

Supplementary Table S1. Child and adolescent psychiatry – based studies examining the impact of the COVID-19 pandemic on mental health.

Author (Year)	Study Design	Main Findings
Racine et al. ⁵ (2021)	Multi-country Meta-analysis	Depression and anxiety prevalence among children and adolescents approximately doubled during the COVID-19 pandemic.
Jones et al. ²² (2021)	Multi-country Review	During the COVID-19 pandemic, adolescents showed increased anxiety, depression, stress, and substance use, while social support and positive coping served as protective factors.
Panchal et al. ²³ (2021)	Multi-country	COVID-19 lockdowns were associated with increased anxiety and depressive symptoms, particularly among youths with pre-existing mental health conditions, while parent-child communication was protective.”
Dube et al. ²⁴ (2022)	Multi-country Meta-analysis	During the COVID-19 pandemic, rates of suicidal ideation, suicide attempts, and self-harm increased compared with the pre-pandemic period, with higher vulnerability observed among adolescents, females, and younger populations.
Du et al. ⁷ (2023)	Multi-country Meta-analysis	During COVID-19, adolescent suicidal ideation prevalence was 22.4% (95% CI: 17.1–27.8); higher risk was associated with anxiety, depression, loneliness/social isolation, poor sleep, and quarantine/lockdown exposure.
Madigan et al. ²⁵ (2023)	Multi-country Meta-analysis	The COVID-19 pandemic was associated with increased depressive symptoms among children and adolescents, especially girls, while anxiety symptoms showed a smaller but consistent increase.
Wolf et al. ²⁶ (2024)	Meta-analysis	Longitudinal data associate the COVID-19 pandemic with increased depression, anxiety, and stress and reduced psychological well-being, moderated by restriction intensity and individual-familial factors.
Marinelli ²⁷ (2024)	Review	Pandemic-related restrictions have reshaped adolescent mental health, contributing to increased substance use, behavioral addictions, psychosocial vulnerability
Hosozawa et al. ²⁸ (2024)	Review	The COVID-19 pandemic was associated with worsening adolescent mental health, particularly among boys, and an increase in suicides.
Kim et al. ²⁹ (2024)	Multi-country Observational study	During the COVID-19 pandemic, the incidence of depressive and anxiety disorders among adolescents increased markedly worldwide, with the rise being particularly pronounced in female adolescents and in high-income countries.
Tamirisa et al. ³⁰ (2024)	Review	The COVID-19 pandemic adversely affected adolescent mental health through familial, social, and educational stressors, leading to increased depression, anxiety, substance use, and suicidality, with protective effects largely confined to socioeconomically advantaged groups.
Chavira et al. ³¹ (2024)	Review	The COVID-19 pandemic was associated with increased depression, anxiety, loneliness, and social difficulties among children and adolescents, with greater impact on those with pre-existing mental health problems and socioeconomic disadvantages.
Ferreira et al. ³² (2025)	Meta-analysis	The COVID-19 pandemic was associated with increased self-harm and suicidal behaviors among adolescents, with a disproportionate impact on girls, driven by social isolation, disrupted education, limited access to healthcare, and family and economic stressors.
Frentzen et al. ³³ (2025)	Multinational Review	The COVID-19 pandemic was associated with substantial worsening of child and adolescent mental health, characterized by increased anxiety and depressive symptoms, emotional-behavioral difficulties, non-suicidal self-injury, and suicidal behaviors, particularly in the context of social isolation, school closures, and limited access to mental health services.
Lal et al. ³⁴ (2025)	Review	The COVID-19 pandemic was associated with increased anxiety, depression, and stress-related symptoms in children and adolescents, largely driven by school closures, social isolation, and disrupted routines.

Supplementary Table S2. Emergency department-based studies examining the impact of the COVID-19 pandemic on adolescent mental health.

Author (Year)	Study Design	Study Period	Main Findings
Ridout et al. ³⁶ (2021)	Multicentre Retrospective	Pre-COVID vs COVID	Suicide-related ED visits initially declined during COVID-19 but increased later, particularly among adolescent girls.
Hill et al. ¹⁶ (2021)	Single-centre Retrospective	Pre-COVID vs COVID	During the early phase of COVID-19, increases in suicidal ideation and SA were observed in specific months compared with 2019.
Yard et al. ³⁷ (2021)	Multicentre Retrospective	Pre-COVID vs COVID	Suspected SA ED visits increased during the COVID-19 pandemic, with a pronounced rise among adolescent girls compared with boys.
Carison et al. ³⁸ (2022)	Single-centre Retrospective	Pre-COVID vs COVID	Mental health and suicidality-related ED presentations increased during COVID-19 stay-at-home restrictions despite fewer overall ED visits.
Lantos et al. ³⁹ (2022)	Single-centre Retrospective	Pre-COVID vs COVID	Higher suicide risk screening positivity was observed during early COVID-19, especially among females and older adolescents.
Fernández et al. ² (2022)	Single-centre Retrospective	Pre-COVID vs COVID	Marked post-COVID increase in suicidality, especially among girls and adolescents aged >12 years
Beaudry et al. ¹² (2022)	Single-centre Retrospective	Pre-COVID vs COVID	COVID-19 was associated with increased mental health-related ED visits, especially among adolescent girls.
Çoban et al. ⁴⁰ (2022)	Single-centre Retrospective	Pre-COVID vs COVID	COVID-19 was associated with a more severe clinical profile of paediatric SA, with more first-time presentations, female predominance, and increased hospitalisations.
Ougrin et al. ¹⁵ (2022)	Multicentre Retrospective	Pre-COVID vs COVID	Overall emergency psychiatric visits declined during lockdown, while self-harm presentations increased among children and adolescents.
Madigan et al. ⁶ (2023)	Meta-analysis	Pre-COVID vs COVID	Increased ED visits for SA and suicidal ideation during pandemic
Ferro et al. ⁴¹ (2023)	Single-centre retrospective	Pre-COVID vs COVID	ED visits for adolescent mental health disorders increased during COVID-19, including a marked rise in SA
Park et al. ⁴² (2023)	Multicentre Retrospective	Pre-COVID vs COVID	Adolescent self-harm ED visits increased during COVID-19, particularly among late-adolescent females, while males showed higher mortality and ICU admission rates.
Ribeiro et al. ⁴³ (2024)	Multicentre Retrospective	Pre-COVID vs COVID vs early Post-COVID	The pandemic was not associated with an increase in adolescent SA, but the clinical profile shifted toward psychosocial risk factors rather than prior psychiatric diagnoses.
Hoffmann et al. ⁴⁴ (2024)	Multicentre Retrospective	Pre-COVID vs COVID vs Post-COVID	Overall pediatric mental health ED visits declined during the early pandemic, but rates remained elevated among females and for severe psychiatric disorders into the later pandemic period.
Moscato et al. ⁴⁵ (2024)	Multicentre Retrospective	COVID period	Fluctuations in adolescent SA across countries during COVID-19.
Newberry-Dupe et al. ⁴⁶ (2025)	Multicentre Retrospective	Pre-COVID vs COVID	COVID-19 was associated with increased adolescent and female ED mental health presentations, higher self-harm and suicidality, and longer ED stays.