Article

Mental Health and Suicidal Behaviour in Chilean Youth during the Covid-19 Pandemic

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Abstract

Background: The pandemic caused by the SARS-CoV-2 virus led to a series of containment and mitigation measures through lockdowns, social distancing, and the closure of educational establishments, which have had a profound impact on the mental health of the adolescent population.

Objective: The main objective of the present study has been to identify the sociodemographic and mental health variables related to suicidal ideation, planning, and attempts in young people participating in outpatient intervention projects within the Chilean protection network since the onset of the pandemic and the strictest lockdowns.

Method: The study's sample consists of 125 young people aged 14 to 18 years (M = 15.65; SD = 1.22), participating in outpatient intervention projects within the National Service for Minors (SENAME)/Better Childhood protection network. Through a self-report survey, the young participants provided responses on sociodemographic variables and suicidal behaviour (ideation, planning, and attempts).

Results: 29.9% of the participants reported suicidal ideation during the onset of the pandemic and the established lockdowns; 29.2% reported having devised a plan to do so, and 18.2% indicated having attempted suicide during the evaluated period. A higher occurrence of suicidal behaviour was observed in females, sexual minorities, respondents over 15 years old, and respondents presenting depressive symptoms.

Conclusions: The Covid-19 pandemic has had a significant impact on suicidal behaviour among the adolescent population served by the protection network in Chile. The prior violation of their rights may have contributed to the issue, particularly affecting young females in late adolescence with indicators of depression, who require specialized intervention due to the high risk detected.

Keywords

Covid-19; Chile; adolescents; mental health; suicidal behaviour; gender

Introduction

Suicide is one of the leading causes of death among young people, according to the World Health Organization. Globally, suicide is the fourth leading cause of death among individuals aged 15 to 29, with approximately 700,000 people taking their own lives each year [1]. According to the Suicide Mortality Report in Chile from 2010 to 2019 [2], the suicide rate was higher in the male population than in the female population, affecting 181 young people aged 10 to 15 and 1100 young people aged 15 to 19.

A recent meta-analysis study on suicidal behaviour in children and adolescents [3], covering studies published between 1989 and 2018, shows a 12-month prevalence of 14.2% for suicidal ideation, 7.5% for suicidal planning, and 4.5% for suicide attempts. The authors observed a higher prevalence of suicide attempts in the past 12 months in middle- and low-income countries, at 6.9%, compared to developed countries, which had a prevalence of 2.8%. Disaggregated by continents, the prevalence of suicidal behaviour was highest in Africa at 16.3%, followed by Asia at 5.8%, Europe at 3%, and North America at 3%, and it was lowest in Australia at 2.4%.

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The risk factors associated with adolescent suicidal behaviour are numerous, and no single theoretical model or predictor can fully explain the complexity of the phenomenon. A review study [4] highlights elements related to the genetics and neurobiology of young people, as well as the importance of family relationships, especially when they are conflictive and the young people have experienced adverse events such as the death of a caregiver. Sexual, physical, and emotional victimization are also associated with a higher risk of suicidal behaviour, along with poor peer relationships. Mental health problems, linked to affective disorders and substance use, are also significant variables in juvenile suicidal behaviour, as well as personality traits such as impulsivity and perfectionism.

There is a clear correlation between suicidal behaviour and mental health, which can be significantly affected by situations of disasters or pandemics [5]. Pre-existing symptoms of depression or anxiety [6] can be exacerbated by experiencing a pandemic, especially due to the social and political effects that it causes, such as quarantines and periods of home confinement [7].

One of the strictest lockdowns in the world took place in Chile from March 15 to September 30, 2020, as a result of the coronavirus disease (Covid-19). During the period, mobility and free movement were completely restricted, leading to the closure of educational establishments and workplaces. Throughout the year, 35 adolescents died by suicide in the country. Of these, 16 did so between March 25 and September 30 [Ministerio de Salud, Gabinete Ministerial, Unidad de Transparencia, personal communication, 25/04/2023], the period of strictest lockdown related to Covid-19.

Regarding the mental health of young people in the pandemic context, symptoms of depression or mood disorders, as well as anxiety, stress, or distress, externalizing symptoms, self-harm, and suicidal behaviour emerged strongly [8]. Home confinement and weakened, restricted social connection had a significant impact on the mental health of adolescents, with a notable difference in the female gender, which showed heightened symptoms of concern and anxiety [9].

There was a significant increase in suicides during the first year of the Covid-19 [10] pandemic in the age groups of 5–12 years and 13–17 years. In addition, a study has reported an increase in suicidal ideation [11] related to the presence of symptoms of anxiety and depression, reaching 32% in surveyed students. Another international study [12] has analysed 37 suicides of teenagers in different countries around the world during the pandemic, mainly in India (11 cases), the United Kingdom (8 cases), and the United States (6 cases). The majority were male victims (57%), with self-inflicted suffocation being the most common method. Factors related to suicide included a depressive mood, feelings of loneliness, generalized distress, academic stress, and in some cases, addiction to social media, specifically the TikTok social network. Mental health was a relevant factor in suicides during the pandemic [13], as 63% of young people who died by suicide had received mental health care in the past. Of these, 38% were on pharmacological treatment, 23% had a diagnosis of anxiety, and 43% had depression. The authors conclude that the deaths of 74% of the young people who died by suicide in 2020 were directly related to the consequences and effects of Covid-19. In Spain, a study [14] involving 163 surveyed youths aged 14 to 17 showed that 28.8% reported suicidal ideation, 22.6% reported having planned suicide, and 7.4% reported having attempted suicide in 2020 after the onset of the pandemic.

In this regard, suicidal behaviour in the underage population during the pandemic appears to be related to specific factors linked to the particular needs of this stage in life. Among the reasons to which the phenomenon has been attributed are depressive symptoms, isolation, problems with family and peer groups, stress, and anxiety, as well as the existence of vulnerable groups such as the lesbian, gay, bisexual, transexual, and other gender population (LGBT+) [15]. Previous mental health problems and the interruption of social contacts and relationships are highlighted factors [16]. Regarding the use of social media in the context of Covid-19, research has shown that reports of a "celebrity" suicide on Twitter have a high impact on the adolescent population, potentially leading to suicidal ideation, planning, and attempts [17].

International evidence shows that suicidal behaviour in adolescents increased significantly in most countries during the pandemic, although the relationship between the period in question and the suicide phenomenon is more complex. In this sense, there is a study [18] reporting a 50% decrease in the incidence of suicidal behaviours during lockdown, which has various dimensions from social, relational, and family perspectives. The reduced or increased educational burden and the strengthening of family ties during home confinement contributed to the decrease. Evidence has also been found regarding the effects of the first wave of Covid-19 and the closure of educational establishments, during which there was no increase in suicidal behaviour in young people, and it was their family relationships that contributed to withstanding the psychological effects of the pandemic and lockdown [19].

While studies on suicidal behaviour in adolescents from at-risk groups, such as those with mental health problems, are scarce, they do also show an increase during the pandemic. They demonstrate the difference in suicidal behaviour before and after the Covid-19 pandemic in a sample of 189 young people admitted to psychiatric centres. Of these, 47.2% reported that suicidal behaviour was directly related to the effects of the pandemic, more precisely with elements such as the lack of satisfaction of basic needs, economic problems, intra-family conflicts and violence, inability to attend community or school events, and concerns about contracting Covid-19, among other factors [20]. The conflicts that emerge in the pandemic context are multiple and varied. Among them stand out a high presence of intra-family conflicts (63%), isolation due to lockdowns (65%), inability to leave home (79%), inability to see important people (75%), and concern about the contagion of important people (75%) [20].

In Chile, studies have focused on assessing indicators of emotional distress in children and adolescents during the pandemic. For instance, a study involving 4772 parents and caregivers of children aged 4 to 11 [21] detected a 20.6% increase in symptoms of distress during the pandemic, such as concentration problems, distrust, loneliness, general fatigue, fear, restlessness, anger, pessimism, confusion, sadness, changes in appetite, stomach aches and headaches, among other issues. Another study with similar characteristics [22] surveyed 3570 students aged 10 to 18 and found significant symptoms of loneliness (49.9%) and fear (47.0%) during the period of school closures. However, there are currently no studies conducted on suicidal behaviour in Chilean youth in the context of quarantine and confinement due to Covid-19.

Based on the review conducted above, an exploratory study on suicidal behaviour in Chilean youth attended by the during the context of lockdowns is proposed. A primary hypothesis is that a prevalence of suicidal behaviour similar to that found in other countries during the same period but higher than previously observed in Chilean youth will be obtained. It is also hypothesized that there is a positive association between indicators of depression or anxiety and suicidal behaviour, as well as between suicidal behaviour and female gender.

The present study aims to analyse the prevalence of suicidal behaviour in the context of the Covid-19 pandemic among a high-risk group, namely Chilean youth aged 14 to 17 who are participants in the National Service for Minors (SENAME)/National Service for Specialized Protection of Children and Adolescents (Mejor Niñez) network. The network specializes in providing care to children and adolescents who have experienced violations of their rights and are enrolled in various outpatient care projects. As a secondary objective, the study intends to explore the relationship between sociodemographic characteristics and indicators of mental health (depression and anxiety) and suicidal behaviour (ideation, planning, and attempts).

Materials and Methods

Design

The study followed a quantitative, cross-sectional, self-report design using an online survey. A random sampling was conducted among young people being served by various projects of the Protection Network of the National Service for Minors (SENAME) and the National Service for Specialized Protection of Children and Adolescents (Mejor Niñez). The two organizations are responsible for formulating and coordinating public policy regarding childhood in Chile, focusing on promotion, protection, and restoration of rights through various programs, including residential projects, outpatient interventions, diagnostics, and prevention.

Participants

The sample consists of 125 young residents in Chile, of both sexes, aged between 14 and 17 years, inclusive, participating in outpatient projects provided by the protective network of SENAME/Mejor Niñez. The sample was randomized through a mass invitation sent out via the various regional directorates of the service, as well as from the Foundation Crea Equidad, a private institution that works directly with children and adolescents in different outpatient intervention programs. They urged their teams to participate in the present study.

Procedure

Initial contact was made with the official organizations above, who provided their support for the study through a letter. The research was authorized by the national director of the National Service for Minors (SENAME) and the national director of the National Service for Specialized Protection of Children and Adolescents – Mejor Niñez in the year 2021, and it also had the support of the management of the Foundation Crea Equidad. Established in 1990, SENAME was the agency responsible for public policy and work related to child protection and juvenile criminal justice. It functioned in this capacity until

September 30, 2021. Mejor Niñez, a new service dedicated solely to specialized child and adolescent protection work, assumed these responsibilities on October 1, 2021. For this purpose, they have reformulated the entire program offering aimed at the care of their target population.

The study has been governed by the basic ethical principles of the Helsinki Declaration concerning ethical principles for research involving human subjects [23].

Before starting the survey, a brief overview of the study was presented to both the guardians and the participants on the response platform, and explicit informed consent was requested. Both parties had to accept the conditions of the study and digitally sign for the young people to respond to the survey.

The inclusion criteria to participate in the study were to be between 14 and 17 years old, to live in Chile in any of its 16 regions, to have read the explanation of the study and want to participate voluntarily, to be participating or enrolled in an outpatient project of the SENAME or Mejor Niñez network, and to give consent. On the other hand, young people presenting acute symptoms or complex psychopathological conditions were excluded. Both criteria were evaluated by the teams responsible for psychosocial intervention, who ensured that the participation of young people met the criteria. In case of detecting situations of abuse, violence, or mistreatment in the context of the sample collection, the researcher had an obligation to report it through the protocols set out for such purposes. Risk communication was also activated in situations of suicidal ideation and behaviour. The situations were reported directly to the technical units of the programmes in which the young people were involved. The units in question are organizations that collaborate directly in childhood public policy in Chile.

Data collection began on April 19, 2021, and concluded on January 7, 2022. Participants took a variable amount of time to respond to the survey, ranging from 5 to 15 minutes.

Instruments

The data collection protocol was created by the Child and Adolescent Victimization Research Group (GReVIA) at the University of Barcelona and the organization Save The Children. It was administered through an online platform and contained the following sections:

Study Introduction

At the beginning of the survey, participants were informed about the general characteristics of the research. It was explicitly stated that participation was voluntary and would involve filling out a questionnaire about experiences lived from the beginning of the lockdown in March 2020 until the end of the lockdown in September of the same year and considering up to December during the transition period. It was also noted that the data would be confidential, except in cases where any of the responses posed a risk to the participant.

Sociodemographic Data

This section included data about the adolescent (e.g., gender, age, sexual orientation, and place of residence in the country) and family context (e.g., socio-housing characteristics, number of bedrooms in the family home, shared use of sleeping space, and having experienced Covid-19).

Anxiety and Depression

The self-report scale *DetectaWeb-Distress* [24] consists of 30 items, which assess problems related to emotional distress in childhood, including indicators of anxiety and depression. It is presented in a response format with four options: 0 = never, 1 = sometimes, 2 = often, and 3 = always. Three items were selected to assess depression history and three items to assess anxiety. For depression: "Have you felt depressed or very sad almost every day?", "Have you noticed less interest and/or motivation to do things?", "Have you thought that you are worthless?". And for anxiety: "Do you worry a lot about things like school, your friends, your health, the health of your family members?", "Do you worry about some things more than other kids your age?", "Are you worried about what will happen in the future?" The Cronbach's alpha for the total score of suicidal behaviour was 0.72 in the study.

Suicidal Behaviour

The self-report scale *DetectaWeb-Distress* [24] assesses problems related to emotional distress in childhood, including suicidal behaviour. It is presented in a response format with four options: 0 = never, 1 = sometimes, 2 = often, and 3 = always. Three items were selected to assess suicidal behaviour: "Have you ever thought about taking your own life?", "Have you ever thought about a way to attempt suicide?", "Have you ever attempted suicide?". The Cronbach's alpha for the total score of suicidal behaviour was 0.91 in the study.

Data Analysis

For the analysis of descriptive results, the statistical program R (Incorporated: R Core Team. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, 2021. Web. 20 Oct. 2021.) [25] was used, considering the variables of age, gender, and sexual orientation.

For the correlational analyses, the variables of gender and sexual orientation were considered. Sexual orientation included the heterosexual and LGBT+ options, which encompassed homosexual, bisexual, pansexual, asexual, other, and "prefer not to answer" responses. The variable of suicidal behaviour, comprising questions about suicidal ideation, planning, and attempts, was also included. Two types of analyses were conducted. First, a descriptive analysis of sociodemographic characteristics (age, gender, and sexual orientation) was performed. The sample was divided into two groups: those with and those without suicidal behaviour. Then, bivariate association measures or group comparisons were extracted between the variables and the presence or absence of suicidal behaviour. The chi-square test was applied for sociodemographic variables (age, gender, and sexual orientation), the *t*-test for comparing means for total anxiety and depression scores, and the Wilcoxon rank sum test for means of different groups (i.e., groups with and groups without suicidal behaviour). These were accompanied by the φ coefficient, Cohen's d, and η^2, respectively. Additionally, logistic regression analysis was conducted, identifying five variables that significantly contributed to the prediction of suicidal behaviour. For the first objective and logistic regression, the data were analysed using the statistical program STATA 16 (Incorporate: StataCorp. 2023. Stata Statistical Software: Release 18. College Station, TX: StataCorp LLC.) [26].

Results

The participants were aged between 14 and 18 years (M = 15.65; SD = 1.22). The majority were females (54%), heterosexual (69%), and primarily from the Metropolitan Region (73%), followed by Maule (9%) and Magallanes and Chilean Antarctica (4%). A smaller number of participants also came from the regions of Bío Bío, Araucanía, Aysén, Antofagasta, Ñuble, and Los Ríos. Table 1 shows their main sociodemographic characteristics.

Regarding socio-housing conditions, the young participants reported residing in single-story houses (66%), two-story houses (30%), self-built houses (3%), and government-provided houses (1%). The number of bedrooms varied, with 2% having one bedroom, 19% having two bedrooms, 24% having three bedrooms, and 18% having six or more bedrooms. Fifty percent of the young participants shared a bedroom with another person, ranging from one person (31%) to three people (6%). Regarding Covid-19 and infection, 29% of the young participants reported that a family member had contracted the virus, while 5% reported having no knowledge of it (see **Supplementary Tables 1,2**).

Prevalence of Suicidal Behaviour

Of the total sample (n = 125), a total of 117 youths (93.6%) responded to the questions about suicidal behaviour, and among them, 35 participants (29.9%) reported having engaged in some type of suicidal behaviour since the beginning of the lockdown period. As shown in Table 2, 29.9% reported having thought about taking their own life (suicidal ideation). Among them, 3.4% (4 youths) mentioned suicidal ideation "frequently". Suicidal planning reached 29.2%, with two youths reporting that they frequently and always had suicidal planning in their thoughts. Finally, 1.8% of the young participants reported having attempted to take their own life. Nineteen of them expressed that they had attempted to do so "sometimes", one "frequently", and one "always" (see Table 2).

Sociodemographic Characteristics and Psychological Distress in Groups with and without Suicidal Behaviour

Table 3 sets out the sociodemographic characteristics and psychological distress of groups with and groups without suicidal behaviour. As can be observed, there was a significant association between gender and suicidal behaviour (χ^2 (1) = 14.69; $p < 0.001$; φ = 0.35), which was more frequent in females (n = 32; 82.1%) than in males (n = 7; 17.9%). Similarly, a statistically significant relationship was observed between sexual orientation and suicidal behaviour (χ^2 (1) = 15.45; $p < 0.001$; φ = 0.36), being more frequent in the group of young people belonging to the LGBT+ community (n = 23, 53.5%), that the group of young heterosexuals (n = 20, 46.5%). There were no statistically significant differences in age (t (120) = 1.07) between the group with suicidal behaviour (M = 15.79; σ = 1.17) and the group without suicidal behaviour (M = 15.54; σ = 1.24).

Regarding socio-housing conditions, there was no association between the number of bedrooms and suicidal behaviour (χ^2 (5) = 6.34; p = 0.27). There was also no association with suicidal behaviour (χ^2 (1) = 2.69; φ = 0.1)

Table 1. Sociodemographic characteristics of the study participants.

Variable		*n* = 125	%
Age	14 years old	30	24
	15 years old	28	22
	16 years old	26	21
	17 years old	37	30
	18 years old	4	3
Gender	Male	52	42
	Female	68	54
	Trans	1	1
	Prefers not to respond	4	3
Sexual orientation	Heterosexual	86	69
	Homosexual	2	1
	Bisexual	17	13
	Pansexual	1	1
	Asexual	1	1
	Other	1	1
	Prefers not to respond	11	9

in cases where the bedroom was shared with someone else. There was no association with suicidal behaviour (χ^2 (1) = 0.10; φ = 0.95) among participants who responded regarding Covid-19 infection (29%) (see **Supplementary Table 3**).

Regarding symptoms of psychological distress, statistically significant differences were found between the group with and the group without suicidal behaviour in the total score on items of anxiety and depression (t (117) = –5.37; $p < 0.001$; d = –1.03) (see Table 3).

Regarding depression indicators, a statistically significant relationship was observed between feeling depressed or very sad and suicidal behaviour (z = –6.04; $p < 0.001$; η^2 = –0.10). Similarly, a statistically significant relationship was found when there is less interest or desire to do things (z = –3.47; $p < 0.001$; η^2 = –0.06) and suicidal behaviour. In the self-concept/self-esteem item, a statistically significant relationship was found between thinking that you are worthless and suicidal behaviour (z = –6.20; $p < 0.001$; η^2 = –0.11). In the item on anxiety indicators, showing more worries than other youths of the same age presents a statistically significant relationship with suicidal behaviour (z = –2.53; $p < 0.05$; η^2 = –0.04).

Discussion

This study highlights the high prevalence of suicidal behaviour among Chilean youth served by the protection programs of the SENAME/Mejor Niñez Network during the Covid-19 lockdowns. Of the sample, 29.9% reported suicidal ideation, 29.2% reported suicidal planning, and 18.2% reported suicide attempts, which are all percentages that exceed those reported internationally in samples of the general population during the same period [9,14,18,27].

In terms of sociodemographic factors, the specialized literature has highlighted gender as a prominent characteristic in understanding suicidal behaviour. Rates of suicidal ideation and attempts are often higher in females, while death by suicide is more common in males [28–31]. The results obtained in the present study confirm that it was young females who presented more suicidal ideation, planning, and attempts. A recent study with Chilean adolescents from the general population aged 10 to 19 years [32] has found similar results with a higher presence of suicidal ideation in females. Furthermore, being older than 14 years has also emerged as a significant variable.

It is worth noting that recent systematic studies at the international level have shown a change in the demographic profile related to suicides in the Covid-19 era, with an increase in suicides among young women compared to previous years [33,34]. This is particularly relevant in the population of the present study, as young females exhibit higher rates of suicidal ideation and attempts than their peers, and both factors are widely recognized in the scientific literature as precursors to suicide [35]. This finding underscores the need for continuous monitoring of the mental health of young women in these centres.

Table 2. Description of suicidal ideation, planning, and attempts.

		Total *n* (%)	Female *n* (%)	Male *n* (%)	*Rank sum test*	Effect
Suicidal ideation	Total	117	67	50	$z = 3.98$ ***	$\eta^2 = 0.14$
	Never	82 (70.1)	37 (55.2)	45 (90.0)		
	Sometimes	30 (25.6)	26 (38.8)	4 (8.0)		
	Often	4 (3.4)	3 (4.5)	1 (2.0)		
	Always	1 (0.9)	1 (1.5)	0 (0.0)		
Suicide planning	Total	117	67	50	$z = 3.41$ ***	$\eta^2 = 0.10$
	Never	83 (70.9)	39 (58.2)	44 (88.0)		
	Sometimes	32 (27.4)	27 (40.3)	5 (10.0)		
	Often	1 (0.9)	0 (0.0)	1 (2.0)		
	Always	1 (0.9)	1 (1.5)	0 (0.0)		
Suicide attempts	Total	116	66	50	$z = 3.43$ ***	$\eta^2 = 0.10$
	Never	95 (81.9)	47 (71.2)	48 (96.0)		
	Sometimes	19 (16.4)	17 (25.8)	2 (4.0)		
	Often	1 (0.9)	1 (1.5)	0 (0.0)		
	Always	1 (0.9)	1 (1.5)	0 (0.0)		

Note: Significance is indicated by asterisks *** $p < 0.001$. The total *n* is 125 participating youths, 8 of whom chose not to respond to the questions.

Regarding sexual orientation, it was found that young people belonging to the LGBT+ community exhibited a higher prevalence of suicidal behaviour, consistent with findings from rigorous reviews [36].

Socio-housing conditions were not related to the presence of suicidal behaviour in the sample population, which is consistent with another nationally-based study [28]. The earlier national study examined overcrowding conditions and suicidal behaviour but did not find statistically significant relationships between the two variables. In the earlier study, a low percentage of participants reported living in conditions of high (6%) and medium (11%) overcrowding, indicating that the conditions did not act as catalysts for suicidal behaviour. The percentages reported by the present study are consistent with the general Chilean population, as 13% of children and adolescents live in conditions of medium, high, or critical overcrowding [37].

On the other hand, the scientific evidence highlights that the mental health of young people may have been affected by the crisis resulting from Covid-19 due to the increase in psychosocial risk factors [6,8]. While the risk factors that can lead to suicide in adolescents are multiple and the explanatory model is complex [38], it is important to consider that many of them accumulated during the pandemic, creating a facilitating context for suicidal behaviour in many young people. For example, the closure of educational establishments and the disruption in peer relationships and age-appropriate activities would also have an impact on the mental health of young people, where secondary socialization plays a central role [21,22,39–41]. In this sense, our study highlights that suicidal behaviour was significantly more frequent in adolescents who reported feeling depressed or sad, as observed in studies conducted both before [19,42–45] and during the Covid-19 crisis [8,11,14]. Participants with anxious symptoms, that is, those who reported feeling more worried than other young people of the same age, also had a higher likelihood of exhibiting suicidal behaviours [9,14,27]. Additionally, it is important to highlight low self-esteem in young people as a factor to consider, as the present study illustrated with the item on feeling worthless.

Furthermore, the sample of the present study belongs to a high-risk group, as participants are involved in protection programs of the SENAME/Mejor Niñez Network, meaning that the young people involved have experienced some violation of their rights in their lives and are being accompanied by professional teams in the psychosocial, educational, or therapeutic fields. The projects in which they take part vary, but include reparative programs for experiences of abuse and child sexual abuse, educational programs, focused prevention programs, foster families, specialized intervention programs, and drug consumption programs. In all cases, young people share a situation of vulnerability, which surely has also influenced the risk of suicidal behaviour [46].

Table 3. Sociodemographic characteristics and psychological distress in groups with and without suicidal behaviour.

	Without suicidal behaviour $n = 78$		With suicidal behaviour $n = 39$		Statistical	Effect
	n	%	*n*	%		
Sociodemographic characteristics						
Gender						
Female	35	44.9	32	82.1	χ^2 (1) = 14.69 ***	$\varphi = 0.35$
Male	43	55.1	7	17.9		
Sexual orientation						
Heterosexual	64	81.0	20	46.5	χ^2 (1) = 15.45 ***	$\varphi = 0.36$
LGBT+	15	19.0	23	53.5		
	M or *Mdn*	SD or IQR	*M* or *Mdn*	SD or IQR	Statistical	Effect
Age	15.54	1.24	15.79	1.17	*t* (120) = 1.07	d = 0.20
Anxiety or depression	6.883	3.414	10.33	3.22	*t* (117) = –5.37 ***	d = –1.03
Feeling depressed or very sad	*Mdn* = 1	1	*Mdn* = 2	1	z = –6.04 ***	$\eta^2 = -0.10$
Less interest or desire to do things	*Mdn* = 1	2	*Mdn* = 2	1	z = –3.47 ***	$\eta^2 = -0.06$
Thinking that you are worthless	*Mdn* = 0	1	*Mdn* = 1	1	z = –6.20 ***	$\eta^2 = -0.11$
Worry about school, friends, health, or family	*Mdn* = 2	2	*Mdn* = 2	2	z = –0.91	$\eta^2 = -0.02$
More worries than others of the same age	*Mdn* = 1	2	*Mdn* = 1.5	2	z = –2.53 *	$\eta^2 = -0.04$
Worry about the future	*Mdn* = 1	2	*Mdn* = 2	2	z = –0.55	$\eta^2 = -0.01$

Note: Significance is indicated by asterisks * $p < 0.05$, *** $p < 0.001$. The Fisher-Freeman-Halton exact test was applied. For the resilience and anxiety items, the median (*Mdn*) is presented, and the accompanying value is the interquartile range (IQR). LGBT+, lesbian, gay, bisexual, transexual, and other gender population.

In this regard, the interpersonal psychological theory of suicide [47] provides an explanation for the possible reasons behind the high prevalence of suicidal ideation in adolescents in protection programs, based on the variables of perceived burden, or feeling like a burden to others, and thwarted belongingness, or lack of social connections and feelings of isolation. Regarding perceived burden, adolescents in protection centres may develop such a belief due to previous experiences of abandonment, abuse, or rejection, which can generate feelings of low self-esteem and lack of personal worth [48]. These negative experiences can lead adolescents to internalize the idea that they are not worthy of love or care, which can increase their likelihood of developing thoughts of being a burden to others. Regarding thwarted belongingness, adolescents in protection centres often experience interruptions in their family and community relationships, which can result in a sense of lack of belonging and connection. The lack of supportive relationships and meaningful bonds can generate feelings of loneliness and hopelessness, increasing vulnerability to suicidal ideation. It is important to note that these factors were not analysed in the present study, but do provide a plausible explanation for the high prevalence of suicidal behaviour in this particular group of young people. It would be of great interest to explore in future research the relationship between suicidal ideation and suicidal behaviour within this population. Specifically, it would be relevant to understand how these young people transition from contemplating suicide to carrying out an actual attempt, following theoretical models that address the transition from ideation to action [47,49,50].

A second theorization comes out of the integrated motivational-volitional model [51], which considers suicide as a behaviour that develops through three volitional phases: a pre-motivational stage, where the triggering factors of events, diathesis or predisposition, environmental influences, and life events are found; a motivational phase in which suicidal ideations and the formation of intentions are shaped, characterized by sensations, emotions, and thoughts that mould suicidal behaviour; and finally, a volitional or action phase, which translates into suicidal behaviour or attempt, mediated by the individual's impulsivity, implementation of intentions (planning the action or suicide attempt), access to the means to commit suicide, and exposure to the suicidal behaviour of others. Particularly in the present study, the pre-motivational phase may have been catalysed by the contextual elements imposed by the Covid-19 pandemic, such as changes in usual social interaction, school closures, reduced interaction with peers, reduced interaction space within the home, fear of contagion, or the uncertainty posed by the disease and its global spread. The feeling of entrapment posed by the model, combined with motivational and volitional moderators, may have created a conducive context for the formation of suicidal behaviour.

According to the results of the present study, it is evident that efforts need to be focused on the at-risk population served by the SENAME/Mejor Niñez Network, especially to assess the effects of the Covid-19 lockdown periods on mental health. Studies on suicidal behaviour in minors being served by the protection system are scarce in Chile and non-existent in their relationship with the pandemic. Therefore, greater attention must be paid to the issue, and intervention programs should be based on empirical evidence.

Conclusions

The present study has a small sample size, which prevents generalizing the results. However, it is important to consider the special conditions imposed on the research by the pandemic and, above all, by the lockdowns. Additionally, while the present study received approval from the national director of SENAME and the national director of the Specialized Protection Service for Children and Adolescents, the service was reorganized during the year that the sample was taken (2021) and a new approach to social policy in childhood was established in the country. This shift directly impacted the sample collection since the structure of the previous service (SENAME) changed and the new institution (Specialized Protection Service for Children and Adolescents – Mejor Niñez) entered into operation, leading to restructuring at all levels of public policy. Another possible limitation relates to the application of the self-report survey itself, which was online and required two informed consents: one from parents or legal guardians and another signed by the youths who wished to participate voluntarily in the study. This approach added significant complexity in that if a parent or guardian refused to allow their adolescent child to participate, the child could not do so despite their willingness, because in the national context, parents or legal guardians must authorize such activities for the youths in their care. It should be noted that the information was collected retrospectively just as it has been in other studies conducted on emotional distress after Covid-19 [52]. While the retrospective approach always poses a risk of recall bias, review studies have found that the retrospective evaluation of distress is a valid and reliable method to obtain information [53]. Furthermore, in the present study, the indicators of depression and anxiety were assessed through self-report, so they cannot be extrapolated to a clinical diagnosis of depression or anxiety, which is another limitation of the study. It is also worth mentioning that the scale used [24] is not specific for the evaluation of suicidal behaviour. However, the study sought to assess other emotional problems in the youths, so a broader instrument was chosen.

Finally, despite the limitations listed above, the study is pioneering in its field. To date, no other studies in Chile have focused on the mental health and suicidal behaviour of young participants in the SENAME/Mejor Niñez protection network during the pandemic. The results set out key elements concerning suicidal ideation, planning, and behaviour, which should contribute to generating situated and specific interventions in these areas within the current protection system.

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Author Contributions

NP designed the research study. NP provided help and advice on the adaptation of the instruments. ABV performed the research. ABV and ESS analyzed the data. All authors contributed to the drafting or important editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

Ethics Approval and Consent to Participate

The National Service for Minors (SENAME) and the National Service for Specialized Protection of Children and Adolescents – Mejor Niñez determined that the study met the criteria for a waiver of informed consent. All procedures performed in the study were in compliance with institutional guidelines and regulations. Before starting the survey, a brief overview of the study was presented to both the guardians and the participants on the response platform, and explicit informed consent was requested. Both parties had to accept the conditions of the study and digitally sign for the young people to respond to the survey.

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Conflict of Interest

The authors declare no conflict of interest.

Supplementary Material

Supplementary material associated with this article can be found, in the online version, at https://doi.org/10.62641/aep.v52i4.1622.

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