Monitoring suicide and psychological distress among young people in Switzerland during the COVID-19 pandemic

MASTER'S THESIS

To obtain the academic title

Master in Human Medicine

Submitted by

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Fribourg 2025

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UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG

ACKNOWLEDGEMENTS

This Master's thesis would not have been possible without the support and encouragement of many people, to whom I would like to express my warmest thanks.

I am particularly grateful to my supervisor, Professor Stephanie Baggio, for her kind guidance, invaluable advice and availability throughout the development of this work.

I would like to express my deepest gratitude to my close circle of family and friends, who have supported me with kindness throughout this academic adventure, and well beyond, since the beginning of my medical studies.

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ABSTRACT

OBJECTIVE

The COVID-19 pandemic had an important impact on people's lives. Mental health has been severely impacted, especially among young people, who have been identified as a vulnerable group. However, studies about mental health and suicide during this period have inconsistent findings. The overarching goals of this study were twofold: 1) to investigate whether there were increases in psychological distress and suicide rate among young people (aged 15-25) after the beginning of the COVID-19 pandemic, and 2) to estimate the suicide rate in the same age group over time in Switzerland. A third aim was to describe the suicide rate in other age groups in Switzerland.

METHOD

For the first objective, a literature review was conducted on trends in psychological distress and suicide rates in young people during the COVID-19 pandemic. Various databases such as PubMed, Medline, Embase and Psychnet were exploited. To describe the trends in suicide rate in Switzerland (second and third objectives), statistics from the Swiss Federal Statistical Office, covering 1969 to 2022, were taken. We used descriptive statistics and time serie analyses to describe trends.

RESULTS

Most of the studies indicated an increase in psychological distress among young people during the COVID-19 pandemic, with for example higher levels of depression and anxiety compared to the pre-pandemic period. On the contrary, findings on suicide rates are more mixed. While research from countries like Japan and the USA highlights a rise in suicides among young people, others, including several in Europe, are showing a stable/decreasing suicide rate. Analyses of Swiss data on deaths by suicide among people aged 15 to 19 revealed no increase during the pandemic period ($b=-0.250$, $p<.001$). The same results were found for the 20-24 age group ($b=-0.874$, $p<.001$) and for all ages ($b=-0.520$, $p<.001$)

CONCLUSION

Our findings show that despite the increase in psychological distress among young people, the suicide rate in Switzerland, across all age groups, has remained stable and even continues to decline. It is crucial to monitor the long-term effects of the pandemic, with a key priority being to provide support for youth through accessible infrastructure, early screening, and preventive measures.

1. INTRODUCTION

The COVID-19 pandemic has led to major global changes, particularly due to the protective measures implemented worldwide. In Switzerland, in March 2020, the government introduced a lockdown that included school closures with the transition to online learning, office shutdowns in favor of remote work, stringent social distancing and quarantine guidelines. This disruption has contributed to heightened psychological distress, largely due to an imbalance between stress factors (e.g., government-imposed restrictions, fear of illness, isolation) and protective factors (e.g., supportive family relationships, time spent with friends) (1,2).

The pandemic has thus generated considerable stress, challenging individuals to maintain a balance without succumbing to anxiety, depressive symptoms, sleep disturbances, and other mental health concerns (1). The impacts on health have been important, especially on the psychological well-being of young people, who have been identified as a more vulnerable group compared to the general population (1). Due to their developmental stage, adolescents and young adults are at greater risk of experiencing elevated psychological distress, suicidal ideation, and even suicide (3). Studies have shown that adolescent girls, for instance, have reported increased depressive symptoms, while adolescent boys have reported heightened family conflict (4). A primary source of distress for young people has been the lack of social interaction, with lockdowns and school closures severely limiting their ability to connect with friends (4). Despite this, some individuals have demonstrated resilience during the pandemic, benefitting from feelings of gratitude, a lighter workload, or an opportunity to strengthen close relationships (1).

In this context, examining trends in suicidal behavior is particularly important. The unique pressures of the pandemic could potentially increase suicide risk (5); however, evidence is mixed. Some studies suggest a rise in suicides (5), while others report stable or even declining rates (6). With regard to psychological distress, an increase was observed in many countries, with a rise in depression and anxiety symptoms among young people during the COVID-19 pandemic (3). Globally, suicide remains a major public health issue and is the fourth leading cause of death among young adults (5). Interestingly, despite increased mental health challenges, youth suicide rates in Switzerland appear to have decreased (1,7).

The existing literature on these topics is often contradictory, underscoring the need for further research to clarify these findings. This study aims to address this gap and contribute to a clearer understanding of the mental health impacts of the pandemic on young people.

2. OBJECTIVES

The primary aim of this study was to investigate whether there were increases in psychological distress and suicide rate among young people (aged 15-25) after the beginning of the COVID-19 pandemic. (Objective 1).

Secondly, we aimed to estimate the suicide rate in the same age group over time in Switzerland. (Objective 2). Our hypothesis was that while psychological distress has worsened within this age group, suicide rates have not risen and may continue to follow a downward trend.

Finally, we described the suicide rate in other age groups in Switzerland to determine whether similar trends were observed beyond our primary age group of interest (Objective 3).

3. METHOD

3.1. Search strategy

For the first objective, a literature review was conducted on description of changes in psychological distress among young people after the beginning of the COVID-19 pandemic. The research also addressed differences in suicide rates during the same period. Various sources were drawn from multiple databases, including PubMed, Embase, Medline, and Psychnet, between April and May 2024 with an update in January 2025. The keywords used were: "COVID-19, SARS-CoV-2, pandemic, coronavirus, young people, youth, suicide, teenagers, adolescents, children, young adults, mental health, anxiety, psychological distress."

3.2. Selection criteria, article screening and extraction

A first selection of relevant articles was made by reading the titles and the abstracts to see which ones met our inclusion criteria. We included all the studies that highlight the change in psychological distress in adolescents and young adults during the COVID-19 pandemic. We accepted all kinds of studies: literature review, systematic reviews, cross-sectional survey, longitudinal studies. Articles that analyzed the evolution of suicide since the beginning of COVID-19 were also included. Due to the lack of current studies focusing on Switzerland, the literature review was not centered on the Swiss context but rather discussed what was happening in different countries. We excluded studies that were focused on very specific populations such as: healthcare workers, senior citizens, or young people with diagnosed psychiatric disorders. Articles from predatory journals have also been excluded. After a first selection by the abstracts, articles were read in full, and a choice was made to keep the most relevant. The most relevant research included meta-analyses, studies conducted in Switzerland, and those comparing the period before and during COVID-19.

3.3. Data analysis

For objectives 2 and 3, statistics from the Swiss Federal Statistical Office were used to describe suicide rate trends in Switzerland between 1969 and 2022. Numbers of death from suicide were extracted focusing on data from the 15-19 and 20-25 age groups, though data from the entire population were also explored. Descriptive statistics and time series analysis were used to examine the different trends. For time series analyses, we examined trends using linear regressions with bootstrapped standard errors (1,000 replications) to assess linear, quadratic, and cubic trends in the data. To visualize these trends, we applied the Hodrick-Prescott filter together with moving averages defined by a backward and forward lag of 2, including the current observation. This model was selected based on the log-likelihood criterion and all analyses were performed in Stata 18.

3.4. Ethics statement

No formal request to the cantonal ethics Committee was required, as the data used was aggregated and anonymized.

3.5. Role of the funding source

There was no funding source for this study.

4. RESULTS

The articles cited in this section are listed in the Appendix on page 16.

4.1. Psychological distress during the COVID-19 pandemic

Most studies indicated an increase in the prevalence of depression and suicidal ideation among young people after the start of the COVID-19 pandemic. A systematic review, based on 116 studies including a total of 123'923 participants (aged 0-18 years), concluded that the COVID-19 pandemic had serious consequences on psychological distress, with most studies reporting an increase in anxiety, as well as higher rates of depressive symptoms and stress (3). Another systematic review, based on 61 studies including 54'999 participants (aged 0-18 years), focused on individuals under 19 identified anxiety and depressive symptoms as two primary mental health consequences of the pandemic, with over 50% of studies reporting an increase in these issues (8). The prevalence of psychological distress among young people was estimated to have risen from 10% to 27%, among teenagers (8). A study from the UK found that while the prevalence of depression did not change drastically before and during COVID-19, the incidence of anxiety doubled (9). An Australian study examined mental health decline among young people aged 13 to 16 by using online surveys from 2016 to 2020 and noted an increase in depressive symptoms between the pre-pandemic period and two months into the pandemic. Similar results were observed for anxiety and overall life satisfaction (4). Another study from Australia found that most young people aged 16 to 25 reported a decline in their mental health. Fifty percent of them experienced symptoms consistent with depression or anxiety which were higher than rates reported by adults (10). A cross-sectional survey conducted in Switzerland found that about 30% of adults experienced psychological distress and that 50% reported specific mental health problems (such as loneliness, anxiety, and depression) between March and April 2020 (11). Another Swiss study led by Quervain showed an increase in stress levels from the beginning of lockdown until the gradual relaxation of restrictions. These results are comparable to those from Italy, Spain, and the UK during the first wave. Additionally, Pro Juventute reported an important increase in help requests from young people between October and December 2020, along with a 40% rise in child psychiatry consultations (8). A retrospective study in Zurich observed that, after an initial decrease in mental health visits during the first lockdown, such visits increased and have since stabilized but at higher levels than before the pandemic (12). Calls to support services doubled from 2019 to 2021, and child psychiatric services were overwhelmed until mid-2021 (12). Another study, focused on adolescents in New York, found an increase in generalized anxiety and social anxiety due to the restrictions and confinement imposed by the pandemic (13). In summary, this study suggests that COVID-19 had various negative impacts on young people's mental health, at least in the U.S.

However, a few studies in the first aforementioned systematic review revealed a decrease in depressive symptoms (3). Some studies reported that a small proportion of young people experienced positive impacts on their mental health during the pandemic (14). A certain level of stress can be considered a normal reaction to a pandemic. In Switzerland, during the initial phase, some people reported higher life satisfaction and lower stress levels, but as the pandemic wore on, their well-being began to decline (1). In Geneva, a cross-sectional study involving adolescents aged 14-17 found that 1 in 7 reported suicidal ideations during the pandemic, a rate consistent with pre-pandemic levels, while 1 in 4 reported psychological distress (5). Therefore, the effects of the pandemic remain complex: while 77% of these young people reported negative impacts, many also noted some positive aspects (10).

In almost all cited studies, the groups most at risk for psychological distress include young people, women, individuals with pre-existing psychiatric disorders, and those facing socioeconomic challenges (9). One of the systematic reviews highlights that adolescents and females are the most affected by depression and anxiety due to the pandemic (8). In Japan, studies echoed similar findings: psychological distress among individuals aged 19-20 increased from December 2019 to July 2020, particularly among

young women, before slightly decreasing in December 2020 (15). The New York study also showed that school-related concerns led to higher levels of depressive symptoms, especially among girls (13). A Kansas study conducted from June 2019 to June 2020 found a higher rate of positive screenings for suicide risk among youth aged 12-24 in 2020, with girls constituting the majority (6). The cross-sectional survey in Switzerland found that the youngest adults (aged 18-29) were the most touched by psychological distress (11). From the same perspective, a study conducted in April 2020 in the USA found that, since the start of the pandemic, anxiety, depression, and insomnia increased, affecting teenagers more than adults (16).

4.2. Suicide during the COVID-19 pandemic

Studies on the variation in suicide rates during the COVID-19 pandemic present mixed findings. Some studies noting an increase in suicides attribute this to reduced access to mental health emergency services. For instance, pediatric consultations in North Carolina declined by 45% within a year, leading to fewer depression screenings (16).

The meta-analysis based on 61 studies concluded that the rate of self-harm, suicidal ideation, and suicide attempts generally increased between November 2019 and May 2020 (8). In the USA, a survey found that, during the summer of 2020, 50% of young people reported experiencing depressive symptoms, over 30% had considered suicide, and 2% had attempted suicide (16). Data from the Centers for Disease Control and Prevention (CDC) showed a similar trend in emergency room visits for suicide attempts: a 22.3% rise between July and August 2020 and a 39.1% increase from February to March 2021 compared to 2019 levels. The increase was particularly marked among young girls. Northern California data also indicated a similar impact on young females, though other studies report a higher rate of suicide attempts among young males. The periods with the largest spikes in suicide attempts often align with school closures, when feelings of loneliness and isolation were especially pronounced. A study in Wisconsin (17), covering January 2019 to September 2021, reported an increase in emergency department visits for suicide attempts among youth aged 12-25, comparing 2019 to 2021. Visits initially declined from 2019 to 2020, then began to rise in mid-2020. Among females aged 12-17, visit rates increased from 30% to 48% within a year. Additionally, Black youth showed higher visit rates for suicide attempts than other ethnicities, underscoring the need for targeted mental health support for this group. The US has shown an increase in suicide rates, emphasizing the importance of preventive measures.

A broader analysis of government suicide data from January 2019 to July 2020 across 21 countries indicated that suicide rates remained stable or decreased in the early months of the pandemic. In 12 out of these 21 countries, the rates continued to decline. However, in Japan, the trend differed, with suicide rates five times higher among men than women (15). In South Korea, a study tracking trends in suicidality among adolescents aged 13-18 noted a decline from 2005 until just before the pandemic in 2019. Rates then rose from 10.7% in 2019 to 12.5% in 2021 (18). Similarly, in Japan, suicide rates among 10 to 19-year-olds increased during the pandemic, first rising in June 2020, stabilizing to pre-pandemic levels by December, and then increasing again in 2021 (2).

On the contrary, according to the survey "Global Trends in Youth Suicide from 1990 to 2020," which analyzed data from the World Health Organization (WHO) mortality database (7), youth suicide rates in Europe generally showed a decline despite the COVID-19 pandemic, except in the UK. However, given the short time since the pandemic's peak, these findings require cautious interpretation. In Switzerland, a Federal Office of Public Health (FOPH) study found that although suicides did not increase, demand for mental health resources and care for suicidal behaviors surged. Child psychiatric services became overwhelmed, and crisis services like La Main Tendue and Pro Juventute were heavily utilized. International data generally aligns with these findings, showing stable or decreased suicide rates (1). This was also reflected in a study using data from 21 countries which shows that the suicide rate in affluent and upper-middle-income nations remained fairly stable and even fell in the first few months of the pandemic (19).

4.3. Data analysis

We analyzed data from the Swiss Federal Statistical Office on the numbers of death from suicide. This has enabled us to produce curves representing the suicide rate for different population aged groups. *Figure 1* focuses on young Swiss aged 15 to 19. This figure shows that despite variations between years, the suicide trend first increased from 1969 to the 1980s, then decreased and fell below the 1969 threshold. There were significant linear, quadratic and cubic trends (see first panel of Table 1). The linear trend was negative (b=-0.250, p<.001), meaning that the suicide rate declined over time. The quadratic trend was also negative (b=-0.02, p=.03), meaning that the decline rate increased over time. The cubic trend was positive (b=0.001, p<.001), meaning that there was a S shape, with a temporarily increase and the acceleration of the decrease slowing down. Regarding our period of interest, i.e. the COVID-19 period, we can see that the suicide rate has not really increased but rather remained stable since 2010. This shows that, for the time being, the COVID-19 pandemic would have no impact on the rate of suicide in this age group.

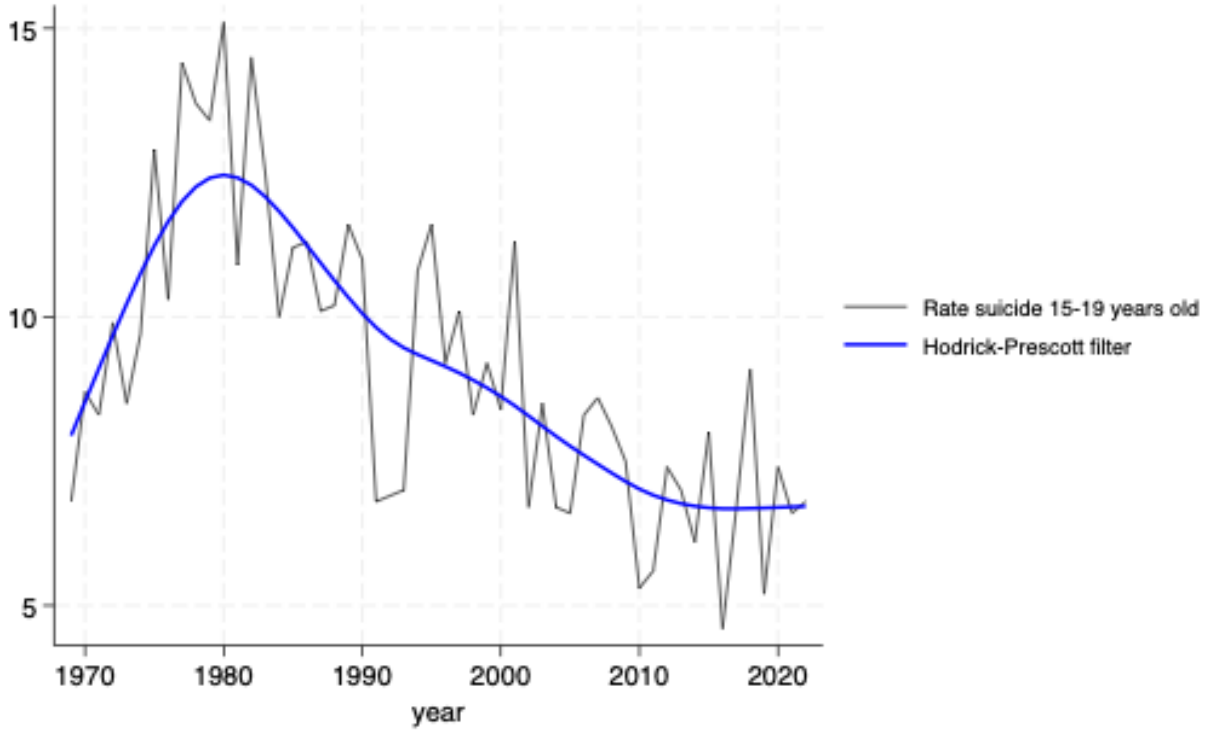

Figure 1. Rate of suicide for 15-19 year per 100'000 inhabitants

	Coefficient (b)	p	95% CI
	Subgroup 15-19 years old		
Linear trend	-0.2504	<0.001	-0.3200; -0.1808
Quadratic trend	-0.0024	0.03	-0.0045;-0.0023
Cubic Trend	0.0003	<0.001	0.0002;0.0004
	Subgroup 20-24 years old		
Linear trend	-0.8741	<0.001	-1.0046;-0.7436
Quadratic trend	-0.0962	<0.001	-0.0132;-0.0060
Cubic trend	0.0011	<0.001	0.0008;0.0014
	Subgroup all ages		
Linear trend	-0.5200	<0.001	-0.5557;-0.4844
Quadratic trend	-0.0059	<0.001	0.0071;-0.0048
Cubic trend	0.0005	<0.001	0.0004;0.0006

CI : confidence interval

Table 1 : Results of the regressions

Figure 2 shows the trend in suicide rates among slightly older young people, i.e. those aged 20 to 24. The curve is very similar to *Figure 1*, with an initial increase until the 1980s, followed by a decrease that looks set to continue after 2020. Once again, there is no major peak between 2019 and 2022 for this age group, which corresponds to the period of the pandemic. There were significant linear, quadratic and cubic trends (see second panel of Table 1). The linear trend was negative (b=-0.874, p<.001), meaning that the suicide rate declined over time. The quadratic trend was also negative (b=-0.096, p<.001), meaning that the decline rate increased over time. The cubic trend was positive (b=0.001, p<.001), meaning that there was a S shape, with temporarily increase and the acceleration of the decrease slowing down.

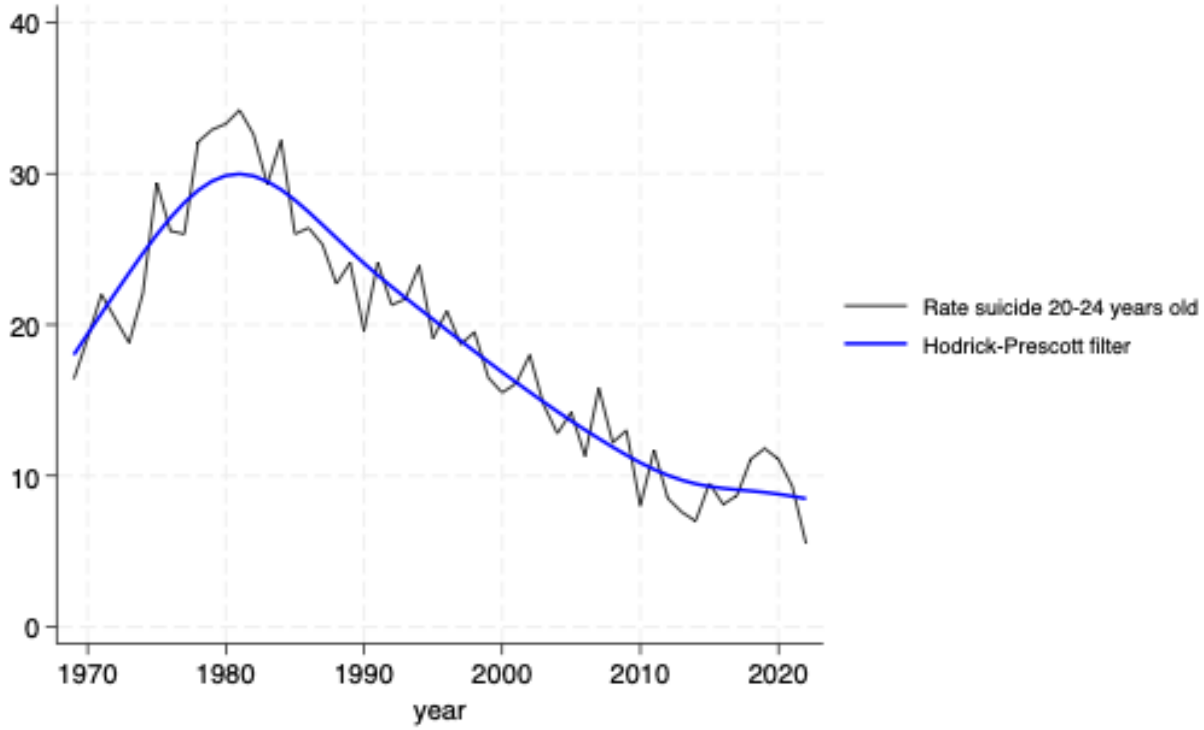

Figure 2. Rate of suicide for 20-24 year per 100'000 inhabitants

Finally, we also examined the variation in suicide rates in the entire population as shown in *Figure 3*. The curve representing suicide rates is like the first two figures. There were significant linear, quadratic and cubic trends (see third panel of Table 1). The linear trend was negative (b=-0.520, p<.001), meaning that the suicide rate declined over time. The quadratic trend was also negative (b=-0.006, p<.001), meaning that the decline rate increased over time. The cubic trend was positive (b=0.001, p<.001), meaning that there was a S shape, with temporarily increase and the acceleration of the decrease slowing down. The highest point on the curve was again around 1980, followed by a decline to the present day.

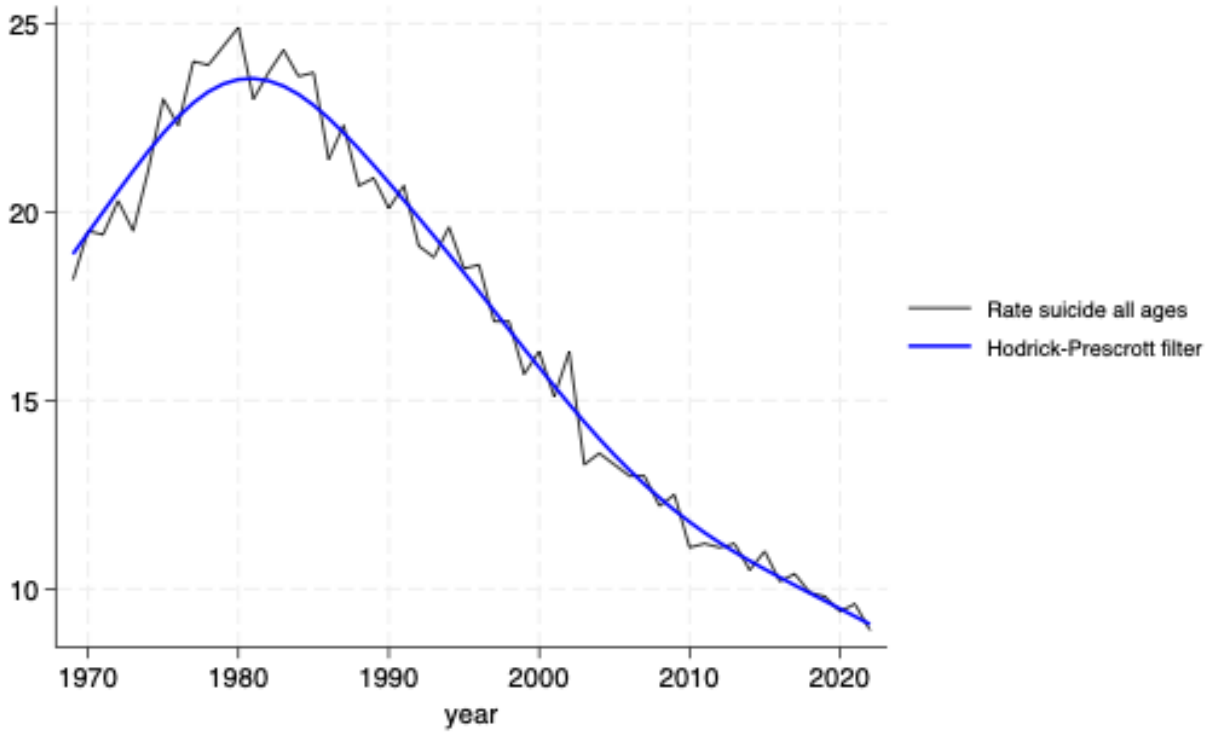

Figure 3. Rate of suicide for all ages per 100'000 inhabitants

5. DISCUSSION

This study had three main objectives: to analyze changes in psychological distress and suicide rates among young people during the COVID-19 pandemic (objective 1), to examine trends in suicide rates among 15–25-year-olds in Switzerland (objective 2), and to describe changes in suicide rates in the Swiss population as a whole, over the same period (objective 3).

The COVID-19 pandemic has had a major impact on people's lives, especially on young people, who have been identified as a higher-risk group (1). For the first objective, most studies we identified in the literature review highlighted that psychological distress, depression and anxiety increased in young adults (3,8). Regarding the suicide rate, the fourth leading cause of death among young people worldwide (5), the findings from the studies in the literature review are more various. Some studies suggest an increase in suicide attempts between 2019 and 2021, as reflected in the rise in emergency room visits for this reason (16,19). This finding is mainly observed in research conducted in the United States. In contrast, other studies indicate stable or even declining suicide rates, particularly in Europe. In Switzerland, suicide remains the second leading cause of death among 15- to 29-year-olds. Regarding

the results of our second objective, which focuses on Switzerland, the findings are relatively similar for both age groups analyzed (15–19 and 20–24 years old). Official data show that the suicide trend in Switzerland has been declining since 1980 and has remained stable since 2010. Concerning the suicide rate in the overall Swiss population, which corresponds to our third objective, the results are consistent with the previous two. All these data indicate that the suicide rate in Switzerland, both for our target population and the general population, is stable or even declining. Our main findings align with those of the OFSP study cited in the results (1). The three figures presented in the results tend to validate our initial hypothesis, which is that despite the increase in psychological distress among a large proportion of young people during the COVID-19 pandemic, suicide rates among young people in Switzerland are stable or even falling. This discrepancy between psychological distress and suicide rates raises important questions, particularly regarding the factors that may explain why a rise in distress does not necessarily result in an increase in suicides.

One possible explanation is that in Switzerland, prevention campaigns, helplines, and online counseling services have proven to be effective in supporting young people. Various resources, such as La Main Tendue and Pro Juventute, reported an increase in requests for help and counseling during the pandemic (1). These support systems may have played a crucial role in assisting young people and reducing the risk of suicide in Switzerland compared to other countries where fewer preventive measures may have been implemented. Another possible explanation might be that access to psychiatric emergency services has improved, making it easier to detect psychological issues and, as a result, prevent their consequences (20). Early detection through screening allows for prompt intervention and treatment, reducing the likelihood that individuals will reach the point of attempting suicide. Moreover, strong family relationships and a solid social network emerged as protective factors during the pandemic. For some families, lockdowns provided an opportunity to strengthen bonds and improve parent-child relationships, which appears to have had a protective effect against suicide attempts (8). Another interesting explanation could be that while the stress caused by the pandemic undoubtedly increased psychological distress, this stress had already been rising for several years. Since this prior increase in distress had not necessarily led to a higher suicide rate in previous years, the pandemic may have simply intensified an existing trend without directly impacting suicide rates. A study conducted in the canton of Valais, Switzerland, showed that psychological distress among young people had already begun to worsen between 2002 and 2022, due to factors unrelated to COVID-19 (21). These included work- and school-related stress, which increased from 22% in 2002 to 37% in 2022, the influence of social media, and the growing prevalence of harassment, both in person and online. In the same vein, a global study about the impact of climate change on young people aged 16 to 25 across 10 different countries could also explain the increase in psychological distress (22). This population is particularly vulnerable to climate anxiety, with 59% of them considering themselves to be highly concerned about the subject and 84% at least moderately concerned. This anxiety causes them to feel a great deal of negative emotion, with an impact on their day-to-day lives and functioning, as well as a pessimistic vision of the future. This ongoing environmental crisis generates chronic and escalating stress, further intensified by a perceived lack of governmental action. As a result, this stress has become an important contributor to rising psychological distress. Furthermore, a report by *The Lancet Psychiatric Commission* concurs that the mental health of young people has been deteriorating steadily over the last two decades (23). It attributes this decline to factors already discussed, including climate change, digital media exposure, academic pressure, and unemployment. These studies tend to show that the increase in psychological distress is not solely attributable to COVID-19, rather, it is a pre-existing trend that the pandemic may have intensified. They also highlight the importance of implementing action and prevention strategies to improve the mental health of young people. However, although current data do not suggest an increase in suicide rates in Switzerland, it is also possible that the rise in psychological distress due to COVID-19 may have long-term effects on suicide rates, which are not yet visible. There could be a delay between the increase in distress and its potential manifestation in suicide cases. This is why it is crucial not to

focus solely on present findings but to continue monitoring the possible long-term effects on suicide rates.

5.1. Further implications

It would be wise to observe the long-term effects that the COVID-19 pandemic has had on the psychological distress of adolescents and on the suicide rates. It is also important to understand how the pandemic has impacted young people to provide support for at-risk groups in the event of another pandemic. One approach would be to reduce loneliness by maintaining social connection among young people with appropriate quarantine measures (20). Other measures could be implemented, such as counseling for families, as well as helplines and available infrastructures in case of need. (16) Reflecting on this will allow us, in the event of a future pandemic, to create policies that respect the physical and psychological well-being of young people (9). Furthermore, screening for suicidal ideation could help reduce suicide, which are a major cause of death among teenagers (5).

5.2. Strengths and Limitations

This study has several strengths and limitations. The main limitation of this study is that it included different studies, each with its own biases and limitations. First, the way in which the impact of the COVID-19 pandemic is measured varies from study to study. For instance, one of the studies used The Santé Québec psychological distress index (5), a 10-item self-report questionnaire to assess psychological distress, while other studies used the Kessler psychological distress scale (K6) (15), which contains 6 items, or the 13-item short mood and feelings questionnaire (SMFQ) (4,9). To be more precise, future studies could use the same standardized scale or questionnaire for comparing impairment of mental well-being so that they can be compared. In the same vein, there is no single definition of mental health, which can lead to a degree of heterogeneity in the results. A second limitation is that most studies on psychological well-being use self-reported results which are very subjective. Having a diagnosis made by a professional could reduce this subjectivity. In addition, studies have made extensive use of online surveys, which can also create a self-selection bias, as people who are worse off will be more likely to respond to the survey. A third limitation is that many of the studies cited are cross-sectional studies which do not necessarily make it possible to determine the sequence of events, making it difficult to establish cause and effect relationships. As suicides are often the result of multiple factors, it is difficult to disentangle the effect of the COVID-19 pandemic, even in longitudinal studies. Another limitation is that most of the studies were carried out in middle- or high-income countries, which means that the data could differ in lower-income countries. It would be relevant to conduct further studies to examine the variation in suicide rates among young people in these countries. In addition, the way in which suicide registers are organized varies from country to country, which may lead to misclassification or underestimation of cases, especially in countries with less reliable registries.

One of the strengths of our study is that the data used for Switzerland come from the Swiss Federal Statistical Office, a reliable source. Indeed, it registers and details the death of all people who live in Switzerland. Another strength is that our study did not include only cross-sectional studies but also longitudinal studies, which allowed comparisons of psychological distress in young people before and after the beginning of the pandemic. In addition, systematic reviews summarized the results of all available and eligible studies.

6. CONCLUSION

Psychological distress among young people increased substantially during the COVID-19 pandemic, in Switzerland as well as in many other countries. While the pandemic might have played a role, this increase could also be attributed to other key factors such as school pressure, climate change anxiety,

increasing use of social media and lack of family support. Despite this increase in psychological distress, the suicide rate among young people aged 15 to 25 in Switzerland has significantly decreased over the time and while the decline has slowed down in recent year, there is no proof of a post-pandemic increase. It is essential to anticipate and prevent negative consequences on the mental health of young people, while strengthening support mechanisms for those who need it most.

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APPENDIX

Author/ Year	Country	Age group	Psychological distress/Suicide	Results
Bell et al. (2023)	Australia	12-25	Psychological distress	Increase in depressive symptoms, anxiety, and psychological distress among young people during the COVID-19 pandemic, linked to loneliness and social isolation.
Berger et al. (2022)	Switzerland	Children and adolescents (not specified)	Psychological distress	Increase in visits to child and adolescent psychiatric emergency departments for reasons such as suicidal ideation and self-harm during the COVID-19 pandemic.
Bertuccio et al. (2024)	Worldwide (52 countries)	10-24	Suicide	High variability in suicide rates from 1990 to 2020, with a downward trend in European countries but an upward trend in other countries such as the UK and the US.
Bommersbach et al. (2023)	US	6-24	Psychological distress and suicide	Increase in visits to pediatric emergency departments for psychological reasons and suicide attempts, particularly among teenagers between 2011 and 2020.
Diaz Hernandez et al. (2021)	Switzerland	18-78	Psychological distress	A third of Swiss people reported a decline in their psychological well-being as a result of the COVID-19 pandemic, with young people, those living alone, and those in urban areas particularly affected.
Dumont et al. (2024)	South Korea	14-18	Psychological distress and suicide	Increase in suicidal ideation among Swiss adolescents, linked to social isolation and family conflict during the COVID-19 pandemic.
Fujihara et Tabuchi	Japan	Adolescent and young adults (not specified)	Psychological distress	Important increase in psychological distress from December 2019 to July 2020 among adolescents and young adults in Japan during the COVID-19 pandemic, especially among women, followed by a decrease in December 2020.
Goto et al. (2022)	Japan	10-19	Suicide	Increase in suicide rates among adolescents and young adults in Japan during the COVID-19 pandemic, with a higher rate in 2021 than pre-pandemic, linked to isolation and mental problems.
Hawes et al. (2021)	US	8-18	Psychological distress	Important increase in symptoms of depression and anxiety among adolescents and young adults during the COVID-19 pandemic, which particularly affected girls and was

				influenced by school closures and confinement.
Kwong et al. (2021)	UK	>18	Psychological distress	Increase in anxiety among young adults in the UK during the COVID-19 pandemic, with particular susceptibility in women.
Lantos et al. (2022)	US	12-24	Suicide	Increase in suicide risk among adolescents during the COVID-19 pandemic in the US.
Lau (2022)	Worldwide	Adolescent (not specified)	Psychological distress and suicide	Increase in suicidal thoughts and attempts, linked to social isolation and reduced access to mental health services, during the COVID-19 pandemic among young people.
Magson et al. (2021)	Australia	13-16	Psychological distress	Increase in psychological distress, and symptoms of depression and anxiety during the COVID-19 pandemic among young people, especially girls, with risk factors including social isolation, school pressure, and lack of family support.
McCoy (2022)	US	12-25	Suicide	Increase in emergency department visits for suicide attempts among young people in the US during the COVID-19 pandemic, especially among young Black and non-Hispanic White women.
OFSP (2021)	Switzerland	All ages	Psychological distress	Part of the Swiss population has not been affected by the COVID-19 pandemic, but more vulnerable groups such as children and adolescents have experienced an increase in psychological distress as a result of social isolation and stress.
Panchal et al. (2023)	Worldwide (Europe, Asia, Australia, America)	<20	Psychological distress	Increase in psychological distress, and symptoms of depression and anxiety among young people under 19 during the COVID-19 pandemic.
Pirkis et al. (2021)	Worldwide (21 countries)	All ages	Suicide	Analysis of suicide rates in 21 countries, showing that the rate has remained stable/decreasing in middle/high-income countries despite the increase in psychological distress during the COVID-19 pandemic.
Samji et al. (2022)	Worldwide	<19	Psychological distress	Increase in depressive and anxiety symptoms among young people under 19 during the COVID-19 pandemic, with an impact from population control measures such as social isolation.
Schwartz-Mette et al. (2023)	US	Adolescent (not specified)	Psychological distress	The loneliness induced by the COVID-19 pandemic has led to an increase in depressive symptoms and suicidal risks among adolescents.

Woo et al. (2023)	South Korea	13-18	Psychological distress and suicide	Decrease in sadness and suicide rates among Korean adolescents before the COVID-19 pandemic, followed by an important increase during the pandemic, especially among young people, women and people with low economic status.

Table 2: Characteristics of included studies