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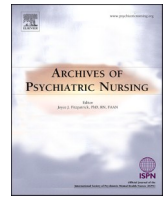
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The impact of the COVID-19 pandemic and its related restrictions on people with pre-existent mental health conditions: A scoping review

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ABSTRACT

Context: Globally, governments have introduced a variety of public health measures including restrictions and reducing face-to-face contact, to control the spread of COVID-19. This has implications for mental health services in terms of support and treatment for vulnerable groups such as people with pre-existent mental health conditions. However, there is limited evidence of the impact of COVID-19 and its related restrictions on people with pre-existent mental health conditions.
Objectives: To identify the impact of COVID-19 and its related restrictions on people with pre-existent mental health conditions.
Methods: A scoping review of the literature was employed. Eight electronic databases (PsycINFO, Cochrane, Web of Science, MEDLINE, EMBASE, CINAHL, Scopus, Academic Search Complete) were searched and 2566 papers identified. 30 papers met the criteria for this review and findings were summarised under three key review questions.
Results: COVID-19 and its related restrictions have had a notable effect on people with pre-existent mental health conditions. Public health restrictions have contributed to increased levels of social isolation, loneliness, and reduced opportunities for people to connect with others. Reduced access to health services and treatments has compounded matters for those seeking support. Exacerbation and deterioration of symptoms are commonly reported and can lead to greater susceptibility to COVID-19 infection.
Implications: The importance of proactive planning, alternative accessible healthcare services and supports for vulnerable and at-risk groups is illuminated. Increased monitoring, early intervention and individually tailored care strategies are advocated. Recommendations revolve around the need for enhanced provision of remote support strategies facilitated using technology enhanced resources.
Accessible summary:

- COVID-19 is a serious public health threat to people across the globe.
- COVID-19 related factors have negatively impacted on the health outcomes of people with pre-existent mental health conditions.
- The rapidly changing environment, risk of infection, increasing isolation and reduced access to support services has led to an increase in psychological distress.
- People with pre-existent mental health conditions are vulnerable and at greater risk of relapse and deterioration in their condition.

Introduction

The first reported cases of novel human coronavirus (COVID-19) were in December 2019 in China and a global pandemic declared in March 2020 by the World Health Organisation (WHO) (Cucinotta & Vanelli, 2020; WHO, 2020a). Since 31st December 2019 and as of the

25th of March 2021, 123,636,852 cases of COVID-19 were reported worldwide, and this includes 2,721,891 deaths (European Centre for Disease Prevention and Control, 2021). In response to this global pandemic and the continuing growing number of COVID-19 cases, a range of public health measures and physical restrictions were implemented by governments worldwide. These measures primarily aim to reduce person-to-person contact (WHO, 2020b) and have included national/regional lockdowns, closure of non-essential services, self-quarantining and travel restrictions to reduce the transmission of COVID-19. These measures have had a demonstrable impact upon physical and mental health outcomes and individuals' ability to access health services (Garriga et al., 2020; Wang et al., 2020). In particular, people with mental health conditions are a more vulnerable group in comparison to the general population during COVID-19 (Benson et al., 2020) in terms of health awareness, life circumstances and generally being at a higher risk of contracting COVID-19 due to reduced physical outcomes (Lighter et al., 2020). The disruptions to mental health services in terms of support services and treatment have the potential to disproportionally affect individuals with pre-existent mental health conditions (Moreno et al., 2020). However, there is limited evidence of the impact of COVID-19 and its related restrictions on people with pre-existent mental health conditions. In addition, issues around stigma and reduced autonomy produce barriers to accessing appropriate care especially during COVID-19 (Yao et al., 2020a). People with pre-existent mental health conditions have been disproportionately impacted during COVID-19, experiencing increased incidence and/or exacerbation of symptoms, along with symptoms that have emerged in response to COVID-19 (Hao et al., 2020).

WHO (2020c) identify that social and personal challenges associated with COVID-19 such as grief, social isolation, economic pressures and health anxiety further exacerbate pre-existent mental health conditions. In addition, the communal nature of mental health inpatient and outpatient settings produces challenges around social distancing, adding to vulnerability (Benson et al., 2020; Dalila et al., 2020). Garriga et al. (2020) suggests that individuals with severe mental illness may be at more risk of death than the general population due to vulnerabilities associated with pre-existent physical health co-morbidities and inability to access healthcare services (Liu et al., 2017; Shen et al., 2011). Public health measures aimed at decreasing transmission of COVID-19 have the potential to increase the isolation of individuals with pre-existent mental health problems, raising the risk of reducing both physical and mental health outcomes (Hwang et al., 2020). Druss (2020) also cautions that physical distancing measures may reduce potential support provided from support networks, such as, family and friends if a person becomes unwell. These factors can lead to a deterioration of mental health conditions and although there is an increasing body of evidence, these are factors that require consideration. However, a broad examination of the nature and extent of current literature and mapping different characteristics would assist in planning services, support and modes of delivery during a global crisis. Furthermore, Pan et al. (2020) identify the need for further research to develop a greater understanding of the impact of COVID-19 on people with pre-existent mental health conditions.

Further challenges experienced by mental health service users during COVID-19 include premature discharge from psychiatric units and cancellation of planned, in person mental health appointments (Chevance et al., 2020; Moreno et al., 2020). The WHO (2020c) report that COVID-19 has caused major disruption to core mental health services in 93% of countries worldwide. Notably, 70% of countries have implemented telemedicine approaches in response to the challenges of delivering face-to-face mental health services. However, variations exist in the provision and uptake of these approaches (WHO, 2020c) and evidence is limited regarding their use and effectiveness. The disruptions to mental health service provision may have impacted on a range of unintended consequences including relapse of symptoms, suicidality and increased social isolation (Chevance et al., 2020; Jefsen et al., 2020; Mehra et al., 2020). Frontline practitioners in mental health have a key role in supporting individuals with pre-existent mental health conditions in support of their recovery, especially during the COVID-19 pandemic. Mental health nurses are fundamental to this process in terms of providing support and care across the spectrum in a range of healthcare settings. However, it is important that the impact of COVID-19 and its related restrictions on people with pre-existent mental health conditions are better understood as a means of planning appropriate future support and services. This paper explores the evidence relating to the impact of the COVID-19 pandemic and its related restrictions for people with pre-existent mental health conditions in order to map the evidence for mental health practitioners to enable the provision of safe effective care. The term mental health conditions will be used throughout this paper and the authors acknowledge the many variations in terminology relating to mental health that are used in the literature. These range from mental health problems to mental health disorders and mental health conditions, which are often used interchangeably and refer to a range of issues that can affect a person's thinking, feelings and behaviours e.g., depression, schizophrenia, or anxiety (Fadyl et al., 2020; Steel et al., 2014).

Methods

Aim

The aim of this scoping review was to locate, examine and describe literature on the impact of COVID-19 and its related restrictions on people with pre-existent mental health conditions. The purpose of this study was not to systematically appraise the literature but to map the literature and provide an overview of the evidence, concepts, and research studies in relation to the impact of COVID-19 and its related restrictions within the first year of COVID-19 (Pollock et al., 2021). The objective was to identify gaps, reveal the existing research evidence and use the results to plot the evidence by categorising the components of literature, such as methodology, population, methods, key findings, key messages, and limitations.

Method

As novel research findings regarding COVID-19 are being published daily, a scoping review design was chosen for this paper as it allows for a broad overview and assessment of emerging evidence, while providing a robust foundation for developing practice guidelines and future research (Peterson et al., 2017). Scoping reviews are used to ascertain literature on a given topic, focusing on the extant literature to identify both important conceptions and any gaps evident and publicising the results (Arksey & O'Malley, 2005; Levac et al., 2010; Pollock et al., 2021). It was deemed to be too early in the context of the pandemic evolution to conduct a more comprehensive systematic review. Although systematic approaches are used in scoping reviews to search and review the literature, there are some controversies around their depth (Peterson et al., 2017). However, as they are exploratory in nature, they do provide a wider conceptual range and a broad appreciation and knowledge synthesis of the existing literature (Anderson et al., 2008). This process supported the reviewers to focus on the review question, unlimited by methodological issues such as the design or quality of included papers (Arksey & O'Malley, 2005). This scoping review was guided by Arksey and O'Malley (2005) methods involving a five-step process: (a) identification of the research question, (b) identification of relevant studies, (c) study selection, (d) mapping the data, and (e) arranging, summarising, and communicating the outcomes. Although these steps are sequential, the process remains interactive where each step is revised and developed throughout the review duration. Tables and diagram illustrations are used to present the results of the review, in addition to narratives (Arksey & O'Malley, 2005; Munn et al., 2018).

Identification of the research question

This review plans to focus on the following question: what is the impact of the COVID-19 pandemic and its related restrictions on people with pre-existent mental health conditions? There will be three specific questions to map the evidence onto and these include:

1. What COVID-19 pandemic related factors have influenced the health outcomes of people with pre-existent mental health conditions?
2. What is the impact of the COVID-19 pandemic on the health of people with pre-existent mental health conditions?
3. What strategies and/or measures are recommended to support people with pre-existent mental health conditions during the COVID-19 pandemic?

Identification of relevant studies

A broad range of databases and keywords were utilised to ascertain a wider selection of literature (Arksey & O'Malley, 2005). The search process involved the use of subject headings (Title/Abstract) and Boolean operators to combine and expand searches. Appropriate 'wild cards' were also incorporated to account for plurals, and differences in spelling. Search strings for key words were identified, then searched individually and subsequently all search strings combined (Table 1). The systematic search process was applied across eight electronic databases (PsycINFO, Cochrane, Web of Science, MEDLINE, EMBASE, CINAHL, Scopus, Academic Search Complete) to identify relevant papers. Inclusion and exclusion criteria were formulated (Table 2) and applied to the search results.

Study selection

The electronic database searches produced an original set of 2566 papers. These papers were screened to identify duplicates (n = 562) and after duplications were removed 2004 papers remained. Initial screening of title and abstracts was then performed by two reviewers (OD, LM) and papers were judged relevant if their abstracts described the COVID-19 pandemic and included people with a pre-existent mental health condition and in light of this 1962 papers were excluded. The remaining 42 papers at full texts were reviewed and assessed against the inclusion and exclusion criteria (Table 2). Based on the inclusion criteria, 12 papers were excluded with the agreement of two reviewers (OD, LM) leaving 30 papers that met the criteria for this review. Conflicts between the reviewers were resolved, but a third reviewer (KM) was available if conflicts between the initial two reviewers remained unresolved. The selection process followed Tricco et al.'s (2018) Preferred Reporting Items for Scoping Reviews [PRISMA-Sc-R] (Supplementary File 1) and PRISMA flow diagram (Fig. 1) to identify selection process and reasons for exclusion.

Mapping the data

Existing literature was mapped in terms of quantity, type, characteristics and sources of evidence in accordance with the aim of this scoping review (Daudt et al., 2013). In accordance with Arksey and

Table 1
Search terms.

S1	mental health OR mental illness OR mental problem* OR mental disorder* OR mental disease OR mental difficult* OR mental health problem* OR mental health difficult* OR mental health disorder* OR mental health condition OR psychiatric disorder* OR psychiatric illness OR psychiatric problem*
S2	Epidemic OR Pandemic OR COVID OR COVID-19 OR Coronavirus
S3	service user OR client OR user OR consumer OR patient
S4	S1 + S2 + S3 (The significance of the '+' symbol indicates that all search strings (S1, S2 and S3) were combined together in one search.).

Table 2
Inclusion and exclusion criteria.

Include	Papers that focus on an adult population with pre-existing mental health conditions during the COVID-19 pandemic.
	Papers where it is possible to extract data focusing on persons with pre-existing mental health conditions.
	Published primary research papers including qualitative, quantitative and mixed methods study designs.
	Papers published between 1st January and 31st December 2020.
	English language papers.
Exclude	Papers that do not focus on persons with pre-existing mental health conditions during the COVID-19 pandemic.
	Non-research papers including discussion, opinion, and correspondence papers, editorials, conference abstracts, and non-published theses.
	Papers where it is not possible to extract data focusing on persons with pre-existing mental health conditions.
	Papers that focus on a non-adult population (e.g., children and adolescents) explicitly.
	Papers that focus on healthcare professionals, carers, and service provision.
	Papers published before the 1st December 2019 and after 31st December 2020.
	Non-English papers.
	Grey literature not listed within databases.

O'Malley's (2005) process, mapping the data stage involved extracting summaries from each paper (n = 30) in relation to: author, year, title, country, aim and methodology, population and methods, summary of findings, key messages and limitations as presented in Table 3. Four authors (LM; OD; COD; KM) extracted and mapped the data from the included studies onto the data extraction table, while a fifth author (MM) checked the extracted data.

Arranging, summarising and communicating the outcomes

Arksey and O'Malley's (2005) final stage summarises and communicates the outcomes of the review and to this end a narrative account of the findings is presented hereunder. The extent, nature and distribution of the studies included in the review are presented, as well as the geographical locations of the evidence. The review findings are collated, summarised and organised under the three key review questions identified in step one of the review process.

Descriptive characteristics of papers included

The review evidence emanates from primary original research studies (n = 30). The methodologies of the studies are diverse and reflect quantitative, qualitative and mixed methods designs. A wide range of study populations are included in the review papers; however, the findings predominately represent the perceptions and experiences of people with pre-existent mental health conditions (including anxiety disorder, mood disorder, psychotic disorder, addiction, obsessive compulsive disorder, major depressive disorder, bipolar disorder, eating disorder, schizophrenia, and other severe mental illness). The general population and people without mental health conditions were also included in some studies, but in these cases, they were mainly used as control groups. The included papers (n = 30) span the globe representing: Italy (n = 9), United States (n = 5), China (n = 3), United States and Canada (n = 1), Germany (n = 2), Spain (n = 2), United Kingdom (n = 2), Canada (n = 2), Ireland (n = 1), Australia (n = 1), India (n = 1), and finally one global study (n = 1) which incorporated 12 different countries (Switzerland, USA, Spain, Italy, France, Germany, Iran, Turkey, Canada, Poland, Pakistan and Bosnia and Herzegovina).

Q1. What COVID-19 pandemic related factors have influenced the health outcomes of people with pre-existent mental health conditions?

Since the onset of the pandemic, the threat of infection and its' associated public health restrictions have influenced health outcomes

Table 3

Data extraction table.

Author(s), year, title, place	Aim and methodology	Population, methods	Summary of findings	Key messages	Limitations
Alonzi et al. (2020). The psychological impact of pre-existing mental and physical health conditions during the COVID-19 pandemic. United States and Canada	Aims to determine whether there were differences in self-reported anxiety and depression in relation to gender and health status among young people in the weeks following the COVID-19 pandemic being declared. Cross sectional study using an online survey.	309 participants with pre-existing mental health conditions, total sample was 616 participants. Tools used - demographic questionnaire and PROMIS* Short form. Data gathered - March/April 2020.	Most participants did not report any pre-existing mental of physical condition (38.6%), this was followed by a pre-existing mental health condition only (17.7%), both a pre-existing mental and physical condition (17.7%), and a physical condition only (11.2%). For both depression and anxiety, non-binary participants reported the highest levels, followed by female participants. For health status, participants with both pre-existing mental and physical conditions reported the highest levels of anxiety and depression and this was followed by those with pre-existing mental health conditions alone.	People with both pre-existing mental health and physical conditions reported higher levels of depression and anxiety. People with pre-existing mental health and physical conditions are a vulnerable group during COVID-19 as they experienced greater emotional distress and resources need to be directed towards supporting these individuals to prevent mental health decline. Services must be accessible to those most at risk.	A more robust sample for nonbinary individuals is necessary to understand the relationship between nonbinary gender and the negative affect during COVID-19 pandemic.
Aragona et al. (2020). Negative impacts of COVID-19 lockdown on mental health service access and follow-up adherence for immigrants and individuals in socio-economic difficulties. Italy	Aims to investigate the impact of COVID-19 lockdown period on migrants and individuals in lower socio-economic situations utilisation of mental health services and follow up. Retrospective cross-sectional study using medical records.	Participants were patients with pre-existing mental health conditions who received a psychiatric interview in February (n = 286) and March (n = 269) 2017–2020. Medical records were used to compare, service utilisation, and visits to mental health outpatient clinics. Adherence was calculated based on patients attending a follow-up visit. Data gathered - February 2017/March 2020.	Psychiatric conditions were categorised into 11 groups. There was a trend of increasing numbers visiting mental health services between February/March 2017 and February/March 2020 however, a reduction in numbers was noted after lockdown with COVID-19. The number of patient visits (February 2020) who returned for their follow-up visits (March 2020) declined with 30% in years 2017–2019, dropping to 17.53% in 2020.	Migrants and individuals in poor socioeconomic conditions can experience a greater negative impact of COVID-19. Lockdown makes it difficult to help vulnerable populations at a time when their mental health needs are expected to increase. The reduction in follow-up compliance increases the risk of treatment discontinuation and possible relapse. Proactive measures and strategies are needed to reach these vulnerable populations.	This was a retrospective single center study which should be considered when considering the generalisability of findings to other mental health services.
Asmundson et al. (2020). Do pre-existing anxiety-related and mood disorders differentially impact COVID-19 stress responses and coping. United States and Canada	Aims to assess COVID-19-related stress, self-isolation stressors, and coping in people with a primary anxiety-related disorder diagnosis, a primary mood disorder diagnosis, and no mental health disorder. Comparison study using online surveys.	1068 participants with pre-existing mental health condition, total sample 1568. Tools used - demographics questionnaires, PHQ – 4*, CSS*, and Self-Isolation Distress and Coping. Data gathered - March/April 2020.	Participants with anxiety related disorders were found to be significantly more affected during COVID–19 than those with mood disorders. Participants with mood disorders were found to experience higher traumatic stress symptoms and socioeconomic consequent scales than those with no mental disorder. Participants with anxiety disorders experienced significantly greater self-isolation stressors. Participants with anxiety and mood disorders reported significantly higher levels of current anxiety and depression than those with no diagnosis.	COVID stress syndrome is more evident in self-isolated individuals with anxiety related disorders. Tailored COVD-19 related mental health interventions to meet the specific needs of people with pre-existing mental health conditions and address the domains of the COVID stress scale to target coping strategies is needed.	Mental health diagnosis was based on self-report rather than clinical evaluation which is a limitation of the study. In addition, participants were not questioned on potential comorbid conditions.

Table 3 (*continued*)

Author(s), year, title, place	Aim and methodology	Population, methods	Summary of findings	Key messages	Limitations
Baenas et al. (2020). COVID-19 and eating disorders during confinement: Analysis of factors associated with resilience and aggravation of symptoms. Spain	Aims to assess the level of deterioration in functioning of eating disorder patients during confinement due to COVID-19 and potential contributing factors. Prospective study using baseline pre-treatment evaluation questionnaires and semi-structured telephone survey during lockdown.	74 participants with a pre-existing mental health condition (eating disorder). Tools used - Baseline pre-treatment evaluation questionnaires included the SCL-90R*, TCI-R*, EDI-2* and Y-FAS 2.0*. Semi-structured clinician telephone surveys were used to collect data on symptoms, coping strategies, socio-demographic, and COVID-19 concerns. Data gathered - April 2020 following lockdown period in Spain.	A deterioration in symptoms and general psychopathology (anxiety and depression) during lockdown associated with low self-directedness. Higher symptomology during confinement was associated with less adaptive coping strategies leading to an increase in weight in patients. Symptom development during COVID-19 lockdown worsened in 25.7% of patients and became less dominant in 51.4% of patients. The presence of anxiety symptoms was reported by 41.9% of patients and depression in 29.7% of patients.	Patients with pre-existing eating disorders became more symptomatic during COVID-19 lockdown. This was higher in people with anorexia nervosa. Symptoms were associated with low levels of self-directedness during COVID-19 lockdown. There is a need to highlight and identify specific vulnerability factors for people with pre-existing mental health conditions in a confinement situation e.g., COVID-19 lockdown to develop preventative strategies and individualise treatment approaches.	The sample size was modest and without a control comparison. Participants were predominately female.
Benatti et al. (2020). What happened to patients with obsessive compulsive disorder during the COVID-19 pandemic? A multi-center report from tertiary clinics in northern Italy. Italy	Aims to describe the impact of COVID-19 pandemic on patients with a pre-existing mental health condition of obsessive-compulsive disorder (OCD). Cross sectional study using interviews.	123 participants with a pre-existing mental health condition (OCD). Tools used - Socio-demographical and clinical variables, face-to-face and telephone psychiatric interviews. No specific dates reported when data was gathered, prior to May 2020 when submitted for publication.	More than one third of participants reported a clinical worsening of symptoms. The most frequent phenotypes of compulsions were washing, and cleaning and multiple phenotypes were reported in patients with and without clinical worsening of symptoms. Patients with a worsening of symptoms showed a significant increase in both new (29.5% vs 0%; p < 0.001) and past compulsions (29.5% vs 0%; p < 0.001). There were significantly higher rates of pharmacological therapy adjustment (70.5% vs 13.9%, p < 0.005), suicidal ideation (9.1% vs 0%; p < 0.05), internet checking for reassurance (52.3% vs 27.8%, p < 0.05), family accommodation (62.8% vs 13.9%; p < 0.005), and sleep disturbance (52.3% vs 10.1%; p < 0.001).	Pre-existing mental health conditions worsen during COVID-19 with the onset of new obsessions and compulsions and re-experiencing of past obsessions and compulsions. The compulsions could be related to the need of significant control against potential contamination or the increase of spare time during lockdown, leading to an increase in repetitive behaviours. There is a need to carefully monitor, potential relapse, and exacerbation of symptoms during COVID-19.	This was a cross sectional study with assessed patients all living in regions not only hit by COVID-19 but also involved earlier in its management, compared to other European countries. The study had a lack of specific psychometric assessment and follow-up assessment to clarify the potential risk and clinical consequences of COVID-19. This study provides a snapshot or moment in time and the clinical picture of assessed patients may change in the next months as COVID-19 evolves.
Burrai et al. (2020). Psychological and emotional impact of patients living in psychiatric treatment communities during Covid-19 lockdown in Italy. Italy	Aims to assess the psychological and emotional impact of isolation on patients in residential rehabilitation communities compared to healthy controls. Cross sectional using an electronic survey.	77 participants with a pre-existing mental health condition, and 100 healthy controls, total size sample was 177. Tools used - DASS-21*, BRCS* four-item questionnaire, and other items to assess risk perception and worry. Data gathered – April/May 2020 before the end of the lockdown period in Italy.	There was a statistically significant difference between patients with a pre-existing mental health condition and healthy control participants on DASS-21 Anxiety and Stress, Risk Perception, and Worry (p < 0.05). Patients with a pre-existing mental health condition scored lower on stress and higher on anxiety, perceived risk of getting infected with COVID-19 and worry about the emergency situation in comparison to the healthy control participants. Lower age combined with	Patients with a pre-existing mental health conditions living in residential communities received unbroken support from peers and mental health professionals, maintained their usual medication treatment, and were informed of COVID-19 consequences. Continuous support for patients with pre-existing mental health conditions, especially during stressful situations such as a pandemic is important.	The study was only conducted in two communities in the Lazio region and may not reflect trends observed in similar contexts, thereby, limiting the generalisability of the findings. This is an observational study so no assumptions of causation can be made as baseline evaluations for the psychological variables investigated were not available.

Table 3 (*continued*)

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			a mental health diagnosis and higher scores on the worry measure, were found to be significant predictors of DASS-21 Anxiety and Depression. 93.5% of patients with a pre-existing mental health condition received training and education on COVID-19 and its transmission by the referred community.		
Daly and Robinson (2020). Psychological distress and adaptation to the COVID-19 crisis in the United States. United States	Aims to examine how the change in psychological distress during the initial stages of COVID-19 and identify if population subgroups are particularly vulnerable to persistent distress during the crisis. Longitudinal study using electronic surveys (8 waves).	2011 participants with a pre-existing mental health condition, total sample was 7319. Tools used - PHQ-4*, two items from the PHQ-9 and the GAD-7*. Data gathered -March/June 2020.	27.5% of the sample had a mental health condition. Psychological distress levels were highest for those diagnosed with mental health conditions and there was evidence of a sharp statistically significant increase in distress as the COVID-19 crisis arose and lockdown restrictions began. The distress level subsequently decreased as time passed and there was little evidence that patterns of change in distress during the COVID-19 crisis differed between groups.	In times of uncertainty, mental health conditions were exacerbated but leveled off as time passed and restrictions eased indicating a readjustment and resilience. Although an overall trend of recovery was noted there will inevitably be a portion of the population who will experience an exacerbation of mental health conditions and it is important to identify and support those most vulnerable.	The study provided tablets and internet access to support participation. There was a large sample and comparison group. The study was conducted in the early stages of Covid-19 as additional waves and lockdowns occurred and responses could change.
Davide et al. (2020). The impact of the COVID-19 pandemic on patients with OCD: Effects of contamination symptoms and remission state before the quarantine in a preliminary naturalistic study. Italy	Aims to evaluate the changes on OCD symptoms during the COVID-19 quarantine in a group of patients with OCD who had undergone psychiatric care at a specialised clinic for OCD before the quarantine period. Quantitative study using a survey.	30 participants with a pre-existing mental health condition (OCD). Tools used - Y-BOCS-SC*. Data gathered - January/April 2020.	Participants demonstrated an overall worsening of all symptoms associated with OCD during the COVID-19 quarantine period. Factors influencing OCD symptoms worsening included living with a relative in the same house during quarantine and having contamination symptoms before quarantine.	COVID-19 quarantine has a negative effect on symptoms associated with people with pre-existing OCD. Relapse prevention strategies should be implemented, particularly at the end of cognitive behavioural therapy to reduce the risk of relapse.	The small sample size and low statistical power prevented exploring the role of additional variables which should be taken into consideration when interpreting the generalisability of the findings. Other symptoms such as anxiety and depression or personality comorbidity were not assessed. There was also lack of a control group for comparison.
Di Nicola et al. (2020). Serum 25-hydroxyvitamin D levels and psychological distress symptoms in patients with affective disorders during COVID-19 pandemic. Italy	Aims to investigate the psychological distress perceived by patients with pre-existing major depressive disorder (MMD) or bipolar disorder (BD) after a 7-week period of lockdown measures. Also analysed serum Serum 25-hydroxyvitamin D levels as a potential predictor of distress severity. Cross sectional study using an online survey and review of patient's medical records.	112 participants with a pre-existing mental health condition. Tools used - online survey to obtain lockdown related information; K10*, review of medical records and serum 25(OH) D level. Data gathered - January/April 2020 after 7 weeks of strict lockdown in Italy.	25.9% reported no likelihood of psychological distress following 7 weeks of COVID-19 lockdown measures. 31.2% displayed mild likelihood of psychological distress and 42.9% displayed moderate to severe likelihood of psychological distress following 7 weeks of COVID-19 lockdown measures. Low serum 25(OH) D levels ($p = 0.005$) and a pre-existing MMD diagnosis ($p = 0.001$) predicted the severity of psychological distress.	Patients with a pre-existing MDD diagnosis experienced more psychological distress during the COVID-19 pandemic compared to patients with pre-existing BD. Low serum (OH) D levels and a pre-existing mood disorder predicted an increased vulnerability to the stressful impact of the COVID-19 outbreak.	The cross-sectional study design and lack of longitudinal follow up limits the generalisability of the findings of this study. Reliability of self-administered surveys may be partially biased. Further research and prospective studies with a larger sample size are needed to establish causal differences between stress response in patients with pre-existing mood disorders and serum 25 (OH) D levels.
Fiorillo et al. (2020). Effects of the lockdown on the mental health of the general population during	Aims to report levels of depression, anxiety and stress symptoms and identify possible risk	1133 participants with a pre-existing mental health condition, total sample was 20,720.	Those with a pre-existing mental condition more frequently experienced anxiety (34.3%) and	Lockdown and physical isolation are essential public health measures in containing the spread of	The use of an online survey may have excluded elderly people or those living in socially (*continued on next page*)

Table 3 (*continued*)

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the COVID-19 pandemic in Italy: Results from the COMET collaborative network. Italy	and protective factors for mental health outcome. Phase 1 of the COMET trial is reported on using online surveys incorporating several validated tools.	Tools used - DASS-21*, GHQ-12*, OCI-R*, ISI*, SIDAS*, IES*, UCLA loneliness Scale, Brief-COPE Scale, Short Form of PGTI*, CD-RISC* and MBI*. Data gathered - March/May 2020.	depressive disorders (35.5%). Depression, anxiety, and stress symptoms significantly worsened from the week April 9–15 to the week April 30 to May 4 (p < 0.0001). Female participants and people with pre-existing mental health conditions were at a higher risk of developing severe depression and anxiety symptoms (p < 0.0001).	the COVID-19 pandemic but are a serious threat for mental health and well-being. People with pre-existing mental health conditions are especially vulnerable during COVID-19 as they are at a higher risk of developing severe depression and anxiety symptoms. The needs of people with pre-existing mental health conditions should be addressed as an integral part of the COVID-19 response globally.	disadvantaged contexts from participating in the study. Also, the collected data is related specifically to depression or anxiety symptoms, which cannot be considered as sufficient to formulate a diagnosis of depressive/ anxiety disorders in the general population. Large population set of 20,270.
Franchini et al. (2020). Mental health services for mood disorder outpatients in Milan during COVID-19 outbreak: The experience of the health care providers at San Raffaele hospital. Italy	Aims to describe telephone-based mental illness surveillance on mood disorder patients attending an outpatient clinic with the aid of a non-standardised survey to evaluate reactions to lockdown measures. Quantitative study using a non-standardised telephone-based survey.	101 participants with a pre-existing mental health condition (mood disorder). Tools used - non-standardised telephone-based survey (Likert scale, demographic, and clinical data). Data gathered - March/April 2020.	No patients reported symptoms of early mood disorder recurrence. 14.8% of patients (n = 15) experienced COVID-19 among their relatives whereas no patients reported to have personally suffered from COVID-19. Frustration due to restrictions was the most represented stressor identified in the study. Unemployment was significantly related to the presence of frustration and anxiety.	Frustration is a key quarantine stressor. Being unemployed significantly related to the presence of frustration, somatisation, increased alertness, anxiety and low mood, and financial concerns. Telephone-based mental illness supports are beneficial but need to be monitored.	Non-standardised survey can impede the generalisability of the findings of the study. The study only explored patients in one region of Italy (Milan).
Gao et al. (2020). Beliefs towards the COVID-19 pandemic among patients with emotional disorders in China. China	Aims to compare the beliefs towards COVID-19 among patients with emotional disorders, family caregivers and the general public and examine factors that shape the beliefs towards COVID-19 among outpatients with emotional disorders. Cross sectional study using an online survey.	570 participants with a pre-existing mental health condition (anxiety/ depressive), total sample was 1489. Tools used - online survey on socio-demographic, epidemic impact, and beliefs towards the COVID-19 outbreak. Data gathered - February/ March 2020.	70.9% of outpatients with pre-existing emotional disorders had to postpone their mental health treatment. 43.2% of patients admitted that their mental health was negatively affected by COVID-19. Outpatients with pre-existing emotional disorders had significantly lower levels of concern but more negative expectations towards COVID-19 in comparison to family carers and the general public.	COVID-19 has a substantial impact on medical treatment. Those who are older and with low educational levels are at a higher risk for poor mental health.	This cross-sectional study only focused on outpatients with pre-existing anxiety and depressive disorders and the findings may not be applicable to other mental health conditions. Patients who could not visit the outpatient clinic because of COVID-19 were not included in the study, thereby limiting participation in the study. Participants in this study were limited to those who had access to social media and a non-probability sample was used.
Gentile et al. (2020). Phone-based outpatients' follow-up in mental health centers during the COVID-19 quarantine. Italy	Aims to report on findings from a phone-based clinical follow-up interview conducted in two large catchment areas in Italy and Paraguay during COVID-19 lockdown. It also aims to measure the level of stress related to COVID-19 quarantine in patients with pre-existing mental health conditions. Observational study using phone-based clinical follow-up and surveys.	110 participants with a pre-existing mental health condition. Tools used - Clinical phone-based follow-up interviews, HAM-A*, HAM-D*, BPRS-18*, and IES-R*. Data gathered - March/April 2020.	Findings confirmed a significant increase of general psychopathology, anxiety, fear and mild levels of stress related to quarantine during COVID-19. There were no reported hospitalisations during the national quarantine, however, 17.2% (n = 19) of patients reported current suicidal ideation. Significant weight gain was reported and detected among patients with pre-existing mental health conditions during COVID-19.	Patients with pre-existing mental health conditions had significantly increased anxiety, fear and mild levels of stress related to quarantine during COVID-19. This study highlights the need for tele-psychiatry during COVID-19 to provide outpatients with pre-existing mental health conditions with a proper assessment and follow-up remotely.	A small sample size with lack of mid-long-term follow-up was utilised in this study, thereby potentially limiting the generalisability of the findings. The study did not compare the data collected in Italy versus Paraguay as the variables were not related to nationality or socio-cultural aspects.

Table 3 (*continued*)

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Gobbi et al. (2020). Worsening of pre-existing psychiatric conditions during the COVID-19 pandemic. Switzerland[+]	Aim to analysis data from a global study on the mental health impact of COVID-19 on participants with pre-existing mental health conditions. Cross-sectional study using electronic survey and evaluation of anonymised clinical records of psychiatric patients over the age of 18 years.	2734 participants with a pre-existing mental health condition across 12 countries (USA, Spain, Italy, France, Germany, Iran, Turkey, Switzerland, Canada, Poland, Bosnia and Herzegovina and Pakistan). Tools used – survey developed by authors including socio demographics, household conditions, COVID-19 related factors, previous exposure to human crisis, level of satisfaction with actions of the state and employer during the current crisis and general health assessment based on the SRQ-20*, IES*, and BDI*. and clinical data - 318 consented for their records to be used. Data gathered March/April 2020.	Worsening of mental health included new symptoms, the need to increase medication, and referral for a new therapy. A worsening of conditions was evident for patients being home isolated, and those with previous trauma exposure and those who identified themselves as a pessimist. However, patients who could interact and share concerns with their family and friends or healthcare professional were less like to report worsening of their pre-existing mental health conditions. At least 50% of the mental health patients evaluated in this study from 8 of the 12 countries reported worsening of mental health conditions.	Of participants, 52.99% were spending less than 15 min on daily physical exercise, 65.42% of participants were spending an increased amount of time on social media, 64.88% reported less-than-usual or minimal interaction with family and friends. 94.36% felt some level of control in protecting themselves and others during the COVID-19 pandemic.	Survey data were exclusively collected, and this may have excluded those with access issues and those unfamiliar with web-usage which may be the case in underdeveloped, rural, or disadvantaged populations. The online survey may be limited to those with access and connectivity, and literacy and severity of illness issues may the affect response rate. This study provides a snapshot or moment in time and a longitudinal assessment of the psychological symptoms in response to COVID-19 pandemic is imperative. No Cronbach's alpha was reported in this study.
González-Blanco et al. (2020). COVID-19 lockdown in people with severe mental disorders in Spain: Do they have a specific psychological reaction compared with other mental disorders and healthy controls. Spain	Aims to compare psychological impact and identify the risk and protective factors of people with existing mental health conditions and a healthy cohort. Secondary analysis of a survey exploring the early psychological impact of the COVID-19 pandemic. Utilising assessment tools	375 participants with a pre-existing mental health condition, total sample was 625. Tools used - DASS-21*, and IES*. Data gathered - March 2020.	People with pre-existing mental health conditions had statistically significantly higher scores on anxiety, stress, and depression subscales of the DASS-21. COVID-19 was associated with more intense anxiety in comparison to the healthy controls.	A protective effect was associated with being able to enjoy free time. Lockdown, isolation, and fear of infection negatively affect people's psychological well-being and people with pre-existing mental health conditions are especially vulnerable.	The use of binary responses (yes or no) rather than a Likert scale to rate behaviours could be a limitation. Access issues and those unfamiliar with web-usage which may be the case in underdeveloped, rural, or disadvantaged populations. Those with severe mental health conditions have less access to digital technologies.
Hamm et al. (2020). Experiences of American Older Adults with Pre-existing Depression During the Beginnings of the COVID-19 Pandemic: A Multicity, Mixed-Methods Study. United States	Aims to determine the effect of the COVID-19 pandemic on the mental health of older adults with pre-existing major depressive disorder (MDD). Mixed methods study using interviews and questionnaires.	73 participants with a pre-existing mental health condition. During the first 2 months of the pandemic, participants were interviewed to evaluating access to care, mental health, quality of life, and coping. Tools used - PHQ-9* and PROMIS*. Data gathered - April 2020.	Participants described themselves as more depressed (n = 32) or more anxious (n = 33) as a result of COVID-19. Participants were more concerned about the risk of contracting the virus than the risks of isolation. The impact of social isolation is not a major concern at present – but this data was only collected 32 days into the global pandemic. Older adults weighed fears of COVID-19 illness as greater than concerns from the distancing requirements.	COVID-19 impacts pre-existing mental health conditions with increased reports of depression and anxiety. Most people are doing well, and resilient but mental health will deteriorate as physical distancing continues. Services and practitioners need to consider that older adults weighed fears of COVID-19 illness as greater than concerns from the distancing requirements.	Interviews took place 32 days after the global pandemic COVID-19 was declared by WHO, so the full impact of social isolation was not yet felt, and therefore, further follow up studies are required. Sampling approach was a limitation. Participants were predominantly urban or suburban, white, and female – a more diverse sample is needed to generalise the findings of this study.
Hamza et al. (2020). When social isolation is nothing new: A longitudinal study psychological distress during COVID-19 among university students with and without pre-existing mental health concerns. Canada	Aims to explore changes in student stress and mental health and if students with pre-existing mental health conditions are at greater risk for distress during the pandemic. Quantitative longitudinal study using surveys.	733 university students and comparing pre-existing mental health conditions. Tools used – Demographics, ICSRLE*, MSPSS*, PSS-10*, DERSSF*, PANAS-X*, ISAS*, CESD-R*, GAD-7*, MSI-BPD*, AUDIT*, PCL*, PBS* and GSCA*. Data gathered at two time points - May 2019 and May 2020.	Those with a pre-existing mental health condition reported greater risk on all study measures at both timepoints 1 and 2 (p = 0.001). Stress variables had an effect on pre-existing mental health concerns on developmental challenges. Significant interactions were reported with pre-existing mental health conditions and several of	Students with pre-existing mental health conditions showed similar mental health during the pandemic in comparison to students with no pre-existing mental health concerns. Social isolation stemming from closures and social distancing as a result of the pandemic has been identified as a key factor that may lead to increased mental health concerns.	A large sample was used in the study, but it is unclear as to the size of the sample with and without a pre-existing mental health concern. Participants were predominantly female, East, and South Asian, and Caucasian, so it is possible that these results may not generalise to other post-secondary or adult populations. The study used the same

Table 3 (*continued*)

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			the mental health indices including perceived stress. Decreases in developmental challenges and time pressures were stronger for students with pre-existing mental health conditions. People with pre-existing mental health conditions also showed decreased academic alienation and friendship problems over time. People with pre-existing mental health conditions reported no change in social mistreatment.		tools as 2019 (time point 1) and did not modify the measures to be specific to COVID-19.
Hao et al. (2020). Do psychiatric patients experience more psychiatric symptoms during COVID-19 pandemic and lockdown? A case-control study with service and research implications for immunopsychiatry. China	Aims to assess and compare the stress and psychological impact of COVID-19 and lockdown measures experienced by people with and without mental health conditions. Cross sectional study using online surveys.	76 participants with a pre-existing mental health condition, total sample was 185. Tools used – Socio-demographics, Symptoms, IES-R*, DASS-21*, ISI*, and other psychiatric symptoms. Data gathered -February 2020.	Participants with pre-existing mental health conditions reported physical symptoms like COVID-19 (30.3% vs 5.5%), and poor or worse physical health (9.2% vs 2.8%) in comparison to healthy controls. PTSD-like symptoms were more likely reported in participants with pre-existing mental health conditions (43.4% compared to 27.5% clinically significant), while 31.6% compared to 13.8% indicated the fulfilment of diagnostic criteria for PTSD. Anxiety and depression scores were higher for participants with pre-existing mental health conditions than healthy controls (p < 0.001). Significantly more people with pre-existing mental health conditions reported moderate to severe worries about their physical health.	Covid-19 has resulted in relatively greater psychological distress for people with pre-existing mental health conditions. Immunopsychiatry services should offer point-of-care tests for the detection of COVID-19 and negative findings which can offer reassurance to psychiatric patients.	Access issues and those unfamiliar with web-usage which may be the case in underdeveloped, rural, or disadvantaged populations. The online questionnaire may be limited to those with access and connectivity, and literacy and severity of illness issues may affect the response rate. This was a cross-sectional study and only conducted in only one hospital which should be taken into consideration when generalising the findings of the study.
Iasevoli et al. (2020). Psychological distress in serious mental illness patients during the COVID-19 outbreak and one-month mass quarantine in Italy. Italy	Aims to examine the severity of mental illness as a result of COVID-19 in Naples. Observational, case−control analysis study using medical records and follow-up telephone interviews.	205 participants with a pre-existing serious mental illness, total sample was 461. The study commenced 50 days from the COVID-19 outbreak started in Naples, Italy. Data was extracted from patients' clinical records (in unit) and follow-up telephone interviews. Data gathered - April 2020.	Patients with pre-exiting serious mental illness had higher levels of COVID-19-related perceived stress, anxiety, and depression symptoms compared to participants with no pre-existing mental health conditions. Patients with pre-existing mental health conditions were four times more likely to perceive high COVID-19 pandemic-related stress and had a 2–3 times higher risk of severe anxiety and depressive symptoms. Uncertain economic status may also play a role.	Patients with pre-existing serious mental illness have higher COVID-19-related perceived stress compared to the general population. Extra supports need to be put in place for patients with serious mental illnesses during a pandemic.	Discussion of methods, methodology and sampling was vague. Superficial paper only briefly reporting on how the research was conducted.
Liu, Stevens, et al. (2020). Evidence for elevated psychiatric distress, poor sleep, and quality of life	Aims to use Wave 1 data from the CARES 2020 Project (April/May 2020) to examine the	399 participants with a pre-existing mental health condition, total sample was 898.	Of the sample, 32.2% participants indicated no pre-existing mental health disorder, 23.4% reported	Individuals with pre-existing mental health conditions are among the groups at highest risk for a	Initial study recruitment took place on the East Coast with outreach leading to other major

Table 3 (*continued*)

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concerns during the COVID-19 pandemic among U.S. young adults with suspected and reported psychiatric diagnoses. United States	psychological and physical well-being among U.S. young adults during the initial months of the COVID- 19 pandemic with specific attention to individuals who reported a pre-existing mental health condition. Cross sectional study using an online survey.	30-Minute online survey. Tools used – PHQ-9*, gad-7*, PCL-C*, a newly developed 6-item measure assessed COVID-19 pandemic-related worry, a newly developed 6-item measure separately assessed COVID-19-related feelings of grief and loss, MOS-Sleep*, and the SF-12*. Data gathered – March/May 2020.	suspecting such a diagnosis, 6.2% reported having such a diagnosis but no treatment, and 38.2% reported having received both a diagnosis and treatment. Compared to those without a pre-existing mental health diagnosis, the likelihood of scoring above the clinical threshold for those with a mental health diagnosis - whether treated or not - was more than six-fold for depression, and four-to six-fold for anxiety and PTSD.	range of psychiatric distress symptoms during the COVID-19 pandemic. COVID-19- related worry and grief affects sleep and health-related quality of life. Telehealth is recommended to provide continuity of care.	cities; participants may have been located at pandemic "hotspots," which could have accounted for the observed high levels of distress. There may be variability in the circumstances among those in the diagnostic group e.g., the timeframe for having received a diagnosis or having received treatment may widely differ. The study does not allow for any comparison of pre-pandemic data.
Ma et al. (2020). Influence of social isolation caused by coronavirus disease 2019 (COVID-19) on the psychological characteristics of hospitalised schizophrenia patients: a case-control study. China	Aims to explore the influence of social isolation on the psychological characteristics of hospitalised people with schizophrenia. Case-control study using assessment tools.	30 participants with a pre-existing mental health condition (schizophrenia), total sample was 60. Tools used – CPSS*, PANSS*, HAM-D*, HAM-A* and PSQI*. Date gathered -January/ April 2020.	The CPSS, HAM-D and HAM-A scores of the study group were significantly higher for people with schizophrenia than those of the control group. There were no statistically significant differences in the common inflammatory indicators between the isolation group and the control group.	Inpatients with pre-existing mental health conditions (schizophrenia) who have to socially isolation have higher levels of stress, anxiety, and depression.	There was a small sample size used in this study which limits the generalisability of the study findings.
Murphy et al. (2020). Exploring the impact of COVID-19 and restrictions to daily living as a result of social distancing within veterans with pre-existing mental health difficulties. United Kingdom	Aims to explore the effects of the COVID-19 lockdown on British Armed Forces veterans with pre-existing mental health conditions. Cross-sectional study using electronic surveys.	275 participants with a pre-existing mental health condition. Tools used – GHQ-12*, DAR-5*, AUDIT*, PCL*, Perceived Social Support Questionnaire and impact of COVID-19. Data gathered -June/July 2020.	15.1% of participants reported that they had experienced a bereavement related to COVID-19. The most frequently endorsed mental health conditions were anxiety and depression, followed by problems with anger, PTSD, and alcohol misuse. Symptoms exacerbated by the pandemic and worsened included: anxiety and depression (69.3%), PTSD (65.0%), difficulties with anger (52.7%) and alcohol misuse (30.0%). There was a significant association between reporting lower levels of social support and increased stressors because of COVID-19 and an increase in the severity of symptoms.	The severity of symptoms in patients with pre-existing mental health conditions increase as the number of stressors increase and social support decrease. There is a need to recognise the importance of implementing social support provision during the pandemic in supporting individuals with pre-existing mental health conditions.	The sample used was a national cohort of veterans seeking treatment and accessing a clinical service. The study was reliant on self-reported measures.
Muruganandam et al. (2020). COVID-19 and severe mental illness: Impact on patients and its relation with their awareness about COVID-19. India	Aims to determine the impact of COVID-19 on patients with pre-existing severe mental illness and its relationship with their COVID-19 knowledge. A cross-sectional study using a telephonic survey.	132 participants with a pre-existing mental health condition of a minimum of one year wand stable for the previous 3 months. Tools used - 23 item questionnaire designed after focused group discussion for this study. The questionnaire was comprised of self-reported knowledge related to COVID-19 by patients and their illness and treatment status from their caregivers. Data gathered – April/May 2020	Eighty percent of patients missed their appointments. 12.8% of patients could contact mental health professionals directly or through tele-consultation. 22% of patients stopped their psychiatric medication due to the non-availability, lack of transportation, and lockdown restrictions. 18.2% of patients stopped their medications for their general medical illness. 29.5% of patients showed	Nearly three quarters of patients with severe pre-existing mental health conditions do not have adequate knowledge about Covid-19 symptom. Around 30% of patients with pre-existing mental health problems who were stable before lockdown had a relapse. Tele-medicine provides opportunities to address the mental health needs of some patient and creating awareness and treatment implementation.	This was a newly developed tool used in the study. Cronbach's alpha 0.66 so only fair reliability. No information was provided on the focus groups and development of the questionnaire. Generalisability may be an issue as a new tool was used in the study.

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			re-emergence of previous psychiatric symptoms. There was an impairment noted in sleep (37.9%), food intake (23%), and personal care (20%). 14.4% of patients expressed suicidal ideas, 28% expressed feelings of physical aggression towards their caregivers, 63.6% reported that they were experiencing verbal and physical aggression from others. Caregivers (30.3%) living with patients reported an increase in the burden of taking care of patients. 45.5% perceived inadequate social support during this period.		
Newby et al. (2020). Acute mental health responses during the COVID-19 pandemic. Australia	Aims to examine the acute mental health responses to the COVID-19 pandemic in adult participants in Australia. Cross sectional study using an online survey.	3549 participants with a pre-existing mental health condition, total sample was 5070. Tools used - online questionnaires, socio-demographic details, COVID-19 variables, fears and perceived risk, health-protective behaviours, PAVS*, DASS-21*, WI-6*, a subscale of the revised version of Padua Inventory of Obsessions and Compulsion, and the AUDIT-C*. Data gathered -March/April 2020 during the peak of the COVID-19 outbreak in Australia.	Higher rates of illness fears, psychological distress (e.g., depression, anxiety, stress), insomnia and other mental health problems (e.g., posttraumatic stress) were found in people with pre-existing mental conditions. Participants with a previous mental health diagnosis reported higher uncertainty, loneliness, financial worries, COVID-19 fears (self and others), believing they were more likely to contract COVID-19. They also had lower perceived behavioural control, had higher rates of psychological distress, health anxiety and contamination fears, and lower physical activity.	People with existing mental health problems have higher distress, depression, anxiety, health anxiety, and contamination fears. Digital interventions, for depression and anxiety treatment are crucial in responding to ongoing mental health concerns especially for those in social isolation who are unable to attend face-to-face services. There is a need for proactive mental health interventions for those who are experiencing symptoms of depression/anxiety.	The results of this study are based on a convenience sample recruited online, who were mostly women (85%) and well educated, and a significant proportion reported having lived experience of a mental health diagnosis (70%). This may not be representative of the overall population as symptom severity may be overestimated. The findings are based on solely on validated self-report measures.
O' Connor et al. (2020). Mental health and well-being during the COVID-19 pandemic: Longitudinal analyses of adults in the UK COVID-19 Mental Health and Wellbeing study. United Kingdom	Aims to explore the mental health and well-being of adults in the UK in the early weeks of the COVID-19 pandemic. Quota survey study design using online surveys.	836 participants with a pre-existing mental health condition, total sample was 3077. Tools used - demographic questions, psychological and social measures, APMS*, PHQ-9*, GAD-7*, Griffiths' short-form scale, E-SF*, SWEMWBS*, UCLA 3-item loneliness scale, and the National Readership Survey social grade. Data gathered March/May 2020.	Just over a quarter (27.2%) of participants reported having a pre-existing mental health condition. Those with a pre-existing mental health condition were more likely to experience suicidal ideation and report higher levels of depressive symptoms. Participants with g a pre-existing mental health condition were more likely to score above the anxiety cut off and reported higher levels of defeat, entrapment and loneliness, and report lower well-being scores.	Individuals from more socially disadvantaged backgrounds and those with pre-existing mental health conditions report the worst mental health outcomes. These groups need to be prioritised to ensure that they receive the support they require and access to services tailored to meet their needs during COVID-19. Loneliness may become more of an issue for people as the pandemic unfolds.	It is unclear what the actual number of people with pre-existing mental health conditions in the sample was. Indicators of mental health were based on self-reports rather than clinical diagnoses. Those who did not complete all waves may have had poorer mental health at wave 1. The online survey may be limited to those with access and connectivity, and literacy and severity of illness issues may affect response rate.
Pinkham et al. (2020). A longitudinal investigation of the effects of the COVID-19 pandemic on the mental health of individuals with pre-existing severe mental illnesses.	Aims to compare pre-pandemic and current symptom ratings to identify the impact of the COVID-19 pandemic on mental health among individuals with pre-	148 participants with a pre-existing severe mental illness. Participants were recruited from ongoing ecological momentary studies that sampled day-to-day	Participants with severe mental illness had a pre-existing schizophrenia spectrum illness (n = 92) and pre-existing affective disorder (n = 56). The severity of affective	This study highlights that individuals with pre-existing severe mental illness are not reporting a worsening of symptoms or affective experiences and instead appear to be	Cross sectional data was collected relatively early in the pandemic and only at one timepoint between the beginning of April and May of 2020. It is possible that the

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United States	existing severe mental illness (SMI). Cross sectional study using a phone survey.	experiences and symptom severity. Baseline clinical characteristics were completed, and clinician ratings of symptom severity were obtained using PANNS*, MADRS*, YMRS* and SUMD*. The ecological momentary assessment developed by researchers was administered via phone. Data gathered – April/June 2020.	experiences and psychotic symptoms remained stable in addition to sleep duration across time during COVID-19. Well-being and the number of substances used increased during the early months of COVID-19. Increases in well-being were associated with being female and spending less time alone pre- COVID-19. Patterns of stability/change did not differ according to diagnostic category.	resilient in the face of the pandemic. Participants did report a small but significant increase in the number of substances used, and surprisingly, participants also reported a significant increase in well-being post-pandemic onset. As this study was carried out at a relatively early stage of the pandemic, there is a need for continued assessment whether this resilience will remain as the COVID-19 pandemic progresses.	negative effects may take time to arise as COVID-19 lockdown persists. This highlights the need for longitudinal studies to determine whether mental health stability in people with pre-existing mental health conditions is likely to continue or if trajectories decline as COVID-19 evolves.
Plunkett et al. (2020). Impact of the COVID-19 pandemic on patients with pre-existing anxiety disorders attending secondary care. Ireland	Aims to explore the psychological and social impact of COVID-19 on patients with established anxiety disorders social restrictions. Mixed method study using case notes for clinical data and demographic, interviews, and assessment tools.	30 participants with a pre-existing mental health condition. Clinical case notes were reviewed to attain basic demographic and clinical data and semi-structured interviews. Tools uses – BAI*, Ham-A*, CGI-S*, GAF*, Y-BOCS* and CGI-I*. Data gathering -April/May 2020.	50.0% participants described a negative effect of the COVID-19 pandemic on their mental health. 40.0% describing a negative effect pertaining to their levels of anxiety. The greatest impact of COVID-19 was on social functioning followed by quality of life. COVID-19 restrictions did not significantly impact participants with co-morbid mental health conditions in comparison to participants without a comorbid mental health condition.	The impact of the COVID-19 restrictions is related to reduced social functioning and quality of life. The presence of co-morbid mental or physical health difficulties may not be associated with additional symptomatology or impairment in people with pre-existing mental health problems.	A limitation to this study is the small sample size of 30 and the absence of a comparison control group. It may be difficult to generalise to the different anxiety disorders. The study was conducted in one community mental health team and may not be generalisable to other settings.
Riblet et al. (2020). Longitudinal examination of COVID-19 public health measures on mental health for rural patients with serious mental illness. United States	Aims to examine the longitudinal effects of COVID-19 and its related public health measures on rural patients with serious mental health conditions. A longitudinal, mixed-methods study utilising assessment tools and interviews.	11 participants with a pre-existing mental health condition. Tools used - MINI International Diagnostic Interview, BHS*, INQ*, PIH*, BSS* and the Columbia Suicide Severity Rating Scale research version. Three time points were used, and these included: baseline, 1 month and 3 months and a subsequent follow-up. Semi structured interviews were used to collect data. Data gathered - time points October 2019/March 2020, follow up April/May 2020.	Hopelessness, suicidal ideation, perceived burdensomeness, thwarted belongingness, and treatment engagement generally improved over time as participants transitioned from inpatient to outpatient care. Treatment engagement dropped slightly over time but not significantly. No patients were hospitalised or seen in the emergency room during the stay-at-home orders. Many patients reported that the pandemic had a positive or neutral impact on their overall life and sense of connectedness as they perceived their circle of acquaintances was already limited and the change in social norms was positive because it "normalised" their own baseline behaviours. However, some patients, felt that increased restrictions were problematic and worsened their symptoms and compounded their pre-existing sense of isolation.	Rural patients with serious mental illness may be resilient in the face of COVID-19 pandemic when they have access to treatment and supports. While there was no disruption to participants mental health care during the pandemic, half of participants highlighted challenges with telepsychiatry such as concerns about privacy, technological difficulties, lack of access to required equipment, and worries that the visit was less personal. Under the ideal circumstance's patients would always choose face-to-face over a video or phone visit.	There was a small sample size used in this study, making it difficult to generalise the findings. Participants were from an area that did not experience a high rate of Covid-19 at the time of the study. The study was limited to veterans who accessed care through the Veterans Affairs (VA) which is seen as a well-resourced integrated healthcare system. Thus, the same barriers to mental health treatment as may be experienced as the civilian population.

Table 3 (*continued*)

Author(s), year, title, place	Aim and methodology	Population, methods	Summary of findings	Key messages	Limitations
Schlegl et al. (2020). Eating disorders in times of the COVID-19 pandemic-Results from an online survey of patients with anorexia nervosa. Germany	To explore the effects of COVID-19 on eating disorder symptoms and other psychological aspects for former inpatients with anorexia nervosa. Cross-sectional study using an electronic survey.	159 participants with a pre-existing mental health condition (anorexia nervosa) aged from 13 upwards. Own tool developed comprising of 110 items (sociodemographic, impact, changes, worries, health care utilisation, coping strategies and optional open questions). Data gathered - May 2020.	41.5% of participants agreed that their symptoms had gotten worse. 20% reported experiencing new symptoms. Eating disorder cognitions (eating and shape concerns, drive for physical activity, and fear of gaining weight) increased for 70% of participants. 50% reported more time for meal preparation and cooked more. 18.9% reported a weight loss. Over half of participants reported a deterioration of their quality of life. 70% reported that loneliness, inner restlessness, and sadness increased. 50% worried about infection of others and relapse. 46.6% reported increases in family conflicts, whereas more than 80% reported no changes regarding friendship and relationship conflicts and/or conflicts in the workplace.	Even with decreased in person psychotherapy and visits to general practitioner, treatment for people with pre-existing anorexia nervosa was not deeply impacted. Patients may become more resourceful and develop their coping strategies. Increases in loneliness are a factor during Covid-19 which is a predictor of depressive symptoms in general and many people met the criteria for depression during COVID-19 in this study.	This study only comprised females discharged from inpatient treatment the year before and had a relatively high mean BMI. Results may not be gereralisable to others with anorexia nervosa. All data was self-reported and there is a potential for bias (e.g., body weight). No Cronbach's alpha was reported in the study. The sample included adolescents and it was not always possible to distinguish results specific to adults with pre-existing mental health conditions.
Skoda et al. (2020). Severely increased generalised anxiety, but not COVID-19-related fear in individuals with mental illnesses: A population based cross-sectional study in Germany. Germany	Aims to explore the impact of COVID-19-related fear, generalised anxiety, depressive symptoms, and distress on people suffering from a mental health condition. Cross-sectional study using an electronic survey.	1522 participants with a pre-existing mental health condition, total sample 12,028. Tool used comprised of; sociodemographic details, status on existing mental illnesses and chronic somatic disease, COVID-19 related fear, GAD*, PHQ-2*, distress (distress thermometer) and GAD-2*. Data gathered - March 2020.	Individuals with mental health conditions scored higher than healthy individuals on all scales (COVID-19-related fear $p < 0.001$, generalised anxiety $p < 0.001$, depressive symptoms $p < 0.001$ and perceived distress $p < 0.001$). Pre-existing mental health conditions significantly affects generalised anxiety, depressive symptoms, and distress, while a somatic illness that increases the threat caused by the COVID-19 pandemic does not significantly increase these parameters.	Generalised anxiety, depressive symptoms, and distress are significantly enhanced in people suffering from pre-existing mental health conditions. The COVID-19 pandemic increases unspecific, pathological anxiety rather than a specific fear of the virus in people suffering from pre-existing mental health conditions.	Cronbach's Alpha - GAD-7 0.900, GAD-2 0.818, and PHQ-2 0.825 - all indicating good reliability. The overall survey had 12,028 participants and it was not always possible to distinguish results specific to persons with mental health conditions. Data collected early in the Covid-19 time period which may have influenced the findings of the study.

Tools* - AUDIT - Alcohol Use Disorders Identification Test, APMS - Adult Psychiatric Morbidity Survey, BAI - Beck Anxiety Inventory, BDI – Beck Depression Inventory, BHS - Beck Hopelessness Scale, BPRS-18 - Brief Psychiatric Rating Scale 18 Items, BRCS - Brief Resilient Coping Scale, BSS - Beck Scale for Suicidal Ideation, CD-RISC - Connor–Davidson resilience scale, CESD-R - Centre for Epidemiologic Studies Depression Scale—Revised, CGI-I - Clinical Global Impressions Scale, CGI-S - Clinical Global Impression-Severity, CPSS - Chinese Perceived Stress Scale, CSS - COVID Stress Scale, DAR-5 - Dimensions of Anger Reactions—Revised 5-Item, DASS-21- Depression, Anxiety and Stress Scale–21 items, DERSSF - Difficulties in Emotion Regulation Scale—Short Form, EDI-2 - Eating Disorder Inventory-2, E-SF - Entrapment Scale Short form, GAD – Generalised Anxiety, GAD-2 - Generalised Anxiety– 2, GAD-7 - Generalised Anxiety Disorder-7, GAF - Global Assessment of Function, GHQ-12 - General Health Questionnaire 12-Item, GSCA - Grit Scale for Children and Adults, HAM-A - Hamilton Anxiety Rating Scale, HAM-D - Hamilton Depression Rating Scale, ICSRLE - Inventory of College Students' Recent Life Experiences, IES - Impact of Event Scale, IES-R - Impact of Event Scale- Revised, INQ - Interpersonal Needs Questionnaire, ISAS - Inventory of Statements about Self-Injury, ISI - Insomnia Severity Index, K10 - Kessler 10 Psychological Distress Scale, MADRS - Montgomery-Asbery Depression Rating Scale, MBI - Maslach Burnout Inventory, MOS-Sleep - Medical Outcomes Study Sleep Scale, MSI-BPD - Screening Instrument for borderline personality disorder, MSPSS - Multidimensional Scale of Perceived Social Support, OCI-R - Obsessive Compulsive Inventory - Revised Version, PANAS-X - Positive and Negative Affect Schedule—Expanded, PANSS - Positive and Negative Symptom Scale, PAVS – Physical Activity Vital Sign, PBS - Perceived Burdensomeness Scale, PCL - 20-item PTSD Checklist, PCL-C - PTSD Checklist—Civilian Version, PGTI (Short Form) - Short Form of Post-Traumatic Growth Inventory, PHQ-2 - Patient Health Questionnaire, PHQ-4 – Patient Health Questionnaire, PHQ-9 - Patient Health Questionnaire -9, PIH - Partners in Health Scale, PROMIS - Patient Reported Outcomes Information system, PSQI - Pittsburgh Sleep Quality Index. PSS-10 - Perceived Stress Scale 10, SCL-90R - Symptom Checklist-90-Revised, SIDAS - Suicidal Ideation Attributes Scale, SF-12 - the 12-item Short Form Health Survey, SRQ-20 - Self Reporting Questionnaire-20, SUMD - Scale to Assess Unawareness of Mental Disorder, SWEMWBS - Short Warwick Edinburgh Mental Well-Being Scale 7-item, TCI-R - Temperament and Character Inventory-Revised, WI-6 - Whiteley-6, Y-BOCS - Yale Brown Obsessive Compulsive Scale, Y-BOCS-SC - Yale–Brown Obsessive Compulsive Symptom Scale Symptom Checklist, Y-FAS 2.0 - Yale Food Addiction Scale 2.0, YMRS - Young Mania Rating Scale.

for all people. Pandemic-related factors have influenced the determinants of health across the social, economic, environmental and personal aspects of life and wellbeing. However, the pandemic has had a greater impact on health outcomes for some populations over others (Burström & Tao, 2020). This review highlights the factors which have influenced health outcomes for people with pre-existent mental health conditions and reports on a wide range of conditions from depression, anxiety and obsessive-compulsive disorders to mood disorders, psychosis and other serious mental health conditions. The factors which have compounded health difficulties for people are charted in Table 4. The most commonly reported factor is the additional fear, worry and stress which COVID-19 pandemic created. People were fearful of contracting the virus and worried about spreading it to others, particularly to vulnerable family members (Asmundson et al., 2020; Davide et al., 2020; Hao et al., 2020; Newby et al., 2020). This led to increased levels of distress, especially for people with pre-existent mental health conditions where symptoms centred on the fear of contamination and infection risk from others (Davide et al., 2020; Newby et al., 2020).

COVID-19 pandemic related restrictions for public health protection (such as lockdowns, quarantines and social distancing rules) contributed to increasing levels of social isolation and loneliness, with reduced opportunities for people to connect with family and friends (Asmundson et al., 2020; Hamm et al., 2020; Hao et al., 2020; Newby et al., 2020; Plunkett et al., 2020). In some cases, this resulted in people relying more heavily on social media networking to connect with others, yet it was viewed that this increased usage was also negatively affecting mental health status (Gobbi et al., 2020). For the majority, social isolation was difficult and further compounded by reduced access to and withdrawal of face-to-face individual and group-based mental health services and

Table 4
COVID-19 Pandemic-related factors affecting health outcomes.

Pandemic-related factors affecting health outcomes	Reporting studies
COVID-19 fear, worry and stress leading to increased psychological distress.	Asmundson et al. (2020); Baenas et al. (2020); Burrai et al. (2020).; Davide et al. (2020); Di Nicola et al. (2020); Gentile et al. (2020); González-Blanco et al. (2020); Hamm et al. (2020); Hao et al. (2020); Iasevoli et al. (2020); Liu, Stevens, et al. (2020); Ma et al. (2020); Murphy et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); O' Connor et al. (2020); Plunkett et al. (2020); Riblet et al. (2020).
Pandemic related restrictions e.g., 'lockdown' or 'quarantine' and 'social distancing' leading to frustration, loneliness and increased social isolation.	Asmundson et al. (2020); Burrai et al. (2020); Di Nicola et al. (2020); Fiorillo et al. (2020); Gentile et al. (2020); Gobbi et al. (2020); González-Blanco et al. (2020); Hamm et al. (2020); Hamza et al. (2020); Ma et al. (2020); Murphy et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); O' Connor et al. (2020); Plunkett et al. (2020); Riblet et al. (2020).
Reduced access to face-to-face mental health services and supports.	Gao et al. (2020); Hao et al. (2020); Muruganandam et al. (2020).
Medication management difficulties.	Hao et al. (2020); Muruganandam et al. (2020).
Loss of routine regarding eating habits and physical activity.	Gobbi et al. (2020); Gentile et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); Schlegl et al. (2020).
Living away from home, alone or unmarried.	González-Blanco et al. (2020).
Loss of employment, reduced income and uncertain socioeconomic status.	Aragona et al. (2020); Franchini et al. (2020); Gao et al. (2020); Hao et al. (2020); Iasevoli et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); O' Connor et al. (2020).
Increased social media use by individuals.	Gobbi et al. (2020).

supports (Gao et al., 2020;Hao et al., 2020 ; Muruganandam et al., 2020). This led to difficulties with medication management as people were unable to attend medication clinics or collect medicines from pharmacies due to restrictions, thus further impacting on the management of pre-existent conditions and contributed to deteriorating mental health status (Hao et al., 2020; Muruganandam et al., 2020). The loss of daily routines regarding eating habits, physical activity and community-based activities also negatively impacted on peoples' physical and mental health (Gentile et al., 2020; Gobbi et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; Schlegl et al., 2020). This impact was intensified if one was living away from home, living alone or unmarried (González-Blanco et al., 2020). Within the review, lower employment levels and/or opportunities for work resulted in reduced income, increased financial worries and generally lowered socioeconomic status (Aragona et al., 2020; Franchini et al., 2020; Gao et al., 2020; Hao et al., 2020; Iasevoli et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; O' Connor et al., 2020). It is reported that these pandemic related factors increase the predisposition of people with pre-existent mental health problems to relapse, exacerbation and/or deterioration in mental health status (Alonzi et al., 2020; Asmundson et al., 2020; Davide et al., 2020; González-Blanco et al., 2020; Hao et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; Riblet et al., 2020).

Q2. What is the impact of the COVID-19 pandemic on the health of people with pre-existent mental health conditions?

This scoping review confirms that people with pre-existent mental health conditions experience increasing difficulties and challenges due to the COVID-19 pandemic and its related public health restrictions. Exacerbation and deterioration of symptoms associated with the pre-existent mental health conditions were the most commonly reported effect in all studies (Alonzi et al., 2020; Asmundson et al., 2020; Baenas et al., 2020; Benatti et al., 2020; Daly & Robinson, 2020; Davide et al., 2020; Di Nicola et al., 2020; Fiorillo et al., 2020; Gao et al., 2020; Gentile et al., 2020; Gobbi et al., 2020; González-Blanco et al., 2020; Hao et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; O' Connor et al., 2020; Pinkham et al., 2020; Plunkett et al., 2020; Riblet et al., 2020; Schlegl et al., 2020; Skoda et al., 2020). An increase in self-harming behaviour and suicidality (Hao et al., 2020) were also reported. However, a small number of studies (n = 3) acknowledged the challenges experienced as a result of COVID-19 but proposed that the impact on mental health conditions in the early stages of imposed public health restrictions were minimal. For example, no patient reported mood disorder re-occurrence (Franchini et al., 2020), people with pre-existent serious mental illness were not reporting a worsening of symptoms or affective experiences (Pinkham et al., 2020) and participants in a study by Hamm et al. (2020) did not report depression but found that anxiety increased when measured on anxiety scales. However, this scoping review does illuminate the idea that individuals with deteriorating symptoms associated with their mental health condition were more susceptible to COVID-19, as they experienced poorer health outcomes (Muruganandam et al., 2020). Increased incidences of cognitive impairment and lower literacy levels in this population means that some may have difficulty adhering to public health guidelines and restrictions (Muruganandam et al., 2020; Newby et al., 2020). A lack of awareness and understanding about COVID-19, including symptoms, mode of transmission and precautionary measures needed, contributes to this susceptibility (Muruganandam et al., 2020) and increases the risk of individual and community transmission. Nonetheless, there was some evidence within the review of resilience among people with pre-existent mental health conditions. Many studies reported that this population were more likely to have past experiences of the negative detriments of health (e.g., isolation, fear, unemployment), factors which are now similar to those associated with the pandemic. Therefore, it is posited that this population may have more resilience and developed coping strategies in such contexts (Daly & Robinson, 2020; González-Blanco

et al., 2020; Hamm et al., 2020; Pinkham et al., 2020; Plunkett et al., 2020; Riblet et al., 2020; Schlegl et al., 2020).

Q3. What strategies and/or measures are recommended to support people with pre-existent mental health conditions during the COVID-19 pandemic?

Table 5 summarises the key strategies and/or measures recommended to support people with pre-existent mental health conditions during the COVID-19 pandemic. A key recommendation which consistently emerged within the review was the need for increased monitoring, early intervention and proactive planning of alternative healthcare strategies, which are accessible for all people with pre-existent mental health conditions during a pandemic (Asmundson et al., 2020; Baenas et al., 2020; Burrai et al., 2020; Daly & Robinson, 2020; González-Blanco et al., 2020; Iasevoli et al., 2020; Liu, Stevens, et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; Plunkett et al., 2020; Riblet et al., 2020). However, the challenges of providing adequate supports in such unprecedented circumstances were also highlighted. The provision of remote/distance mental health services and supports via technology-enhanced platforms/resources was a key recommendation (Alonzi et al., 2020; Aragona et al., 2020; Asmundson et al., 2020; Baenas et al., 2020; Burrai et al., 2020; Daly and Robinson, 2020; Davide et al., 2020; Franchini et al., 2020; Gentile et al., 2020; Hao et al., 2020; Liu, Stevens, et al., 2020; Newby et al., 2020; O' Connor et al., 2020; Plunkett et al., 2020; Riblet et al., 2020). There was evidence of such technology-enhanced services in some studies, and in other cases they were either not available or needed to be enhanced. Nonetheless, Muruganandam et al. (2020) drew attention to the importance of strategically planning and allocating adequate resources to ensure the success of such support strategies, such as finances, capital and staffing levels. Also, of note within the review, was the varied terminology used to describe the technology-enhanced approach to the provision of remote/

distance health care, the diverse terms may be open to different interpretations by different people, including healthcare providers and service-users (Table 6). Reviewing medication management support strategies during the pandemic was also recommended. Home delivery of medicines from clinics and pharmacies and support around the administration of medicines is advocated, particularly with long-acting injectable medicines (Hao et al., 2020). The need for greater accessibility to point-of-care COVID-19 testing at mental health care facilities, and protocol development for the management of people with severe mental health conditions who become infectious and require isolation, were also identified as requiring urgent consideration (Hao et al., 2020; Muruganandam et al., 2020).

Discussion

This review captures the first year of the COVID-19 pandemic and maps the evidence of the impact of COVID-19 on people with pre-existent mental health conditions, along with its related restrictions. Interestingly to note, the majority of the included research studies in this paper collected their study data in March/April (n = 11) and March/May (n = 6), approximately 1–3 months after COVID-19 was declared a global pandemic by the WHO in March 2020. The other included studies collected their study data in April/May (n = 4), March/June (n = 2), January/April (n = 3), February/March (n = 2), April/June (n = 1), June/July (n = 1). The key findings from this review highlight the vulnerability of people with pre-existent mental health conditions. In particular, it provides clear evidence that the COVID-19 pandemic can exacerbate symptoms in people with pre-existent mental health conditions and subsequently place them at an increased risk of psychological distress and potential risk of relapse. Vulnerability can be heightened for certain groups such as those with obsessive compulsive disorder who have checking, hoarding, and washing compulsions or those living or receiving care in congregated settings (Connolly, 2020). In addition, COVID-19 restrictions jeopardise normal daily routines, social rhythm and thereby increases stress levels, which further accelerates cortisol levels, leading to exacerbation of generalised anxiety disorder, depressive symptoms, chronic insomnia (Dong & Bouey, 2020) and suicidal ideation (Goyal et al., 2020). This overall dysregulation of the stress system exacerbates pre-existent mental health conditions (Steenblock et al., 2020) and of note within the wider literature is that older people have a high risk of severe COVID-19 illness and mental-health-related consequences due to the pre-existence of cognitive decline (Brown et al., 2020; Webb, 2020). Compounding this are issues around access to services and support (Chevance et al., 2020; Garriga et al., 2020; Hao et al., 2020), literacy levels (Melamed et al., 2020; Muruganandam et al., 2020; Newby et al., 2020), awareness (Garfin et al., 2020; Muruganandam et al., 2020; Zhoa & Zhou, 2020) and accessibility (Asmundson et al., 2020; Baenas et al., 2020; Burrai et al., 2020; Daly & Robinson, 2020; González-Blanco et al., 2020; Iasevoli et al., 2020; Liu, Stevens, et al., 2020; Muruganandam et al., 2020; Newby et al., 2020; Plunkett et al., 2020; Riblet et al., 2020). These issues need to be addressed as it is everyone's right to have equal access to healthcare that is of the highest standard (Rajkumar, 2020).

A small number of studies (Franchini et al., 2020; Hamm et al., 2020; Pinkham et al., 2020) reported on the impact on mental health conditions as minimal while acknowledging the challenges experienced as a result of COVID-19. This, however, needs to be considered in the context that these studies were conducted in the early stages of COVID-19 (March/June 2020) and the full impact of the restrictive measures and

Table 5
Recommended strategies and/or measures during the COVID-19 pandemic.

Recommended strategies and/or measures during the pandemic	Reporting studies
Provide existing mental health services and supports remotely, through the use of technology enhanced platforms/resources where possible.	Alonzi et al. (2020); Aragona et al. (2020); Asmundson et al. (2020); Baenas et al. (2020); Burrai et al. (2020); Daly and Robinson (2020); Davide et al. (2020); Franchini et al. (2020); Gentile et al. (2020); González-Blanco et al. (2020); Hao et al. (2020); Iasevoli et al. (2020); Liu, Stevens, et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); O' Connor et al. (2020); Plunkett et al. (2020); Riblet et al. (2020)
Increase monitoring, provide early intervention and individually tailored care strategies, through the use of technology enhanced platforms/resources where possible.	Asmundson et al. (2020); Baenas et al. (2020); Burrai et al. (2020); Daly and Robinson (2020); Gentile et al. (2020); González-Blanco et al. (2020); Iasevoli et al. (2020); Liu, Stevens, et al. (2020); Muruganandam et al. (2020); Newby et al. (2020); Plunkett et al. (2020); Riblet et al. (2020)
Standardised protocols are needed on the management of people with serious mental health conditions who become infectious and require isolation, particularly for those in cohabiting living situations or inpatients.	Muruganandam et al. (2020)
Provide point-of-care COVID-19 testing within mental health services.	Hao et al. (2020)
Provide medication management support strategies, particularly regarding long-acting injectable medicines.	Hao et al. (2020)

Table 6
Terms describing technology-enhanced remote health care.

Telemedicine; telepsychiatry; telehealth; tele-psychiatric platform; eHealth; online consultations; mobile health technology; digital interventions; digital psychiatry; electronic records; video conferencing.

the following waves were not captured and may impact on later studies. It is possible that the negative effects may take time to arise as COVID-19 lockdown persists, thus highlighting the need for longitudinal studies to determine whether mental health stability in people with pre-existing mental health conditions is likely to continue or if trajectories decline as COVID-19 evolves. Furthermore, it is evident from this review that the way in which people are accessing information about COVID-19 can potentially have an impact on their mental health. For example, while the media can publicise accurate up-to-date data on COVID-19 with speed and subsequently raise awareness about individual's health behaviours, it also has the potential to trigger and increase anxieties and communicate misinformation (Garfin et al., 2020; Zhoa & Zhou, 2020). This is also relevant for vaccinations and other public health messages (WHO, 2020d). Loomba et al. (2021) quantified how exposure to online misinformation around COVID-19 vaccinations affects intent to vaccinate and found that exposure to online misinformation about COVID-19 was more strongly associated with declines in vaccination intent, threatening the goal of herd immunity. Misinformation can further complicate COVID-19 response efforts and decrease the publics' trust in organisations leading out on the response to COVID-19 (WHO, 2020d; WHO, 2020e).

Zhong et al. (2020) highlighted a link between social media and depression and secondary trauma, which also produced health behaviour changes, but interestingly no association was found between health behaviour change and mental health conditions. Excessive social media has been found to lead to mental health issues indicating that taking a break from social media may be conducive to promoting positive mental health well-being (Zhong et al., 2020). Young adults may need to be targeted as they use social media more and tend to utilise disaster-related information via social media platforms (Piotrowski, 2015). Mheidly and Fares (2020) caution the difficulties posed in relation to monitoring all published posts on social media during COVID-19. In response to this, the WHO has worked closely with more than 50 digital companies and social media platforms such as Facebook, TikTok, WhatsApp, Google, Instagram, YouTube and Twitter to discourage the spread of misinformation in relation to COVID-19 and a number of initiatives were introduced subsequently e.g., WHO developed a 'Myth busters' page and social listening with artificial intelligence, and Google created an 'SOS' alert on COVID-19 accessible in many languages (WHO, 2020d; WHO, 2020e).

Resilience among people with pre-existent mental health conditions during COVID-19 was evident (Baenas et al., 2020; Daly & Robinson, 2020; Pinkham et al., 2020). Individuals with mental health conditions often demonstrate resilience in managing and adapting to challenges faced, demonstrating the importance of understanding the varied responses to the pandemic. Two key aspects to resilience factors are optimism and meaningful social support (Ayed et al., 2019; Plomecka et al., 2020; Li et al., 2021), with optimism lending itself to more flexible adaptive emotion-focused coping strategies. For example, positive reinterpretation of a situation (Lazarus & Folkman, 1984) and meaningful social support can provide a protective buffer effect on mental health in stressful situations (Eisman et al., 2015; Li et al., 2021). Furthermore, within the literature, resilience has been shown to positively predict subjective well-being through the mediating role of hope (Satici, 2016), with lower symptoms of depression and anxiety associated with resilience characteristics (Skrove et al., 2012). Killgore et al. (2020) assessed psychological resilience during COVID-19 and found lower resilience scores were associated with more severe depression and anxiety in the general population. In addition, predictors of good state resilience in people with pre-existing mental health conditions during COVID-19 were reported as having pursued hobbies or conducted home tasks and having a good level of organisation in the family (Verdolini et al., 2021). This review provided evidence of the strategies recommended to support people with pre-existent mental health conditions during COVID-19, in particular, remote/distant service provision was highlighted.

Pre-COVID-19 there was a concerted push towards the development and implementation of remote/distance services in supporting people with pre-existent physical and mental health conditions in an attempt to reduce their burden of care. Hubley et al. (2016), despite evidence that online services can be an effective and conventional method to improving access to mental health service provision, where access may have been limited previously (Salmoiraghi & Hussain, 2015; Bashshur et al., 2016; Wherton et al., 2020). However, with the arrival of COVID-19, adoption of telehealth is reported globally (Figueroa & Aguilera, 2020; Liu, Yang, et al., 2020; Sheridan Rains et al., 2020; WHO, 2020c; Wosik et al., 2020). This move to remote/distance service provision highlights the increased need for monitoring and tailored care due to COVID-19 and the increased vulnerabilities people have (Figueroa & Aguilera, 2020). For example, the importance of point of care COVID-19 testing and isolation protocols, particularly in, in-patient facilities are needed (Benson et al., 2020; Hao et al., 2020; Li, 2020; Muruganandam et al., 2020). People with pre-existent mental health conditions in inpatient facilities are at an increased risk of exposure to COVID-19 due to difficulties assessing medical systems, frequent patient turnover, limited space and staff (Benson et al., 2020). In addition, the need for medication support and emergency care support is further emphasised (Capuzzi et al., 2020; Hao et al., 2020).

This pandemic has accelerated the implementation of remote and distance services and supports which are valid measures for people with pre-existent physical and mental health conditions (Mencap Report, 2020). Thus, this momentum should be evaluated to advance our understanding of engagement with online services in supporting vulnerable populations emerging with new ways of delivering mental healthcare services (Galea et al., 2020; Sheridan Rains et al., 2020). Engagement with online services can be viewed as a positive attribute to healthcare and can be expected to outlast this COVID-19 pandemic (Sheridan Rains et al., 2020). However, online services are not without their concerns and challenges (Lowenstein et al., 2017; Naidoo & Cartwright, 2020), one potentially being confidentiality breaches depending on where the client is, as the virtual consultation takes place. Fear of breach of privacy and confidentiality surrounding the area of data storage and usage prevails (HEMHA, 2019). Healthcare services must be aware of the ethical, legal, practical and therapeutic risks associated with technology (Naidoo & Cartwright, 2020). Strategies to minimise such privacy and confidentiality breaches from occurring need to be initiated through appropriate security standards in compliance with national/international regulations (HEMHA, 2019). For service users who may have concerns and anxieties around breaches in confidentiality, other alternative modes such as email, text and face to face blended approaches could be considered (Naidoo & Cartwright, 2020). Types of software being used, how data is stored, encryption of data and gaining patient consent to engage in this way are also important considerations with online modalities. Lowenstein et al. (2017) suggest such considerations help alleviate concerns about technology, lessening patient worries and hopefully preventing them from deferring their care. A re-envisioning of current healthcare models is timely to benefit those most vulnerable, mitigating against the further pandemic of mental health problems resulting from COVID-19 (Galea et al., 2020). However, it is evident from this review that there are variations in the terminology used when referring to the provision of remote mental healthcare services/approaches/supports via the use of technology enhanced resources (Table 5).

When incorporating new strategies in supporting people with pre-existent mental health conditions during the COVID-19 pandemic, it is important to remember that it is everyone's right to have equal access to healthcare that is of the highest standard (Rajkumar, 2020). However, some groups are identified as having limited access to services such as the older person with mental health problems (Yang et al., 2020), rural populations (Benavides-Vaello et al., 2013), individuals from lower socioeconomic divisions (Yao et al., 2020b) and those from ethnic minority populations (Figueroa et al., 2020). For example, in rural areas

access to mental health service provision is impacted by geographical isolation, low socio-economic status of the population, cultural differences and language barriers (Yellowlees et al., 2008). This lack of access is further compounded when services are moved online, making digital exclusion real and complex (Sheridan Rains et al., 2020). Lack of technological access and/or experience and lack of resources further impedes mental health problems compounding this digital exclusion (Sheridan Rains et al., 2020). Such exclusions unfortunately, exclude the voice of those unable to participate and it should be noted when considering and reviewing online services or publications regarding online services. Learning from previous pandemics demonstrates how negative psychological and socio-economic influences can continue to persist (Lee et al., 2007; Mak et al., 2009). Recognising the increase in mental health problems associated with COVID-19, it must be acknowledged that the risk of social adversities and existing inequalities may rise further (Sheridan Rains et al., 2020). While acknowledging that during the COVID-19 pandemic telemedicine and teletherapy have contributed greatly to the delivery of mental healthcare globally (WHO, 2020c), we must also note the disparity that exists between countries where 80% of high-income countries deployed these services compared with 50% of low-income counties (WHO, 2020c). Thus, highlighting the importance of exploring unique cultural contexts when interpreting research findings from different countries as they are not directly comparable. Prior to this pandemic, Power (2019) reported that one in ten service users in the United States used telehealth where 75% reported that they were unaware of telehealth options or how to access them. In recognising the value of online digital support, we must also recognise the inequalities in technology access and digital literacy which continue to exist.

Further research on ways of overcoming digital literacy gaps is required and is timely to help sustain the delivery of services post COVID-19. Through identifying barriers to online services for both staff and service users, such as, technological limitations of various devices, regulatory, authorised, linguistic barriers, and cultural misunderstanding, services can be developed in the future (Damschroder et al., 2009; Sheridan Rains et al., 2020; Shore et al., 2020). For example, language barriers and cultural differences can potentially result in errors in medical communication and further increase anxieties and stress for service users (Bowen, 2000; Meuter et al., 2015). In addition, misunderstanding with terms of communication can lead to non-compliance or the service user refusing treatment (Meuter et al., 2015). This is further exacerbated in an online format as it is difficult to read non-verbal communication if the service user does not have their camera on. Measures such as being user friendly is advocated for scaling up the delivery of services as increased uptake is reliant on people's ability to use technology such as smartphone features, downloading apps and having good connectivity (Anderson et al., 2016; Figueroa & Aguilera, 2020). Improved technology is one part of improving engagement with online services, however, this needs to be accompanied by guidance and training for both staff and service users to support compliance (Figueroa & Aguilera, 2020). For example, strategies such as outreach programmes providing training for people with low-tech skills by healthcare staff may facilitate service users' usability and understanding of digital tools (Grossman et al., 2019). Post COVID-19 the need remains for delivery of services to support people with pre-existent physical and mental health conditions. Online/remote delivery of services must be considered now as a viable mode of delivery. For successful implementation of digital online services, a clear roadmap is essential, incorporating systems that are affordable, manageable, and suitable for a widespread group of individuals with variations in languages, age, and digital literacy levels (Lal, 2019). Insights gained through living and working through COVID-19 is vital to inform and support the successful implantation of e-mental health in the future.

A frequently raised concern within the literature was the exacerbation of pre-existent mental health conditions and difficulties in accessing mental health support and services. Thereby, we need to prioritise the voices of service users and their families within the research agenda and to coordinate existing research infrastructure through shared protocols and research measures in a collaborative manner (Holmes et al., 2020). In addition, while there is some evidence of short-term success for remote service delivery (Naslund et al., 2017; Jimenez-Molina et al., 2019; Liu, Yang, et al., 2020), challenges and drawbacks also exist in the use of remote therapies, especially in people who might be in most need. Issues of note involve access to and knowledge of technology, internet access, data allowance costs, and privacy and data security (Naslund et al., 2017; Jimenez-Molina et al., 2019). In addition, there is a risk that people may disengage from treatment, and their loneliness could increase without this in-person contact. Furthermore, telehealth and digital services should not replace face-to-face treatment, particularly for those requiring intensive mental health treatment and support (Moreno et al., 2020). Thereby, ongoing research that involves and captures the voices and experience of people with pre-existent mental health conditions are a necessity to guide and support care delivery and management in times of difficulty, uncertainty, and pandemics.

Study limitations

The limitations of this study are mainly related to the methodology employed for the review. Due to the evolving nature of COVID-19, research studies and new knowledge are being published daily worldwide. Therefore, the timeframe of this study is a limitation, as the search strategy was conducted up to and including the 31st December 2020, literature published after this time was not included. However, to the authors' knowledge this is the first scoping review that has focused on the impact of COVID-19 and its related restrictions on people with pre-existing mental health conditions within the first year of COVID-19 which is a strength of the study. In addition, a quality appraisal of the included literature was not conducted as this is not generally a requirement for a scoping review and was not the purpose of this review (Pollock et al., 2021). Furthermore, only English language papers were reviewed.

Conclusion

Individuals with pre-existent mental health conditions are a vulnerable group of people and are even more so during the COVID-19 pandemic due to the nature of their illness, life circumstances and their requirements for mental health support services. Exacerbation of pre-existing mental health conditions, lack of adequate resources in service provision and difficulties in accessing mental health support/services during the pandemic are reported. There is a strong emphasis in the literature on the importance of providing technologically enhanced remote/distance mental health services during the pandemic. However, there is evidence that access, uptake and usage of such remote services is not necessarily fair and equitable for all. Further research is needed in this area, particularly regarding the experiences of people with pre-existing mental health conditions, in order to guide and support effective care delivery and management support during times of difficulty and uncertainty related to living life during a worldwide pandemic.

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CRediT authorship contribution statement

All authors meet the criteria for authorship as outlined below. All entitled to authorship are listed as authors. No other authors were involved with this paper.

1. Have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of literature (LM; OD; KM; CO'D; MM);

2. Been involved in drafting the article or revising it critically for important intellectual content (LM; OD; KM; CO'D; MM);

3. Given final approval of the version to be submitted. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content (LM; OD; KM; CO'D; MM).

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Declaration of competing interest

None.

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