

## LITERATURE REVIEWS

# The Impact of COVID-19 Lockdowns on Adult Mental Health

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Keywords: COVID-19, lockdowns, restrictions, isolation, adult mental health, pandemic, coronavirus, depression, anxiety, insomnia

<https://doi.org/10.59158/001c.117205>

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## Psychotherapy and Counselling Journal of Australia

Vol. 12, Issue 2, 2024

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### Background

Lockdowns and restrictions were introduced worldwide by governments in 2020 and 2021 in a bid to contain the spread of COVID-19. Lockdowns restricted the movement of people, whereby they could only leave their homes for essential reasons. There is yet to be a systematic review that integrates existing quantitative literature on the impact of lockdowns on mental health globally.

### Aim

The purpose of the current study was to assess and synthesise current quantitative research on the global impact of COVID-19 lockdowns and isolation restrictions on adult mental wellbeing. The target group was adults aged 18 years and over internationally.

### Method

Findings from 16 quantitative cross-sectional surveys and questionnaire studies from peer-reviewed journals were synthesised in this systematic literature review.

### Results

Themes that emerged from the findings included increased depression, anxiety symptoms, and stress, and reduced social interaction and sleep quality.

### Conclusion

The impact of COVID-19 lockdowns on mental health was evident through the shared experiences of insomnia, loneliness, physiological changes, and reduced sleep quality. An increased prevalence of depression, anxiety, and stress symptoms was common in younger adults and more so in women than men.

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Coronavirus disease 2019 (COVID-19) surfaced towards the end of 2019, and in early 2020, the World Health Organization declared it had reached pandemic proportions. Authorities and health departments worldwide mandated lockdowns; stay-at-home, quarantine, and isolation policies; and constraints on movement and interactions with others (Ding et al., 2021). To control the increasing COVID-19 cases, governments introduced national lockdowns that limited people's activities and involved the closing of non-essential retail outlets, schools, and universities; people were allowed to leave their homes only for "essential reasons" (Landi et al., 2020). The lockdowns, restrictions, changes in everyday habits, and fear of becoming infected with the virus resulted in significant interruptions to daily routines for people globally (Ding et al., 2021; Şimşir et al., 2022). Individuals were deprived of their liberty due to restrictions that had never been implemented or experienced before; the immediate and long-term consequences of these drastic measures were unknown.

The extent of the COVID-19 lockdowns and restrictions on lifestyle, day-to-day routine, and wellbeing varied. However, there were similarities in government responses globally. These included the closing of workplaces and public spaces, changes in work schedules, and isolation, which ultimately led to feelings of loneliness, hopelessness, and a sense of ongoing insecurity among some adults worldwide (Ornell et al., 2020). The imposed government restrictions meant that individuals were required to adapt to what became known as the "new normal". These changes impacted the mental health of adults due to the uncertainty and constantly changing restrictions (Haider et al., 2020). The repercussions of this included a surge in help-seeking from individuals who experienced symptoms of common mental disorders stemming from the COVID-19 pandemic (Chan et al., 2022). The full impact of these struggles on mental health is still emerging and yet to be fully understood.

### **Mandatory Lockdowns and Restrictions**

The implementation of physical separation rules, stay-at-home orders, and lockdowns that restricted behaviour was imposed to control the infection rates of COVID-19 (Sibley et al., 2020). These measures relied on people's voluntary compliance with the advice of governments and health officers (Sibley et al., 2020). The imposed constraints effectively reduced the virus's transmission rate. However, they caused a considerable impact on the economy and health and wellbeing of individuals (Zhao et al., 2022). Although not everyone was directly affected by the COVID-19 virus, they may have been affected by precautionary measures including self-isolation, social distancing, lockdowns, and reduced social interaction with family and friends (Haider et al., 2020).

Research in Australia suggests that 22% of respondents described their mental health as "worse" or "much worse" in early 2021 (a year into the pandemic) compared to earlier months of the pandemic (Zhao et al., 2022). The rise in mental health issues also increased the demand for therapeutic

services in some countries (Chan et al., 2022). Some issues experienced by people on an international level included disrupted daily routines, unemployment, loss of income, reduced social interaction and meaningful activities, and loneliness (Zhao et al., 2022).

The lockdowns and restrictions imposed on Australian residents varied in intensity and frequency between states and territories. Victoria and New South Wales, for instance, had harsher and longer lockdowns compared to Queensland and other states and territories (Meyer et al., 2023). The cumulative lockdown in Victoria lasted 263 days and was the world's longest. It consisted of curfews, limits on outdoor gatherings, maximum allowed distances from home, a ban on visitors, and permission to leave home only for essential reasons (Griffiths et al., 2022). The (second) hard lockdown in New South Wales lasted 107 days and included the closure of non-essential businesses, bans on large gatherings, and mandates to study and work from home (Herbert et al., 2020).

The extent of mandated measures generated concerns about the potential influence on adult mental wellbeing, explicitly regarding social segregation from others (Haider et al., 2020). Statistics from the Wuhan, China population concluded that 7% of respondents expressed signs of post-traumatic stress (Sibley et al., 2020). This was the epicentre of the pandemic and experienced harsh and strict lockdowns early on. Therefore, these findings might not be universal, but potentially limited to the ground zero community that experienced severe lockdowns and restrictions. Further research is necessary to examine if this was a common occurrence globally.

### **Relevance to the Counselling Profession**

The restrictions imposed by governments resulted in the closure of numerous counselling and mental health support clinics due to the need to limit physical interaction (Probst et al., 2020). Other counselling and psychotherapy services transitioned into online telehealth, either via telephone or video platforms. Therapists were required to depend on the internet and virtual systems to maintain hope and confidence in their clients while establishing alternative ways to enhance the therapeutic alliance during the pandemic (Shulman, 2020). Although online applications became more prevalent, they did not entirely replace the need for in-person connections, resulting in depressive symptoms in some people (Haider et al., 2020). Existing literature highlights that the COVID-19 pandemic and the restrictions associated with it resulted in fears of catching the virus, which resulted in increased feelings of anxiety among communities (Haider et al., 2020). The mental health impacts of the lockdowns and restrictions highlighted the need for targeted interventions to foster support in a COVID-19-affected world, particularly when there are long-term psychological outcomes still emerging (Gan et al., 2020).

The mental health challenges that arose during and after the pandemic lockdowns highlighted a significant need for counselling and psychotherapeutic services. Literature suggests that adults engaging in

counselling because of the lockdown had lower depression, anxiety, and stress levels compared to those who did not attend counselling (Kumari & Singh, 2021). Through understanding the mental health impact of lockdowns on adults, the importance of therapy in supporting adults facing these challenges may be highlighted (Törnbohm et al., 2023).

## **Current Study**

The literature suggests the pandemic significantly influenced adult mental health although the findings are yet to be synthesised in a review (Probst et al., 2020; Şimşir et al., 2021; Zhao et al., 2022). This literature review aims to analyse empirical studies about the influence of COVID-19 mandatory lockdowns and restrictions on the mental wellbeing of adults worldwide, focusing on the aftermath of the measures taken due to the COVID-19 pandemic. Understanding the significance of restrictions and lockdowns in adult wellbeing is essential to allow informed decisions on future restrictions and how best to treat emerging psychological symptoms.

## **Method**

### **Research Protocol**

This systematic literature review explored literature on the impact of COVID-19 on adult mental health. The evaluation of the topic aimed to contribute to what is known about the effects of restrictions and inform interventions in treating psychological issues in adults influenced by government mandates due to the pandemic. The research question was: What are the impacts of lockdowns and restrictions during the COVID-19 pandemic on adult mental health? From this, search terms were extracted for the search strategy, which also incorporated specific inclusion and exclusion criteria. The preliminary reports were screened for relevance to the topic by reviewing abstracts and introductions. This screening procedure was recorded using a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow chart (Moher et al., 2009). The remaining studies were assessed for methodological quality using the Critical Appraisal Checklist for Cross-Sectional Study (Centre for Evidence Based Management, 2014). Details of the final journal articles in the review were documented using a review matrix; key features included title, publication date, aim, intervention study design, participants, and findings. Articles were examined in detail to identify any missing information. The data collected from the included studies were evaluated using thematic analysis. The results were discussed, and limitations in the literature were highlighted.

### **Inclusion and Exclusion Criteria**

#### ***Inclusion Criteria***

Included studies were those that used quantitative methodologies to investigate participants aged 18 years and over who experienced impacts on their mental health due to isolation and lockdown restrictions. Articles were

included regardless of the positive or negative impact on mental health as the review aimed to investigate if the lockdown and regulations had an impact on mental health in adults. Literature that examined stressors and symptoms of mental health due to lockdown and isolation restrictions was included due to relevance. Studies needed to be peer-reviewed journal articles and published in English. The final set of studies included passed the Critical Appraisal Checklist for Cross-Sectional Study (Centre for Evidence Based Management, 2014).

### *Exclusion Criteria*

Studies focusing on children and adolescents were not included as the current research focused on adults. Studies focusing on the effects of certain circumstances relevant to the pandemic, including schools, hospitals, and workplaces, were excluded as these factors confounded the topic of interest. [Figure 1](#) illustrates the final journal articles included and the details for excluding specific articles.

### **Search Strategy**

The search strategy was developed by incorporating the critical components of the research question. These included COVID-19, lockdown, adult mental health, and restrictions. The databases used in the search process were PsycInfo, APA Psyc articles, Proquest Psychology, Wiley Online, ScienceDirect, PubMed, SocINDEX, Taylor and Francis, SAGE journals, Psychiatry Online, and EBSCOhost. The following search terms were used: COVID-19 OR coronavirus AND lockdown OR government restrictions OR government isolation restrictions AND adult mental health OR adult mental wellbeing OR mental health.

### **Ethics**

Acceptable ethical practices were implemented in the research process to ensure transparency and the mitigation of potential biases. The researcher's perspective was documented using reflexive journaling, particularly reflections and opinions on the research process. Reflexive journaling documents the researcher's perspective on articles and potential biases and discusses goals, data collection, and interpretation (Lahman et al., 2010). Reflexivity in research is an ongoing process involving self-awareness while consistently being present in the moment, thus allowing researchers to be conscious of the ideology, culture, and politics of sample groups and research audiences (Lahman et al., 2010). In essence, reflexivity occurs before a researcher's self-reflection on a certain experience. Reflexivity also aligns with the psychotherapy and counselling professions in that it requires one to critically self-reflect on one's social background and assumptions, and their impact on the research process (Lahman et al., 2010).

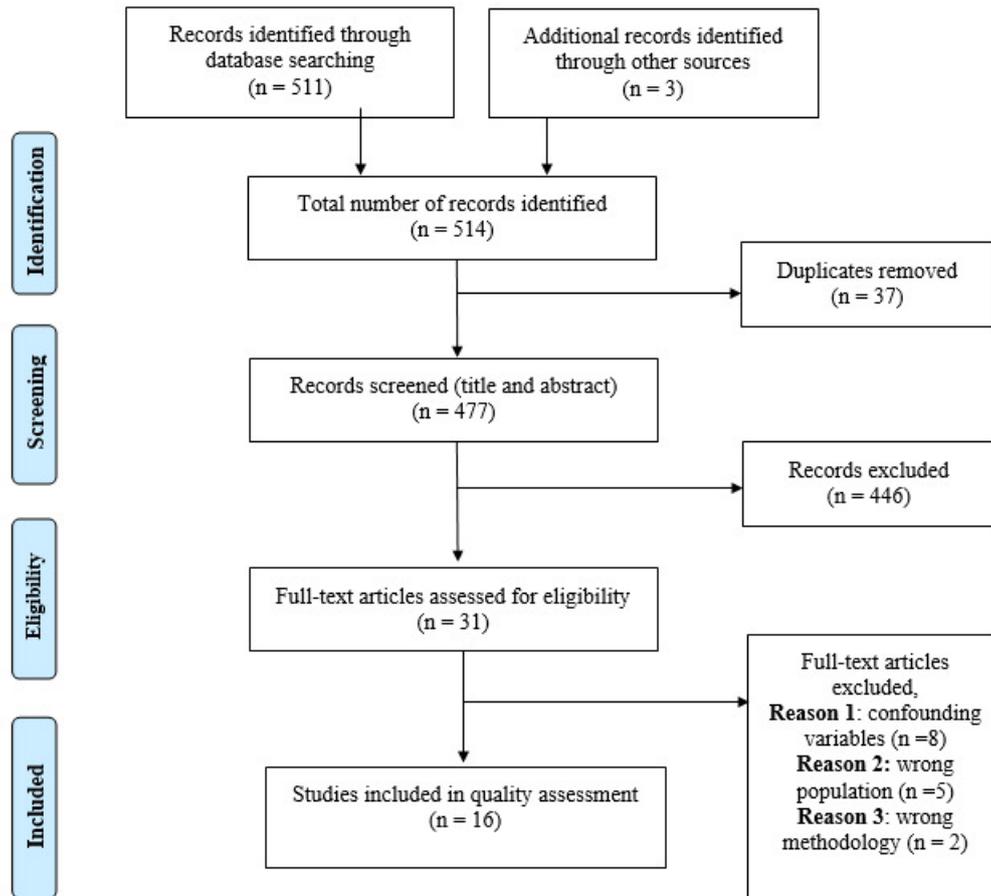


Figure 1. PRISMA Flowchart of Articles Screened

Note. Adapted from Moher et al. (2009).

## Screening and Assessment

### *Screening*

The initial search yielded 511 articles. The selection process is illustrated in the PRISMA flow chart in [Figure 1](#) (based on Moher et al., 2009). The headings and subheadings from the initial search were reviewed to narrow down the selection. The remaining studies were assessed for suitability by reading the abstracts and introductions. The screening focused on participants, objectives, interventions, study designs, synthesis, and results. The final screening identified 16 articles to be included in the current review.

### **Quality Assessment**

The quality of the final selection of articles was assessed using the Critical Appraisal Checklist for Cross-Sectional Studies (Centre for Evidence Based Management, 2014). The assessment tool includes questions on method, selection and sample, bias, variables, statistics, and findings to ensure that articles are relevant to the research question. All 16 articles met these criteria as participants were randomly selected. The selected studies were also assessed

for their reliability and validity. Multiple studies included scales and instruments that had already been tested for validity. Other studies asked participants to rate several statements based on different measures of interest.

The results section of each paper was assessed for statistical figures and confidence intervals to identify any relationships and correlations between variables. Five studies did not have any confidence intervals. However, the nature of statistically significant results and reliable measures meant that they could be included. Several articles had limited generalisability; this was expected as they were not national studies and therefore were not excluded based on this. Some papers that did not meet some of the criteria in the checklist were also included as the factors they were missing did not impact the final quality of the articles.

The screening process began with 31 articles but 15 were excluded. Eight studies were not included as they had confounding variables, such as predictions of mental health support and working during the lockdown (Bu et al., 2021; Kumar et al., 2021). Another study that focused on the effects 5 weeks after restrictions were relaxed was also not included due to relevance (Gijzen et al., 2020). The studies included in the final selection are summarised in [Table 1](#).

## Results

This literature review explores the impact of COVID-19 lockdowns and government isolation restrictions on adult mental health. A negative impact on the lives of research participants was clear, with one study concluding that 64.1% of 6,003 respondents indicated a worsened quality of life (Amerio et al., 2021). Most of the papers included utilised cross-sectional online surveys or questionnaires. More than half of the studies were in European countries (Italy, Austria, and Germany). Other studies were in South Korea, the Gulf countries (Kuwait, Bahrain, Saudi Arabia, United Arab Emirates, Oman, and Qatar), Cyprus, and Australia, although the significant findings were similar and consistent across the articles.

## Depression

Depressive symptoms were common in the findings of 10 of the 16 studies. An Australian study concluded that lockdowns resulted in a 23% increase in depressive symptoms (O'Donnell et al., 2022). People who were in lockdown for 30 days had an increased chance of experiencing depression compared with those who were in lockdown for 7 days (Al-Mutawa & Al-Mutairi, 2021). However, one study found that men had lower rates of depressive symptoms compared to women (Amendola et al., 2021). Women's experience of depressive symptoms was attributed to their extensive time spent at home during lockdowns and the potential pressure from home/work and family responsibilities (Amendola et al., 2021). Depression increased during lockdowns as more time was spent indoors and physical interaction with others was reduced drastically which also negatively impacted sleep quality (Amendola et al., 2021). In this study, depression was categorised as

Table 1. Key Characteristics and Findings From Studies Reviewed

Authors, Year	Title	Aim, Country	Number of participants	Method	Key findings
Al-Mutawa and Al-Mutairi (2021)	Impact of COVID-19 pandemic and lockdown measures on the mental health of the general population in the Gulf Cooperation Council states: A cross-sectional study.	To assess the impact of the pandemic on mental health and investigate the potential risk factors. Kuwait, Oman, Bahrain, Qatar, Saudi Arabia, and United Arab Emirates.	14,171	Cross-sectional survey	Symptoms of depression were endorsed by 80.1% of participants, anxiety by 67.3%, post-traumatic stress by 65.2%, and insomnia by 63.9%. Symptoms were more prevalent in individuals who were in lockdown for more than 30 days compared with those in lockdown for less than 7 days. Being female and a younger age were associated with a higher likelihood of developing symptoms.
Amendola et al. (2021)	Mental health of Italian adults during COVID-19 pandemic.	To explore the impact of the public health emergency due to COVID-19 on adults' mental health after a month of home isolation. Italy.	299	Cross-sectional online survey	Women reported higher levels of depression, anxiety, and sleep disturbance than men. Age and the ability to adapt to a new environment and cope with illness were negatively associated with symptoms of psychopathology. Perceived social support was negatively correlated with depressive symptoms.
Amerio et al. (2021)	COVID-19 lockdown impact on mental health in a large representative sample of Italian adults.	To assess the impact of national lockdown measures on depression, anxiety, insomnia, and quality of life. Italy.	6,003	Web-based cross-sectional survey	National-level prevalence of depressive and anxiety symptoms doubled during lockdown (to 33.2% and 41.5% respectively), affecting more than one-third of the general adult population. Women's mental health worsened more than men's. Worsening depressive symptoms were more likely in young participants and in those who spent more time outdoors before the lockdown. Overall, 31.5% reported worsened sleep quantity, 35% worsened sleep quality, and 64.1% worsened quality of life.
Benke et al. (2020)	Lockdown, quarantine measures, and social distancing: Associations with depression, anxiety, and distress at the beginning of the COVID-19 pandemic among adults from Germany.	To examine the effects of different types and levels of restriction from public health measures on anxiety and depressive symptoms, health anxiety, loneliness, the occurrence of fearful spells, psychological distress, and life satisfaction. Germany.	4,335	Cross-sectional online survey	Higher restrictions from lockdown measures were associated with increased loneliness, psychological distress, and reduced life satisfaction but not associated with anxiety and depressive symptoms or fearful spells.
Czeisler et al. (2021)	Mental health, substance use, and suicidal ideation during a prolonged COVID-19-related lockdown in a region with low SARS-CoV-2 prevalence.	To assess mental health, substance use, and suicidal ideation in a diverse sample of Victorian adults. Victoria, Australia.	1,531	Online survey	Increased screen time was associated with symptoms of anxiety and depression. Reduced time outdoors was associated with adverse mental health symptoms. One-tenth of participants reported increased substance use to cope. Poor mental health symptom prevalence was consistent for a year.
Fiorenzato et al. (2021)	Cognitive and mental health changes and their vulnerability factors related to COVID-19 lockdown in Italy.	To explore the cognitive functioning and mental health changes and their possible interplay in relation to the COVID-19 lockdown. Italy.	1,215	Online survey	Higher severity and prevalence of depression, anxiety disorders, abnormal sleep, appetite changes, reduced libido, and health anxiety under restrictions. Being female, under 45 years old, working from home, being unemployed or frequently consuming COVID-19 mass media information were risk factors for worsening mental health.
Gualano et al. (2020)	Effects of Covid-19 lockdown on mental health and sleep disturbances in Italy.	To estimate the prevalence of depressive and anxiety symptoms and sleep disturbances in the Italian population during the last weeks of lockdown. Italy.	1,515	Online cross-sectional questionnaire	Prevalence of anxiety (23.2%) and depression (24.7%) along with sleep disturbances (42.2%) and moderate/severe insomnia (17.4%). Being female increased the likelihood of at least one mental health outcome. Increasing age lowered the likelihood of anxiety.
Kochhar et al. (2020)	Lockdown of 1.3 billion people in India during Covid-19 pandemic: A survey of its impact on mental health.	To assess the mental health impact of the lockdown on the population of New Delhi. New Delhi, India.	992	Web-based questionnaire	More than half (55.3%) of participants experienced trouble sleeping during lockdown (most prevalent in those aged 30–50 years old) and 12.1% felt helpless and depressed. This could be associated with increased anxiety and stress.
O'Donnell et al. (2022)	The longitudinal effect of COVID-19 infections and lockdown on mental health and	To quantify the impact of the second lockdown in Melbourne on levels of depression, anxiety, and loneliness and to	3,028	Longitudinal three-way survey	Lockdown increased depressive symptoms by 23% and loneliness by 4%. No effect on anxiety was detected. Neighbourhood social relations were strongly negatively associated with mental health symptoms.

Authors, Year	Title	Aim, Country	Number of participants	Method	Key findings
	the protective effect of neighbourhood social relations.	analyse if social relations buffer against lockdown effects. Melbourne, Australia.			
Pandey et al. (2020)	Psychological impact of mass quarantine on population during pandemics—The COVID-19 lock-down (COLD) study.	To explore the degree of psychological distress in terms of depression, anxiety, and stress in the adult population in India during 21 days of lockdown. India.	1,385	Cross-sectional online survey	An 8- to 10-fold increase in depression (30.5%) and anxiety (22.4%) during lockdown compared to baseline levels. Stress was reported by 10.8% of respondents. Levels were significantly higher in the third week compared to the second week. The most affected age group was between 18 and 30 years old. Women were more susceptible to suffering from depression, anxiety, and stress.
Papageorgiou et al. (2021)	Mental health and wellbeing during the first vs. second COVID-19 pandemic lockdown in Cyprus.	To provide an overview of the psychological impact of COVID-19 across two lockdowns in the Cypriot population. Cyprus.	957	Online survey	Most participants reported moderate levels of stress. Approximately 11% reported higher levels of stress. The feeling of “togetherness” because of global lockdowns acted as a buffer to negative effects.
Park et al. (2021)	Impact of the COVID-19 pandemic on the lifestyle, mental health, and quality of life of adults in South Korea.	To investigate the impact of the COVID-19 pandemic, social distancing, and stay-at-home strategies in Koreans over 20 years old. South Korea.	104	Cross-sectional online survey	Decreased quality of life and mental health in participants after the pandemic struck. Decline in engagement in physical and meaningful activities including leisure, social activities, and education.
Rossi et al. (2020)	COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy.	To assess the rates of mental health outcomes in the Italian general population 3 to 4 weeks into lockdown measures and explore the impact of COVID-19-related potential risk factors. Italy.	18,147	Web-based questionnaire	High rates of post-traumatic stress disorder, depression and anxiety symptoms, insomnia, and perceived stress. Younger women (average age: 38) were found to be more likely to experience mental health outcomes including depression, anxiety, insomnia, and perceived stress compared to older women and men. Outcomes were associated with quarantine, lockdown measures, deceased loved ones, and discontinued working activity.
Siette et al. (2021)	A national survey on COVID-19 second-wave lockdowns on older adults’ mental wellbeing, health-seeking behaviours, and social outcomes across Australia.	To identify the impact of the second wave of lockdowns on older Australians’ quality of life, and to compare the impact of lockdowns in Victoria to other states and territories. Australia.	2,990	Cross-sectional online questionnaire	Lower quality of life due to social isolation, access to information on the pandemic from multiple sources on the risks of COVID-19 for older adults, postponements of non-critical medical appointments, and financial concerns. Symptoms of increased helplessness and stress. Being female also predicted lower quality of life. While 40% expressed a negative impact, over half of respondents indicated a mix of both positive and negative impacts of COVID-19.
Stieger et al. (2021)	Emotional well-being under conditions of lockdown: An experience sampling study in Austria during the COVID-19 pandemic.	To examine the extent to which being outdoors vs. indoors, loneliness, and screen time is associated with emotional wellbeing 2 weeks after the start of a nationwide curfew due to the pandemic. Austria.	286	Experience sampling method (daily questionnaires 3 times a day for 21 days)	Being outdoors was associated with higher emotional wellbeing. Increased loneliness and screen time were associated with poorer wellbeing. The association between loneliness and wellbeing was stronger when indoors.
White & Van Der Boor (2020)	Impact of the COVID-19 pandemic and initial period of lockdown on the mental health and wellbeing of adults in the UK.	To assess the impact of the COVID-19 pandemic on mental health and wellbeing. United Kingdom.	600	Cross-sectional online survey	Markedly higher levels of depression and anxiety symptoms were associated with feeling more isolated than usual during lockdown or agreeing that the pandemic was jeopardising one’s livelihood. Perceiving increased kindness and community connectedness was associated with better mental health and wellbeing.

feelings of hopelessness and physiological changes experienced by participants. Another study found that lockdown restrictions resulted in feelings of loss of control and a sense of being trapped (Pandey et al., 2020). According to another study, adults spent more time on screen which was associated with increased symptoms of depression (Czeisler et al., 2021).

### **Anxiety**

Anxiety symptoms were evident in eight of the studies included in this review. Feelings of worry and anxiety were caused by the experience of tension, fear of catching the virus, reduced physical activity, unemployment, and isolation at home (Al-Mutawa & Al-Mutairi, 2021). The ongoing anticipatory fear of getting COVID-19 and potentially dying from it caused increased anxiety and problems with sleep patterns (Amerio et al., 2021). Older adults (35 years and over) were most likely to experience anxiety about isolation (Rossi et al., 2020). Feelings of concern were consistent across all studies, with psychological symptoms becoming more clinically severe as lockdowns went on (Fiorenzato et al., 2021). Furthermore, the experience of unemployment was found to increase anxiety symptoms, although engagement in physical activity was found to counteract this (Al-Mutawa & Al-Mutairi, 2021). The experience of worry and uncertainty about lockdowns, unemployment, and catching the virus was common across all studies.

### **Stress**

Increased stress levels were evident in more than half of the studies although the actual stressors varied. Stress due to multiple losses associated with the pandemic was a common mental health issue experienced. Pending job loss, financial strain, confinement, and more time spent at home triggered increased stress and mental health issues (Fiorenzato et al., 2021). A consistent finding among three of the studies was that women were more likely to experience stress than men (Amendola et al., 2021; Pandey et al., 2020; Rossi et al., 2020). A potential explanation for the different experiences of stress based on gender is that women (mainly mothers) could have been overloaded with family, household work, and working under restrictions (Fiorenzato et al., 2021). The long-lasting impact of people not being able to attend work and professional activities also increased stress levels (Kochhar et al., 2020). The extensive prolonging of disturbed routines and confinement to homes increased stress leading to reduced sleep quality in some people (Amerio et al., 2021; Fiorenzato et al., 2021; Gualano et al., 2020; Kochhar et al., 2020).

### **Sleep Quality**

A negative change in sleep habits was consistent across six of the studies with the main symptoms being sleep disturbance, insomnia, and an alteration in sleep patterns (Al-Mutawa & Al-Mutairi, 2021; Amerio et al., 2021; Fiorenzato et al., 2021; Gualano et al., 2020; Kochhar et al., 2020; Rossi et al.,

2020). A change in sleeping patterns and the quality of sleep was attributed to prolonged lockdowns and extensive periods without social interaction in one study (Fiorenzato et al., 2021). Another study found that 55.3% of participants reported sleep disturbances and poor sleep quality (Kochhar et al., 2020). The time spent sleeping increased, but satisfaction with sleep decreased, indicating a change in sleep quality and patterns (Park et al., 2021). A consistent finding among studies was that younger adults were more likely to experience reduced sleep quality than older adults (Gualano et al., 2020). People younger than 35 were three times more likely to experience insomnia than those aged 65 and over (Al-Mutawa & Al-Mutairi, 2021). Women were 55% more likely to experience insomnia than men (Al-Mutawa & Al-Mutairi, 2021).

### **Social Interaction**

Lockdowns and isolation prevented people from leaving their homes except for essential reasons which meant that interaction and socialising were limited. Almost half of the studies found that people felt hopeless when they experienced limited social and physical contact with others (Benke et al., 2020; Czeisler et al., 2021; Kochhar et al., 2020; Park et al., 2021; Siette et al., 2021; Stieger et al., 2021). Another study found that social interaction within the neighbourhood was strongly negatively associated with mental health symptoms (O'Donnell et al., 2022). Decreased social relations due to stay-at-home rules were linked to the poor mental health of participants and feelings of loneliness (Benke et al., 2020). Symptoms of depression due to limited physical interaction with others, time spent outdoors, and meaningful activities were a common finding in countries that had mandatory lockdown and self-isolation protocols (Al-Mutawa & Al-Mutairi, 2021; Pandey et al., 2020; Rossi et al., 2020).

The extended time away from other people increased the use of devices and screen time on social media, which was found to enhance feelings of loneliness and reduce emotional wellbeing (Stieger et al., 2021); this was more evident in women than men (Gualano et al., 2020). The ability to participate in meaningful activities was also inhibited due to the lockdown restricting any outdoor movement; participants reported a change in daily schedule and routines due to the closure of non-essential services and no social interaction (Park et al., 2021). Less time was spent on social, leisure, and educational activities (Park et al., 2021).

The above themes of depression, anxiety, stress, sleep quality, and social interaction highlight some of the expected negative consequences of implementing lockdowns and restrictions to curtail the effects of the pandemic. The results varied based on age and gender. However, the overall experience of mental health issues indicates the topic's significance.

## Discussion

Until now, research synthesising existing literature on the impact of the COVID-19 pandemic on adult mental health has been extremely limited. The present systematic review aimed to synthesise what is currently known about the topic to demonstrate the impact of the COVID-19 lockdowns and restrictions on adult mental health worldwide. By understanding these impacts, counselling and psychotherapy services can be more tailored towards specific clients. The themes identified in this study's findings include depression, anxiety, stress, social interaction, and sleep quality. Although these are typical symptoms that clients come to therapy for, they appear to be exacerbated because of lockdowns. These themes were generally consistent across the 16 studies included in this review, although they varied in intensity depending on the nature and length of lockdowns and restrictions. An Australian study found that a significantly higher proportion of Victorians reported that COVID-19 had a negative influence on their mental health (47.8%) compared to those living in other parts of Australia that were not in lockdown (40.5%; Siette et al., 2021).

Fiorenzato et al. (2021) found that in the last weeks of Italy's lockdown, mild/severe levels of depression rose to 32.30% compared to 15.39% pre-lockdown and mild/severe levels of anxiety increased to 35.72% compared to 21.40% pre-lockdown. The lockdown in New Delhi, India, adversely affected the work and income of 63.4% of participants, impacting their financial status, a contributing factor for mental health disorders (Kochhar et al., 2020). More than half (55.3%) of respondents had trouble sleeping during lockdown, with those aged 35-50 years old most affected (Kochhar et al., 2020). Similarly, White and Van Der Boor (2020) found that lockdowns and isolation in the United Kingdom negatively impacted mental health in adults.

Based on these findings, it is evident that adverse psychological symptoms during lockdowns were common internationally regardless of varying cultural backgrounds. The overall findings indicate a consistent and significant negative impact on mental health and wellbeing among adults, mainly due to the ongoing changes in mandatory restrictions and isolation requirements. It is clear from all the studies included in this systematic review that when governments enforced lockdowns and restrictions the potential impact on mental health was not considered. Additionally, despite the literature in this review highlighting the presence of psychological symptoms and mental health challenges, government responses to address the issues experienced by adults were absent early on (Gualano et al., 2020; Pandey et al., 2020; Park et al., 2021). This was consistent across the studies regardless of the countries the studies were based in.

The experience of lockdowns and mandatory isolation restrictions caused adults to endure symptoms of psychological distress. The prevalence of psychological issues is evident through the symptoms of depression, anxiety, insomnia, loneliness, and physiological changes (Fiorenzato et al., 2021). Loneliness increased due to the inability to physically interact with family

and friends while in lockdown and this was experienced for extended periods (Kochhar et al., 2020; O'Donnell et al., 2022). People in lockdown felt hopeless as governments restricted movement which reduced interaction with others (Kochhar et al., 2020). Losing contact with close family and friends was found to cause anxiety and depression as adults became isolated from loved ones (Rossi et al., 2020).

Italian women were found to be more susceptible than men to experiencing psychological symptoms associated with isolation, discontinued work, and increased time spent at home (Rossi et al., 2020). Italian women were also found to spend more time than men on the internet and have a higher prevalence of sleep disturbances (Gualano et al., 2020). Pandey et al. (2020) noted an eight- to 10-fold increase in the prevalence of depression (30.5%) and anxiety (22.4%) during lockdown in an Indian sample, with women more vulnerable than men. The finding that women were more inclined to experience poor mental health symptoms could be due to their additional responsibilities with family and children, home-schooling, and working from home. The impact of lockdowns particularly on women suggest that further mental health support for women is necessary in these circumstances.

The connection between lockdowns, isolation restrictions, and psychological symptoms was supported by Park et al. (2021) who suggested that government measures to contain the virus increased depression in Korean adults. A similar finding was reported in an Australian study that found depression increased by 23% during lockdowns (O'Donnell et al., 2022). Similarly, Amerio et al. (2021) found that depression and anxiety doubled among Italian participants. Young adults who spent more time outdoors before the lockdown showed increased depressive symptoms and reduced quality of life compared to older people, perhaps because of greater changes in lifestyle habits (Amerio et al., 2021). The connection between spending time outside and emotional wellbeing was reinforced by Stieger et al. (2021), who examined the influence of outdoor and indoor experiences on loneliness and emotional wellbeing in Austria.

Symptoms of depression, anxiety, insomnia, and post-traumatic stress disorder were more prevalent in individuals in the Gulf countries who were in lockdown for more than 30 days compared with those for less than 7 days (Al-Mutawa & Al-Mutairi, 2021). This finding was also consistent among Australians who reported reduced quality of life and increased psychological symptoms due to extensive lockdowns (Siette et al., 2021).

Stress was a common psychological symptom experienced by adults worldwide during the pandemic lockdowns. The ongoing fear of losing a job, an economic crisis, and long-term financial uncertainty due to the pandemic resulted in stress and anxiety, particularly in Italy in 2020 (Amerio et al., 2021). Further to this were apparent shifts in physiological aspects including sleep patterns, reduced libido, and appetite changes (Fiorenzato et al., 2021). Kochhar et al. (2020) concluded that difficulty sleeping was more common in

older adults compared to middle-aged adults. This finding suggests that the ability to adjust to a new way of life with mandatory restrictions is negatively correlated with the experience of psychological symptoms, including stress and sleeping problems.

Studies based in Australia further confirmed the above findings. Specifically, the symptoms of anxiety, depression, loneliness, and poor sleep quality were consistent findings (Czeisler et al., 2021; O'Donnell et al., 2022; Siette et al., 2021). One-tenth of participants reported new or increased substance use as a coping mechanism during lockdown (Czeisler et al., 2021). Lockdowns in Australia were found to result in an adverse impact on mental health, particularly in the state of Victoria where a drastic increase in loneliness and depression was evident (O'Donnell et al., 2022). This could potentially be attributed to the extensive time that was spent in lockdowns (more than 200 days). Another consequence of prolonged lockdowns was the potential inability to manage long-term symptoms of depression, trauma, and difficult emotions which further impacted social interactions in the present and future (Siette et al., 2021). Access to mental health services during this time would have been beneficial for affected individuals.

Amendola et al. (2021) found that age and ability to adapt to alternative circumstances had a negative association with the experience of mental health symptoms. Interestingly, Papageorgiou et al. (2021) found that a sense of togetherness among adults in Cyprus experiencing lockdown was a buffer for adverse mental effects. Similarly, White and Van Der Boor (2020) found that perceived social support and kindness levels enhanced positive wellbeing among adults in the United Kingdom. Further to this, an Australian study concluded that during the second lockdown, older Australians based in Victoria reported feelings of joy due to the establishment of digital contact with others and new hobbies (Siette et al., 2021).

Increased loneliness and psychological distress, and reduced life satisfaction was associated with lockdowns and restrictions in Germany (Benke et al., 2020) and decreased engagement in meaningful activities in other countries (Amerio et al., 2021; Kochhar et al., 2020; Park et al., 2021; Stieger et al., 2021; White & Van Der Boor, 2020). These findings reinforce the need for enhanced government funding to support people across the globe who experienced psychological symptoms and distress due to extended lockdowns.

### **Strengths**

To the best of the researcher's knowledge, this is the first systematic literature review that synthesised existing literature on the impact of lockdowns and restrictions on adult mental health. The present study has some key strengths, including the fact that it highlights mental health issues experienced worldwide due to mandatory lockdowns and restrictions. Another strength is the large sample sizes of the studies which enhanced the generalisability of the findings.

## **Limitations**

This study had some limitations, including the limited number of articles included. The use of cross-sectional designs in research is limited due to the participant responses being dependent on the time at which the consequences emerged for the sample population (e.g., during lockdowns), thus making it challenging to identify if the impacts are short-term or long-term. Moreover, the cross-sectional studies were administered online, meaning people who did not have internet access could not participate. This is significant as these individuals could have suffered more due to inadequate internet access. Another limitation of cross-sectional studies is the inability to draw causal interpretations. Further limitations were the use of convenience samples in several of the included studies and the fact that participants varied in terms of age, health, education, and lifestyle habits.

## **Future Directions**

Future research could assess the role of gender in terms of the impact of lockdowns. The current review found that women were more susceptible to enhanced psychological symptoms, so future research could explore whether and how gender is a mediator of adverse effects on mental wellbeing. Feelings of loneliness and hopelessness were also highly prevalent among young adults so the role of age could also be explored. Moreover, future studies could focus on whether health, age, lifestyle habits, internet access, and education are moderators for mental health issues and stress during pandemic lockdowns.

## **Conclusion**

In conclusion, this literature review indicates that lockdowns and isolation restrictions due to COVID-19 resulted in amplified experiences of depression, anxiety, and stress, and reduced sleep quality. During this time, social interaction, time spent outdoors, and engagement in meaningful activities were also reduced. However, it is possible that these symptoms could have been mitigated by the length of the lockdown period. Some countries or parts of countries had extended periods in lockdown compared to others. The consequence of imposing lockdowns and restrictions to reduce the spread of COVID-19 came at a high cost to mental wellbeing. Counsellors and psychotherapists would benefit from being aware of the psychological costs of stay-at-home restrictions, particularly among vulnerable groups.

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