serious in 8 teenagers for 32%, little serious in 10 cases for 40%, serious in 6 teenagers for 24% and very serious in 1 adolescent for 4%.

In 100% of the teenagers studied, the presence of emotional disorders, depression, stress, apathy, pessimism and insomnia were determined. These last two increased during the period of social isolation due to a pandemic.

Discussion

The information obtained in this study indicates that the timely identification of suicidal behavior in adolescence is a priority aspect in Primary Health Care, since there is currently a tendency to increase cases at younger ages, which coincides



with the above in the Castellvi & Piqueras JA Studios, Hernández & Villarreal, [1,5]. This is related to the age with the highest frequency of suicide attempt in teenagers from Remedios and with similar results from other Cuban studies [8,9] that report an increase in suicide attempt in groups between 14 and 19 years.

Similarly, when examining the samples according to sex, a predominance of the female sex has been observed in the group of teenagers with suicidal behavior, in both Cuban studies [8-10], as foreigners [11,12], unlike the consummate suicide that appears in males with a higher prevalence, since women tend to use less lethal methods.

According to the results of current studies [13], when considering the most frequent emotional disorders in teenagers in this study in the isolation conditions imposed by COVID-19, they should be stimulated personal resources such as optimism and resilience, which allow them to adopt and maintain healthy lifestyles and experience well-being.

Another relevant indicator was the presence of violence and difficulties in family education as possible triggering situations for suicidal behavior. In this regard, Serrano & Olave, 2017 [14] found the significant relationship between suicidal phenomenon and communication with family members. This was associated with a lower prevalence of suicidal thoughts and attempts in teenagers.

Likewise, Colombian researchers [15,16] call attention to the importance of detecting and managing affective disorders for the prevention of suicide in the age group studied.

Proposal of an action plan for the prevention of suicide in teenagers of the Remedios municipality.

Strategic objective: Reduce the incidence of suicide attempts by teenagers in the Remedios municipality.

Specific objectives:

1. Develop actions to control compliance with the Suicidal Behavior Control Program.

2. Develop actions with intersectoral collaboration for the prevention of suicidal behavior in teenagers.

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Authorship

(1) CC: participated in the conceptualization; formal analysis; the methodology; managing resources and writing the original draft.

(2) JP: participated in the formal analysis; the methodology; resource management; the writing, revision and editing of the manuscript.

(3) MP: participated in the formal analysis; the methodology; resource management; the writing, revision and editing of the manuscript

(4) BCh: participated in the formal analysis, resource management; the writing, revision and editing of the manuscript.

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