SUPRA Suizidprävention Austria

Eine Initiative des Bundesministeriums für Arbeit, Soziales, Gesundheit und Konsumentenschutz

Karolinska Institutet

Evidence-based suicide prevention strategies during and after the COVID-19 pandemic

Vladimir Carli, M.D., Ph.D.

Associate Professor of Psychiatry

Swedish National Centre for Suicide Research and Prevention of Mental Ill-Health

Co-director, WHO Center for Research, Training and Methods Development in Suicide Prevention

Karolinska Institutet, Stockholm, Sweden

E-mail: vladimir.carli@ki.se

Some socio-economic implications of the pandemic

Health concerns

Disrupted routines (e.g., remote working, school closures)

Social isolation

Increased family conflicts and domestic violence

Increased difficulties for people with special needs

Economic difficulties, unemployment

Increased inequalities

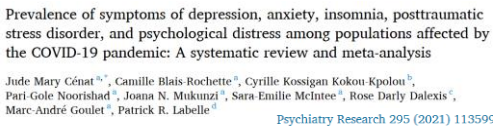
Uncertainaty about the future

Mental health impact

Anxiety
Stress
Sleep disturbances
Sadness
Helplessness
Depression
PTSD symptoms
Suicidal ideation

Vulnerable groups:

- COVID-19 patients and their relatives
- Elderly
- Healthcare workers (particularly nurses)
- Females
- Adolescents


Prevalence of symptoms of depression, anxiety, insomnia, posttraumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis

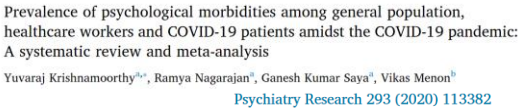
Jude Mary Cénat [a,*], Camille Blais-Rochette [a], Cyrille Kossigan Kokou-Kpolou [b], Pari-Gole Noorishad [a], Joana N. Mukunzi [a], Sara-Emilie McIntee [a], Rose Darly Dalexis [c], Marc-André Goulet [a], Patrick R. Labelle [d]

Psychiatry Research 295 (2021) 113595


Prevalence of mental health problems during the COVID-19 pandemic: A systematic review and meta-analysis

Tianchen Wu, Ph.D [a], Xiaoqian Jia, Ph.D [b,c], Huifeng Shi, Ph.D [a], Jieqiong Niu [a], Xiaohan Yin [a], Jialei Xie [a], Xiaoli Wang, Ph.D [a,c,*]

Journal of Affective Disorders 281 (2021) 91–98


Prevalence of psychological morbidities among general population, healthcare workers and COVID-19 patients amidst the COVID-19 pandemic: A systematic review and meta-analysis

Yuvaraj Krishnamoorthy [a,*], Ramya Nagarajan [a], Ganesh Kumar Saya [a], Vikas Menon [b]

Psychiatry Research 293 (2020) 113382


Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis

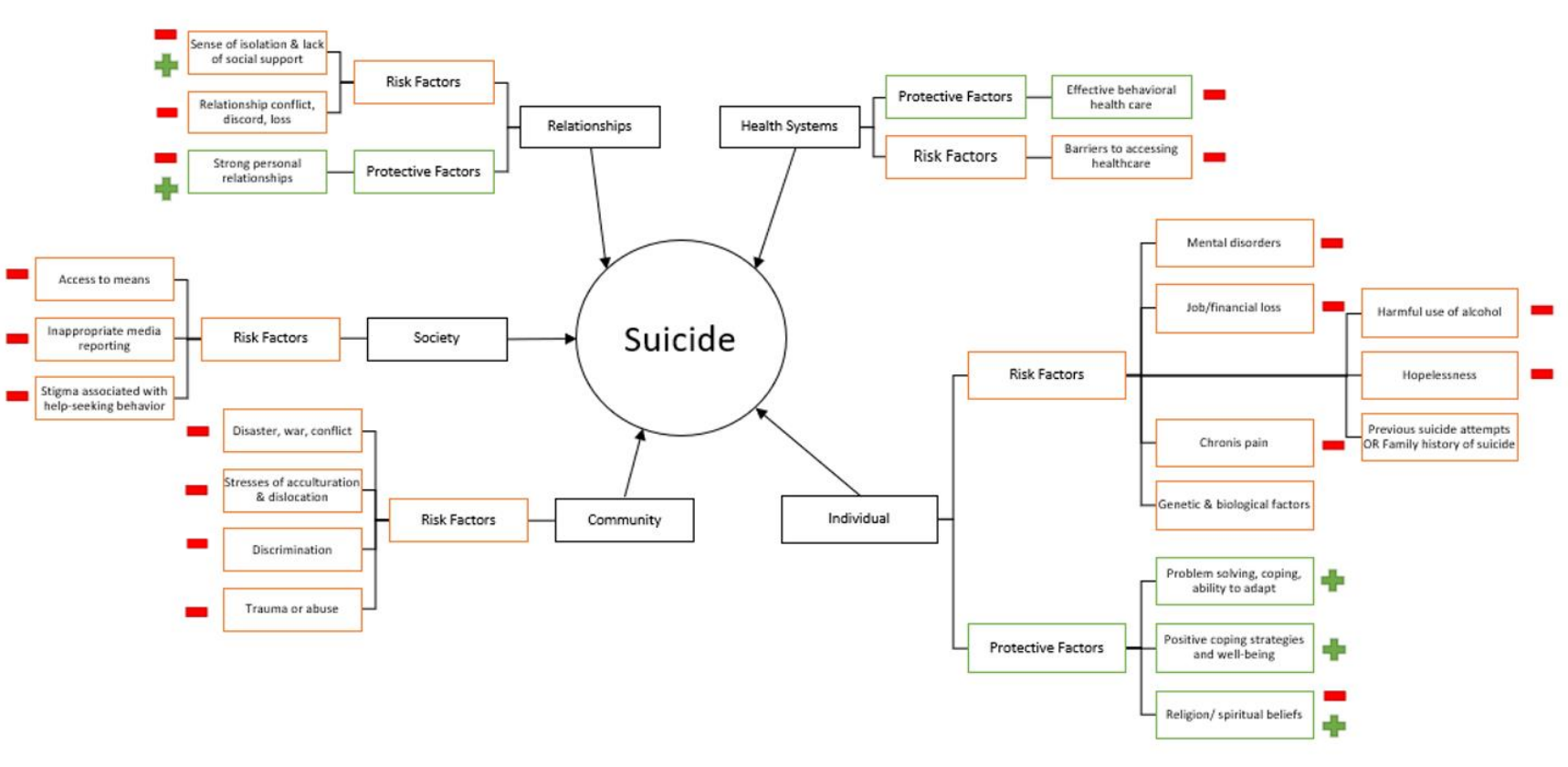
Nader Salari [1,2], Amin Hosseinian-Far [3], Rostam Jalali [4], Aliakbar Vaisi-Raygani [4], Shna Rasoulpoor [5], Masoud Mohammadi [6*], Shabnam Rasoulpoor [6*] and Behnam Khaledi-Paveh [2]

Salari et al. Globalization and Health (2020) 16:57

The Social-Ecological Model
A Framework for Prevention

Societal	• Political legislation • Economic/social inequalities • Healthcare inaccessibility	• Lack of national prevention programs • Natural disasters • …
Community	• Lack of local prevention programs • Lack of local recreational programs • Poor social integration	• Poor living conditions • …
Relationships	• Lack of social network • Lack of relationships • Family discord	• Social isolation • Loneliness • …
Individual	• Major depressive disorder • Other mental disorders • Alcohol misuse disorders • Previous suicide attempt	• Physical Illness • Disability • Adverse life events • …

Risk factors for suicide

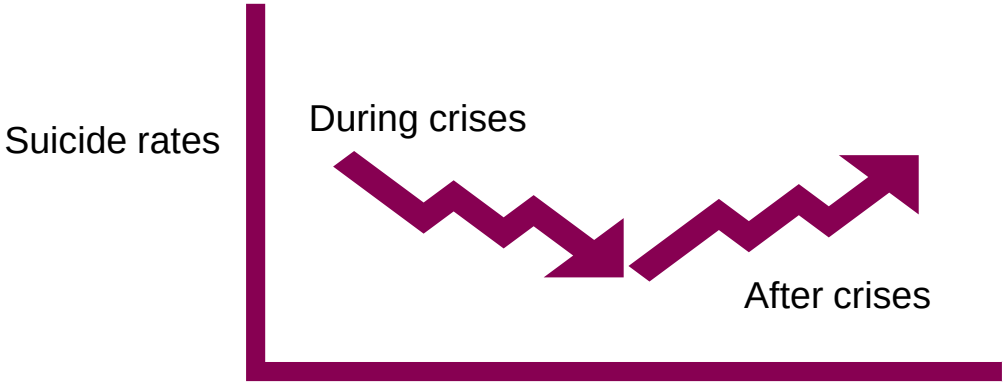


What we know about COVID-19 and suicidality?

- The majority of studies comes from high- and middle-income countries (lack of data from South America, African and East-Mediterranean Regions)
- **Suicide rates:**

  → No changes or a decline in the early phase of the pandemic[1,2]

  → Japan: decrease in the first phase, followed by a statistically significant increase starting in July 2020 (~ natural disasters and other epidemics)[3]



[1] Pirkis J, John A, Shin S, Delpozo-Banos M, Arya V, Analuisa-Aguilar P, et al. Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. The Lancet Psychiatry. 2021;8(7):579-88.
[2] Bray et al., 2021; Mitchell & Li, 2021; Faust et al., 2021; Calderon-Anyosa & Kaufman, 2021; Leske at al., 2021; Kim, 2021; Zheng et al., 2021; Appleby et al., 2021; Knudsen et al., 2021; Qin, & Mehlum, 2021; Radeloff et al., 2021
[3]Osaki et al., 2021; Sakamoto et al., 2021; Tanaka & Okamoto, 2021; Ueda, Nordström, & Matsubayashi, 2021; Isumi et al., 2020

Has the COVID-19 pandemic influenced Sweden's suicide rates during the year 2020?

Background

- According to previous research, Sweden's suicide rates could decrease during the pandemic, but could either increase or return to normal after the pandemic is over
- NASP investigated Sweden's suicide rates attributed to the COVID-19 pandemic, to examine if suicide rates in 2020 have been abnormally low, alternatively high, compared to the expected rates in a normal situation.
  - → A formal statistical analysis was performed to assess whether the year 2020 was associated with a deviating suicide rate.
  - → Post hoc analyses were performed to assess whether the suicide rates have increased or decreased in a total of 30 demographic subgroups.

Has the COVID-19 pandemic influenced Sweden's suicide rates during the year 2020?

Method

- Two-sided joinpoint regression and linear regression with alpha level of 0.05
  → Independent variable: year
  → Dependent variable: number of suicides per 100 000 residents
  = 'suicide rate'
- Demographic group: entire Swedish population over the age of 15
- 30 demographic sub-groups, based on
  → Gender (both genders, men, and women);
  → Age (15+ years, 15-24 years, 25-44 years, 45-64 years, and 65+ years);
  → Region (Sweden and Stockholm County).

Has the COVID-19 pandemic influenced Sweden's suicide rates during the year 2020?

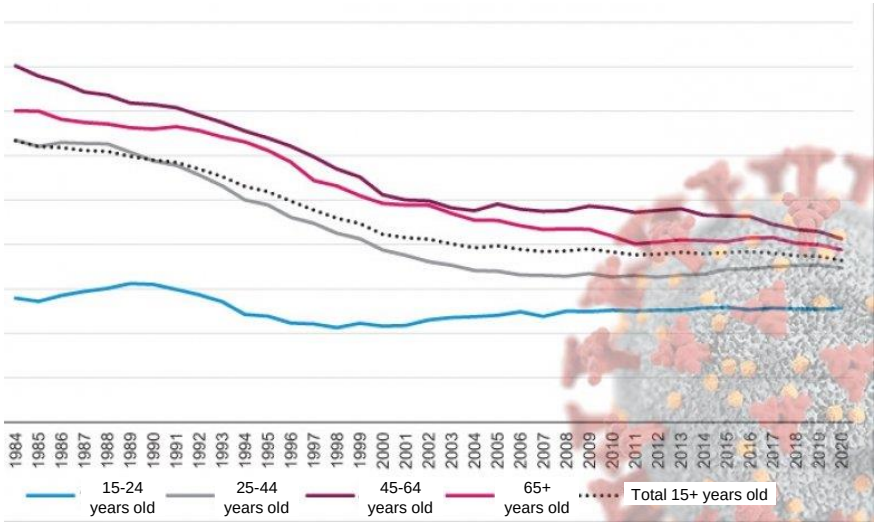
Analytical strategy

Identifying statistically significant **suicide trends between 1980 and 2019** with a joinpoint regression, and calculating their annual percentage change.

Predicting the **suicide rate for the year 2020** using a regression model based on the identified statistically significant suicide trends.

Comparing the **observed** suicide rate for the year 2020 with the suicide rate that would have been **expected** if the significant suicide trends had continued.

Has the COVID-19 pandemic influenced Sweden's suicide rates during the year 2020?



- Significant downward suicide trend from the year 2000 until the end of 2019 (annual percentage change = -0.4%; 95%CI = -0,7% – -0.1%; p<0.05)
- **Predicted suicide rate** for the year of 2020 = **18.49/100,000** residents (95%CI = 16.73 – 20.24)
- **Observed suicide** rate for the year 2020 = **16.80/100,000** residents
- **Suicide rate in 2020 was lower than in previous years, but still within the statistical margin of error**
- **No significant deviations in suicide rates were observed within a specific gender or age group**

Has the COVID-19 pandemic influenced Sweden's suicide rates during the year 2020?

- The **decline** of suicide rates in 2020 was **about twice as large** as expected, however this decline is **within the statistical margin of error**
- Previous research on similar situations indicates that the **suicide rates may increase after the end of the pandemic**
- **Strengthened preparedness** for a potential increase in suicides in the future is recommended, especially through the **implementation of evidence-based suicide prevention measures**

Suicide-related Emergency Department (ED) visits

- No changes or significant reduction in the number of suicide-related ED presentations in the early phase of the pandemic[1]
- vs. increase in suicide-related visits in Birmingham, UK and in Italy in the post-lockdown period[2]

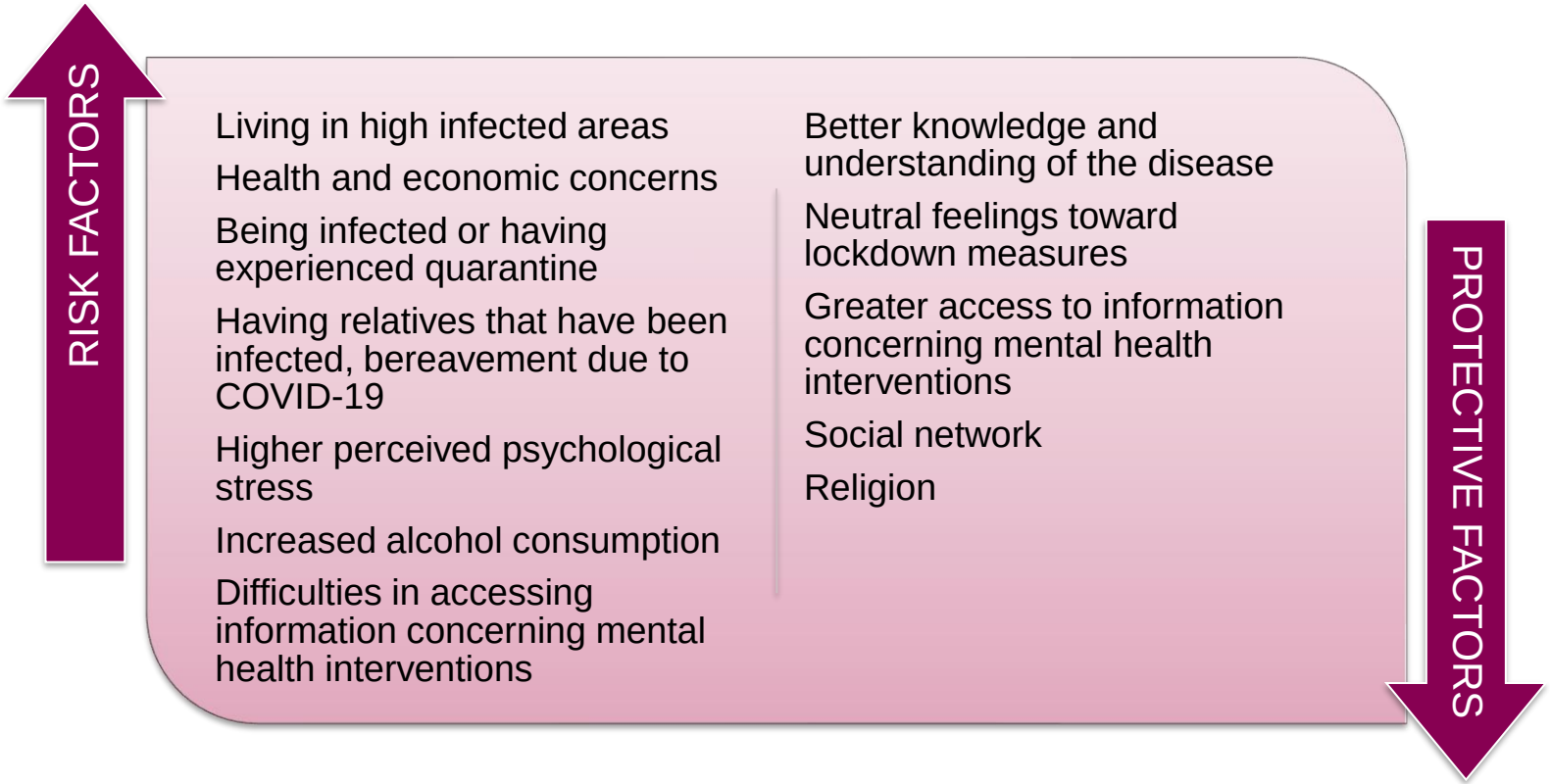
- The proportion suicide-related visits/overall number of psychiatric presentations increased during the pandemic [3]
- Increase in suicide-related ED visits among female youths during summer and autumn 2020 and the first months of 2021[4]

[1]John et al., 2021 Bergmans & Larson, 2021; Chadi et al., 2021; [2]Carr et al., 2021; Hawton et al, 2021; Hernández-Calle et al., 2020; McAndrew et al., 2021; Mourouvaye et al., 2021; Dragovic et al., 2020; Jacob et al., 2020
[2]Henry, Parthiban, & Farroha, 2021; Boldrini et al., 2021
[3]Gesi et al., 2021; McIntyre et al., 2021; Shields et al., 2021; Joyce et al., 2021
[4]Ridout et al., 2021; Yard, 2021

Suicidal ideation and attempts

Author, year	Place and sample	Study period or search date	Findings	
Hill et al., 2021	Texas, US 9,092 youth (mean age = 14.72) completing a suicide risk screening at ED	January - July 2020 vs. Corresponding period in 2019	**Rate of SI was significantly higher in March and July 2020, compared to the same period of 2019 SA rates were significantly higher in February, March, April and July 2020 compared to the same months in 2019**	↑
Knudsen et al., 2021	Trondheim, Norway 2,154 (mean age = 39; 60.8% female)	March 12th – September 18th, 2020 vs. January 28th – March 11th, 2020	**No significant differences in the prevalence of past month SI (CIDI-5.0) between pre-pandemic (3.2%) and pandemic (3.2-4.2%) periods**	=
Winkler et al., 2020	Czech Republic 2017: 3,306 adults (mean age = 48.82; 53.66% female) 2020: 3,021 adults (mean age = 46.84; 52.33% female)	May 2020 vs. November 2017	**The prevalence of suicidal thoughts and behaviour (MINI) tripled during the pandemic compared to previous survey (3.88% vs. 11.88%)**	↑
O'Connor et al., 2021	UK 3,077 adults (55.1% female)	Three waves from March 31st to May 11th, 2020	**SI was more often reported at the end of the study period than at the beginning (4.31% vs. 7.70%)**	↑
Dubé et al., 2021	Meta-analysis of 54 studies (Bangladesh, Australia, Czech Republic, China, Colombia, Cuba, France, India, Ireland, Italy, New Zealand, Poland South Korea, Spain, Taiwan, Turkey, UK, US) Mean age = 34.2; 57.5% female	November 6th, 2020	**The event rate of suicide ideation (10.81%) and attempt (4.68%) increased during the pandemic**	↑

COVID-19-related risk and protective factors for suicidal behaviours



World Psychiatry
OFFICIAL JOURNAL OF THE WORLD PSYCHIATRIC ASSOCIATION (WPA)

Special Article | Free Access

Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic

Danuta Wasserman, Miriam Iosue, Anika Wuestefeld, Vladimir Carli,

Universal interventions

Karolinska Institutet

Mitigating the impact of unemployment, poverty and inequalities

- Active labour market policies
- Housing interventions

Restricting access to lethal means

- Restrict sales of lethal means
- Ensure safe storage of firearms and medication
- Restrict availability of alcohol

Policies to reduce harmful use of alcohol

- Promote safe drinking
- Online tools for monitoring alcohol intake

Public awareness about mental health and suicide

- Raising awareness about the potential increase of mental health problems and suicide during the pandemic
- Empowering coping skills
- Promoting help-seeking

Wasserman D et al. Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic, World Psychiatry, 2020.; Oxford Textbook of Suicidology and Suicide Prevention (2 edn), Danuta Wasserman; Chapter 96 Evidence-based suicide prevention strategies during and after the COVID-19 pandemic, Wasserman D and Carli V, Oxford University Press, 2021.

World Psychiatry
OFFICIAL JOURNAL OF THE WORLD PSYCHIATRIC ASSOCIATION (WPA)

Special Article | Free Access

Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic

Danuta Wasserman, Miriam Iosue, Anika Wuestefeld, Vladimir Carli,

Universal interventions

Karolinska Institutet

School-based interventions

- Resume school-based interventions (Youth Aware of Mental health – YAM; Signs of Suicide – SOS; Good Behaviour Game - GBG)
- Teachers and parents should discuss the virus, effects of containment measures, feelings of children

Responsible media reporting

- WHO guidelines for responsible media reporting etc.
- Local media guidelines

Access to health care

- Financial support to mental health services
- Ensure accessibility, increase staff
- Adjust resources to maintain or improve treatment and follow-up of patients
- Develop digital services and provide tools for self-care online

Wasserman D et al. Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic, World Psychiatry, 2020.; Oxford Textbook of Suicidology and Suicide Prevention (2 edn), Danuta Wasserman; Chapter 96 Evidence-based suicide prevention strategies during and after the COVID-19 pandemic, Wasserman D and Carli V, Oxford University Press, 2021.

World Psychiatry
OFFICIAL JOURNAL OF THE WORLD PSYCHIATRIC ASSOCIATION (WPA)

Special Article | Free Access

Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic

Danuta Wasserman, Miriam Iosue, Anika Wuestefeld, Vladimir Carli,

Selective interventions

Karolinska Institutet

Gatekeeper activities

- Increase availability of (online) resources and training
- Increase the number of participants

Interventions for vulnerable groups

- Outreach interventions
- Closer follow-up of patients with severe psychiatric disorders
- Creation of online networks to mitigate difficulties in accessing community services and decrease social isolation among older people
- Reinforcing crisis helplines
- Adequate surveillance and outreach interventions to prevent domestic violence
- Mental health screenings, assessment and treatment for health workers and COVID-19 patients
- Support for COVID-19 bereaved families

Wasserman D et al. Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic, World Psychiatry, 2020.; Oxford Textbook of Suicidology and Suicide Prevention (2 edn), Danuta Wasserman; Chapter 96 Evidence-based suicide prevention strategies during and after the COVID-19 pandemic, Wasserman D and Carli V, Oxford University Press, 2021.

World Psychiatry
OFFICIAL JOURNAL OF THE WORLD PSYCHIATRIC ASSOCIATION (WPA)

Special Article | Free Access

Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic

Danuta Wasserman, Miriam Iosue, Anika Wuestefeld, Vladimir Carli,

Indicated interventions

Karolinska Institutet

Treatment of mental disorders

- Continue treatment and assessment in person or online and increase the assessment of at-risk individuals
- Develop guidance for remote assessment and treatment
- Brief telephone and online therapies may constitute an effective tool of reducing suicidal outcomes compared to wait-list controls
- Develop guidance for mental health support in workplaces and referral system

Continuous chain of care & follow-up

- Follow-up contacts, including phone calls, postcards, letters and technology-based methods (e.g., e-mails and texting)
- Use of telemedicine
- Reinforce existing helplines
- Mental health support for survivors of COVID-19
- Train volunteer workers in mental health

Wasserman D et al. Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic, World Psychiatry, 2020.; Oxford Textbook of Suicidology and Suicide Prevention (2 edn), Danuta Wasserman; Chapter 96 Evidence-based suicide prevention strategies during and after the COVID-19 pandemic, Wasserman D and Carli V, Oxford University Press, 2021.