Social Anxiety and its Treatment in Young People during COVID-19: A Systematic Review

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A dissertation submitted to

Auckland University of Technology

in partial fulfilment of the requirements for the degree of

Master of Health Science

September 4, 2023

Department of Psychology

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Date: 04 September 2023

Signature:

Acknowledgements

To my husband, thank you for your unwavering support over the last 6 years of studying. For always picking me up and pushing me to keep going no matter how hard it gets. It is because of you I have gotten to where I am today.

To my babies, just do your best and nothing else matters. This is what I had to keep saying to myself during these last two years. Through many struggles, tears, and early mornings, I have finally completed it and I have two beautiful babies beside me to celebrate with me. In life, you may find that you doubt yourself and don't believe in yourself but just remember that all you can do is your best and you might just surprise yourself. I am very proud of myself for this achievement, but my greatest achievement will always be you. Thank you for your unconditional love, I love you both.

To my friends and family, thank you for your support. Every word of encouragement and spending time with Koa so I can study hasn't gone unnoticed; I appreciate it so much.

Abstract

The COVID-19 pandemic affected young people on a global scale. Social anxiety disorder (SAD) has been noted as one of the most prevalent mental health disorders prior to the pandemic (Nagata et al., 2015) and with lockdowns causing natural social exposure to be limited there needs to be a better understanding of whether the prevalence in young people has been affected, and how to effectively treat those with SAD during the pandemic. This systematic literature review aims to synthesise and critically assess the research on the prevalence of social anxiety disorder (SAD) in young people, the evidence-based interventions utilised throughout the pandemic to treat young people with SAD, as well as how the pandemic impacted the delivery of these interventions. Three databases (PsycINFO, Scopus, and CINAHL) were used to generate the selected 16 articles that met the eligibility for inclusion. Due to the differences in study designs used in the included articles, a narrative synthesis was conducted. Cognitive behavioural therapy (CBT) based interventions with a range of lengths are suggested to be of benefit to young people with SAD. The results suggest that the prevalence of SAD has increased compared to pre-pandemic. CBT was the main form of evidence-based practise utilised showing positive post-intervention outcomes. There are a few suggestions made to deliver interventions effectively through online platforms with the benefits and drawbacks of telehealth addressed. Future research addressing longer-term interventions for young people with SAD is warranted.

Social Anxiety and its Treatment in Young People during COVID-19: A Systematic Review

Chapter One: Introduction and Literature Review

The COVID-19 pandemic undoubtedly altered the way humans exist, particularly during the lockdown periods with minimal face-to-face interactions, restricted outdoor activity, and major school changes to online systems (Khalifa et al., 2021; Thoradeniya & Jayasinghe, 2021). These life changes ultimately eliminated the natural social exposure young people had in daily life. Social anxiety disorder (SAD) had already impacted young people worldwide before the COVID-19 pandemic (Crome et al., 2015; Nagata et al., 2015). The purpose of this research is to investigate whether the COVID-19 pandemic impacted the prevalence of SAD in young people by comparing pre-COVID to during COVID, as well as what the evidence-based practice that has been utilised for SAD in young people during the pandemic and the implications of COVID-19 has had on the delivery of these interventions.

This chapter provides an overview of (1) the prevalence of anxiety disorders in young people, (2) the presentation of anxiety and anxiety disorders in young people, (3) SAD and the prevalence of SAD pre-COVID-19, (4) evidence-based treatments for anxiety disorders in young people, (5) the unique context of the recent COVID pandemic and how this may have impacted on the mental wellbeing of young people. This chapter concludes with the rationale and aims of this research project.

Anxiety Disorders

There are several types of anxiety disorders; separation anxiety disorder, selective mutism, specific phobia, panic disorder, agoraphobia, and generalised anxiety disorder (APA, 2022) with SAD being one of the most common (Kindred & Bates 2023; Lane et al., 2021). Several factors can contribute to the development of an anxiety disorder including 1) environmental factors, 2) genetic predisposition and/or 3) temperament (APA, 2022; Shri, 2012; Caouette & Guyer, 2014). 1) Environmental factors refer to exposure to current surroundings and lifestyle and what has been experienced throughout childhood. This can impact on anxiety levels and the ability to cope. These factors can include the number of years in education, family environment, abuse, and traumatic experiences (Blanco et al., 2014). As mentioned above, the developmental stage a person is in and the environmental challenges that come with that stage, may impact the chances of developing an anxiety disorder (Erikson, 1958). 2) An individual's genetic predisposition can cause a person to be more susceptible to experiencing anxiety. These factors may include ethnicity, and/or family history (Blanco et al., 2014). 3) A person's temperament can include differences in emotional reactivity and regulation, which can be observed from an early age (Caouette & Guyer, 2014). These temperamental components are considered moderately stable and have a partial genetic component (Zalewski et al., 2011; Goldsmith et al., 1987). Temperament varies from person to person, and siblings can have different temperaments (Saudino et al., 2004). People who are more likely to experience negative emotions such as fear, sadness, and anger have links between temperamental traits and anxiety disorders (Rettew et al., 2006). All these factors impact whether an individual may experience an anxiety disorder and the level to which it might be experienced.

Prevalence of Anxiety Disorders

Research shows that anxiety disorders are the most common mental health issue, with lifetime prevalence rates ranging from approximately 30%-33.7% (APA, 2022; Bandelow & Michaelis, 2015). Craske and Stein (2017) showed the global prevalence of anxiety disorders was approximately 7.3%, which means that 1 in 14 people will experience an anxiety disorder around the world at any given time. Worldwide, females are considerably more likely than males to have an anxiety disorder (McLean et al., 2011). There are large variations found between countries, with Italy's 12-month prevalence rate sitting at approximately 2.4% whereas in Mexico it was significantly higher at 29.8%. There may be some large variations between the research prevalence reported due to cultural differences and potential under-diagnosing. Adolescents have a prevalence rate of 31.9% for any anxiety disorder and of these adolescents, the DSM-5-TR criteria showed an estimate of 8.3% having severe impairment (Chiu et al., 2015). The anxiety prevalence rates among adolescents were found to be higher in females (38.0%) than males (26.1%). In New Zealand, young adults' 12-month prevalence rates range from 19.4% to 22.3% for anxiety disorders (Gustavson et al., 2018). These variations between genders may be due to less reporting from males, and larger female populations in research.

Anxiety Disorders in Young People

Young people are those aged between 10-24 years old (United Nations, 2023). During this developmental phase, people are considered more psychologically vulnerable. Young people are going through hormonal changes and the challenge of becoming an adult, as well as trying to build their independence (Herpertz-Dahlmann et al., 2013; Imran et al., 2020). It can be helpful to understand anxiety disorders in young people from several perspectives including

developmental, genetic, and/or environmental. This section aims to summarise the potential causes of anxiety.

Developmental perspective

Erikson developed the eight stages of psychosocial development, from infancy through to adulthood. During each stage, a person will encounter a psychosocial crisis that may positively or negatively impact the development of one's personality (Erickson, 1958; Erickson, 1963). Erikson claims that failure to complete a stage may hinder further progress into the next stages and hinder the individual's psychosocial development. These stages provide some emphasis on how the environment impacts a person, and whether the likelihood of developing an anxiety disorder may be increased in those who have failed to achieve the challenges in each consecutive stage. The following three stages (4,5, and 6) which have a bearing on the population group in this study will be discussed in more detail.

The fourth stage (industry versus inferiority) occurs between five to twelve years old. During this time, a young person is trying to cope with learning new skills, gaining knowledge on how to act in society, and understanding social demands. This can be a stressful time with starting new schools, making friends, peer pressure and bullying. Success at this stage allows for a sense of competence, while failure results in feelings of inferiority. In this stage, children's friend groups will become more significant and be a significant source of the child's self-esteem. Children will feel the need to be accepted and liked by displaying skills that are valued by friend groups, in turn developing a sense of satisfaction in their capabilities. If caregivers or teachers do not encourage initiative, the child might begin to feel inferior and inadequate. Feeling inferior as

a child may increase anxiety symptoms in young people and increase their chances of developing a disorder (Martinsen et al., 2021).

The fifth stage of Erikson's theory is the adolescent stage (12-19 years old) of identity versus role confusion and is considered the most important in developing a keen sense of identity and direction as adolescents transition from childhood to adulthood (Ragelienė, 2016). This time in an individual's life can be quite stressful as adolescents are becoming increasingly more independent and looking into the future regarding careers, relationships, families, and housing. Adolescents explore who they are as individuals, develop a sense of self, and may try diverse roles, hobbies, and behaviours. In this stage, it is suggested that two identities form: sexual and occupational. Failing to find a sense of identity in society can trigger role confusion. Role confusion includes young people not being sure about themselves or having a place in the community around them. If this is experienced, an adolescent may begin to experiment with different lifestyles. These may be occupational, educational, and/or political (Erikson, 1968) and can lead to increased anxiety among young people if they do not find a place where they belong or enjoy, and it may lead to more isolated activities. Experiencing elevated levels of anxiety can harm young people's social, occupational, and personal lives (Bandelow & Michaelis, 2015) which may lead to avoidance behaviours making it harder to find their independence.

The sixth stage is intimacy versus isolation which occurs around 18 to 40 years of age. This stage claims to provide an individual with strong relationships if successful. However, failure may lead to isolation and loneliness. This stage is particularly important to young people as some

anxiety disorders such as social anxiety become worse if a person is isolated or not exposed to social activities.

Anxiety as an adaptive stress response

Anxiety is a stress response to an anticipation of an upcoming threat or disaster with feelings of dysphoria or bodily tension. The predicted threat can be internal (thoughts of something going wrong) or external (experiencing danger to safety in the environment) (American Psychiatric Association, 2022). Anxiety impacts how individuals process emotions and behaviour, and mild anxiety can be unsettling yet severe anxiety can impact daily functioning (Zalewski et al., 2011). Anxiety is a normal and often healthy or adaptive emotion, however when a person regularly feels anxious it may become an anxiety disorder (Andrews et al., 2018). When someone may be feeling anxious regularly, which may impact functioning in school, work and/or social life, it still may not qualify as an anxiety disorder.

Anxiety can be a cause of many physiological changes, all intended to support people with managing an unexpected perceived danger to human life. The purpose of these psychological changes is to increase our survival rate. The autonomic nervous system (ANS) is responsible for essential physiological processing including breathing, regulating temperature and blood pressure. This is otherwise known as the fight or flight response and helps to protect people from perceived danger (Andrews et al., 2018). The ANS has two subsystems: 1) the sympathetic nervous system (SNS), which makes the body ready to react to threats. This system produces a stress response to cope with the perceived danger. 2) The parasympathetic nervous system (PNS) is the alternate subsystem, which controls and equalises the hyperactive action of the SNS

(Freeman & Freeman, 2012). This helps to calm and relax the body by producing a rest response to these thoughts and moods. Anxiety is an important part of human survival and these systems have been a protective factor in our survival (Signorini, 2019). However, anxiety can be unhelpful when it is present in people where there is no sudden danger or threat to life.

The above sections discussed anxiety as an adaptive response. Adaptive anxiety is considered a normal human response that evolved for the sense of safety and survival purposes. Anxiety becomes a disorder when it no longer serves the purpose of survival and safety but when it impacts negatively on people's daily lives.

Social Anxiety Disorder

This literature review focuses on SAD because it has become one of the most prevalent anxiety disorders during the pandemic and has impacted greatly on young people's mental well-being (Kindred & Bates 2023; Lane et al., 2021). The American Psychiatric Association (2022) diagnosis criteria in the DSM-V-TR has defined SAD as; a fear of social events or activities that provoke anxiety. The fear is out of proportion to the actual threat, and the interaction is often avoided or endured with severe discomfort for at least 6 months. The person may avoid social interactions or endure them with great stress, this stress will cause issues in day-to-day functioning.

Prevalence of SAD (2015-2019)

SAD is believed to be the third most common mental health disorder (Nagata et al., 2015). International literature cites lifetime prevalence rates at 8%, with a 12-month prevalence rate of 4.2% (Crome et al., 2015). SAD prevalence rates are lowest in low/lower-middle income countries and in the African and Eastern Mediterranean regions, and highest in high-income countries specifically The United States of America and the Western Pacific regions (Stein et al. 2017). This may be due to/or because lower-income countries can be less equipped with social media-based technology and spend more time as a community, therefore experiencing more face-to-face interactions (Foster et al., 2017; Mohd Salleh Sahimi et al., 2022). The global prevalence of SAD is higher in females and younger populations (Crome et al., 2015; Stein et al., 2017). NZ and international data indicate that social anxiety is reported in approximately 10% of young people by the end of adolescence (Leigh & Clark, 2018). Ethnic minorities including Pacific, Asian and Māori New Zealanders are shown to be underdiagnosed compared to European New Zealanders (Lee et al., 2017; Black et al., 2017). This may be due to underutilising mental healthcare services, finances, transport, language, and cultural barriers. There may also be more stigma in these communities towards mental health care (Lee et al., 2017).

SAD in Young People

Social anxiety can be connected to parental nurturing and whanau upbringing, traumatic life occurrences, cultural and social factors, and gender roles (Brook & Schmidt, 2008). SAD is often linked to significant distress and impairment in; education, occupation, and financial

independence, as well as challenges in creating peer and intimate relationships (Stein & Stein, 2008; Wagner et al., 2004; Stein & Kean, 2001; Hofmann, 2010). SAD often begins in late childhood or adolescence, which has been globally approximated as 13 years old and can lead to difficulties for the young person (Stein et al., 2017; Grant et al., 2005; Knappe et al., 2015). These difficulties involve increased rates of leaving school early with low levels of education and higher likelihood of being bullied. They also tend to have fewer friendships, are less likely to get married and have children, and are more likely to get divorced (Stein et al., 2017; Jefferies & Ungar, 2020). Young people may be impacted by social anxiety, due to their developmental stage impacting the understanding of themselves and others, as well as learning how to connect with others (Stein et al., 2017; Abbo et al., 2013). Some of these factors may include social pressures, the way they present themselves, behaving well, and navigating intimate relationships. Additionally, with the increased use of technology and in particular social media use, there are other ways to interact with people. Social media has become a popular platform in which young people can present their best selves to peers. During the COVID-19 pandemic, national lockdowns have also increased the importance of social media as a main form of communication for young people. This may hinder young people's face-to-face communication skills and therefore increase social anxiety, leading to more avoidance behaviours, which may exacerbate the fear of social interactions (Evans et al., 2021).

Factors that may contribute to or make a young person more susceptible to developing SAD may include a lack of social support, temperament, and excessive video gaming (Barnett et al., 2020; Caouette & Guyer, 2014; Marino et al., 2020) Those who live alone may be particularly at risk for low perceived social support (Barnett et al., 2020). Caouette and Guyer (2014) found a

risk for developing SAD is exhibiting self-consciousness during childhood, which relates back to temperament. Additionally, there is a strong relationship between playing video games and social anxiety (Marino et al., 2020).

Evidence-based Interventions for SAD in Young People

There is a range of interventions available for SAD in young people. The National Institute for Health and Care Excellence (2013) guidelines for the treatment of social anxiety in young people advise that individual and group cognitive behavioural therapy, as well as antidepressant medications such as selective serotonin reuptake inhibitors (SSRIs), are effective treatments for SAD in young people. Caregivers may be considered to give young people the best overall support (NICE, 2013).

Cognitive Behavioural Therapy (CBT)

The American Psychological Association (2017) has defined CBT as a type of psychological intervention that has been useful for a variety of disorders. CBT occupies a central position in evidence-based therapy practice. It is structured and directive, collaborative and time-sensitive (Whitfield, 2010). CBT has various elements to it, including cognitive restructuring and exposure therapy. CBT is the leading therapeutic intervention for SAD and has evidence of being useful for treating people over the age of 6 years (Öst & Ollendick, 2017). Many studies suggest that CBT leads to significant enhancement in performance and quality of life (Hofmann et al., 2012; Surmai & Duff, 2022; Yousefy et al., 2012). There are studies investigating CBT's effectiveness in treating SAD in young people (Pinjarkar et al., 2015; Scaini et al., 2016). The

main findings suggest that CBT is an effective and age-appropriate treatment modality for young people experiencing anxiety disorders. Research highlights that group CBT is effective in treating anxiety disorders (Whitfield, 2010; Thimm & Antonsen, 2014; Zhang et al., 2016) and can significantly improve social performance, social support, and quality of life (Zhang et al., 2016). Neufeld et al. (2020) and Omkarappa et al. (2021) found that group CBT was effective in decreasing SAD symptoms in young adults. Group CBT is also a method that therapists can utilise to their advantage, as mental health care is under more pressure due to the rise in need in the community (Byrne et al., 2021; Hannemann et al., 2022).

Cognitive Restructuring (CR)

CR is the ability to carefully examine one self's thinking patterns when feeling emotionally vulnerable or triggered. An examination of these negative thoughts can show whether the thoughts are accurate. A person may then adjust the thought to a more accurate and less triggering one. If after evaluating the thought it shows that the negative thought is accurate, then an action plan to deal with the situation is advised. The American Psychiatric Association (2022) utilises a 5 step process to CR; (1) write down the situation that is bringing up these negative emotions, (2) become present with the emotion attached to this situation (i.e. anxiety, sadness, guilt, or anger), (3) identify the thoughts that are underlying the negative emotions, (4) evaluate the thought/s by examining if there is evidence that supports this thought or evidence that disputes this thought. (5) Lastly, deciding on whether this thought is accurate or not and either changing that thought to a more accurate one or making an action plan to help with the negative emotions that are present with this thought.

Exposure Therapy

Exposure therapy is particularly effective for SAD (Chowdhury & Khandoker, 2023; Lin et al., 2019). Exposure therapy is typically done in hierarchy progression to decrease fear and anxiety symptoms. Under therapeutic supervision, an individual may be slowly exposed to a feared situation or object, becoming less triggered over time (APA, 2022).

Pharmacological treatment

Selective Serotonin Reuptake Inhibitors (SSRIs) have been thoroughly researched which has provided evidence of safety and efficacy for being used in treating social anxiety (Kodish et al., 2011; Patel et al., 2018). Although SSRIs can be effective in treating anxiety disorders, it is generally recommended not to be routinely offered to young people under 18 years (NICE, 2013). This means that the evidence is limited on the psychiatric drug's effectiveness for younger children. Observations and age-related differences in metabolism have suggested that SSRIs may be more effective in the treatment of adolescents, in comparison with younger children (Oberlander & Miller, 2011; Kodish et al., 2011). It is noted that pharmaceutical assistance can have negative impacts on young people. Some of these can be serotonin syndrome, negative mood changes, gastrointestinal side effects, suicidal ideation, withdrawal syndrome, sleep disturbances, sexual side effects, cardiovascular side effects and others (Patel et al., 2018). This is why psychological and behavioural modalities are the core foundation of treating anxiety disorders in young people, however, behavioural modalities require active involvement by the client and whanau. For multiple young people, the symptoms of anxiety may be too severe, and it impedes their involvement which is when pharmaceutical assistance may benefit greatly. Overall, pharmaceutical treatment for anxiety disorders is effective in improving clinical

symptoms, particularly in combination with psychotherapy (Craske & Stein 2018; Kodish et al., 2011).

In summary, this section has reviewed anxiety in young people, the prevalence of SAD pre-COVID-19, and the various evidence-based psychological treatments that are appropriate for treating SAD. SAD has been a prominent mental health disorder for young people worldwide with CBT being the main form of psychological intervention as endorsed by NICE (2013). The next section will focus on the coronavirus pandemic given the context of this review.

COVID-19 pandemic

COVID-19 is caused by a novel coronavirus, named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which has caused many millions of deaths worldwide with billions of people being affected, posing a serious threat to public health (Li et al., 2020; WHO, 2023). The virus quickly spread worldwide, and countries had nationwide lockdowns from March 2020 onwards for weeks or even months (Hamill & Sawyer, 2020). Governments had differing lockdown requirements for citizens. People were confined to their place of residence, all gatherings were stopped, and public settings closed including playgrounds and beaches. The only exceptions to this were for essential movement. All businesses were shut apart from essential services. Education services were closed, and healthcare services were reprioritised. Some countries allowed outdoor exercise but were limited to walking with household residents only. Other activities including biking and surfing were not allowed due to the risk of putting pressure on the healthcare system. Lastly, international and land borders were closed causing travel to be extremely limited. During this time young people experienced prolonged periods of isolation

from friends and family, changes in schooling systems, fear of being infected with the virus, loss, grief, limited exercise and outdoor time, occupational issues, and financial hardship. All of these have been linked to an increase in the prevalence rates of anxiety for young people globally (Officer et al., 2022; Singh et al., 2020).

Impact of Covid-19 on Mental Health in Young People

The World Health Organisation (WHO, 2022) has found that within the first year of the COVID-19 pandemic, there was a 25% increase in the prevalence of anxiety globally. Daly and Robinson (2021) found a significant increase in the U.S. adult population's anxiety levels when the lockdown was enforced. However, Kindred and Bates (2023) observed only a slight increase in social anxiety over multiple adult populations when comparing before the pandemic to during. In this literature review, it would be useful to establish if young people were also impacted by the pandemic and to what extent anxiety levels were impacted.

Zhang et al. (2021) conducted a study with 22,380 middle school students which showed 26.9% of participants experienced anxiety symptoms, and 20.6% experienced a combination of depression and anxiety. The percentage of those students with anxiety was higher in females than in males, with age, gender, region, and parental relationship being significantly linked to anxiety. Furthermore, Every-Palmer et al. (2020) found that 30% of young people during New Zealand's COVID-19 lockdown experienced a moderate to severe level of psychological distress. It showed that 16% experienced moderate to severe levels of anxiety, and 39% presented minimal well-being levels. Greater rates of mental distress were found in young people (Gasteiger et al.,

2021) and suicidal ideation was greatest in people aged between 18–34 years old (Every-Palmer et al., 2020). Being a female, living in an urban region, and having a negative relationship with parents are possible risk factors for anxiety (Gasteiger et al., 2021).

The COVID-19 pandemic caused an increase in stress which has been associated with an increased risk of poorer mental health (Monistrol-Mula et al., 2022). Those at highest risk of developing mental health disorders during the COVID-19 pandemic were young people, females, racial/ethnic minorities, those with other physical health conditions, and those most at risk of contracting COVID-19 (WHO, 2022; Gasteiger et al., 2021; Torres et al., 2022). A reason for the increase in the prevalence of anxiety disorders in young people may be exacerbated stress levels arising from social separation caused by the nationwide lockdowns (WHO, 2022). There were constrictions on the ability to do jobs, spend time with and get support from friends and family, as well as being unable to participate in community activities. Young people were found to be more likely to participate in self-harming activities and have a substantial risk of suicide. Gasteiger et al. (2021) found that participating in harmful activities such as smoking and drinking was linked to higher anxiety levels within the young population. Ethnic minorities may already be living in low socio-economic areas and therefore be more greatly impacted by the financial impacts of the COVID pandemic. Isolation, fear of contracting COVID-19, fear of death for oneself and family and friends, grief and economic concerns have been mentioned as contributing factors to anxiety.

Data proposes that those with pre-existing mental disorders do not appear to be disproportionately susceptible to contracting COVID-19 (WHO, 2022). However, when people

with pre-existing mental health disorders become ill with COVID-19, there is an increased risk of being hospitalised, having severe illness and death, in comparison to those with no mental disorders (De Hert et al., 2022). People with more severe mental health disorders such as psychoses, and young people with mental health disorders are especially at risk (De Hert et al., 2022). Previous research has provided information on the negative impact the COVID-19 pandemic has had on young people's well-being, the risk factors of experiencing higher anxiety levels and hospitalisation rates.

Research Questions and Aims

The focus of this project is to systematically review the current research on the prevalence of SAD in young people during the COVID-19 pandemic (2019-2023), as well as explore evidence-based psychological interventions that were considered helpful for SAD in young people, and how the delivery of these has been impacted by the pandemic.

The research questions are:

1. What does the literature indicate about the prevalence of social anxiety in young people (10-24 years old) during the pandemic and how does it compare to pre-pandemic prevalence rates?
2. What does the existing literature suggest in terms of evidence-based interventions for social anxiety in young people during the pandemic?
3. How has the pandemic affected the delivery of these evidence-based interventions?

By answering these questions, the author intends to summarise the existing knowledge based on the prevalence of and interventions for social anxiety in young people during the pandemic. This review may also highlight future areas of research.

Rationale

The rationale for this research is to provide therapists with information to better understand the impact of the pandemic on young people with SAD and how to best treat these people during and post pandemic. SAD has been commonly experienced by young people prior to the pandemic (Crome et al., 2015; Nagata et al., 2015). The pandemic carries additional stressors attached which may include financial hardship, isolation, and illness. It is assumed that the lockdowns would have caused a spike in SAD and therapists need to understand how to best treat these people, particularly in online platforms.

Conclusion

This chapter has provided background information and the rationale for this systematic literature review. Outlining relevant previous (2015-2019) information on anxiety disorders in young people, recommended evidence-based interventions for SAD include CBT and SSRIs. It is evident that the COVID-19 pandemic has negatively impacted people's well-being globally.

Chapter Two: Method

Introduction

This chapter provides an overview of the methodology used to conduct this systematic literature review. This section provides information on; the three databases used, the search strategy with the inclusion and exclusion criteria, article selection processes, as well as data collection.

Methodology – A systematic literature review

A systematic literature review is the process of combining information from relevant articles found through thorough methods, to form a conclusion about a particular research question (Newman & Gough, (2019); Perestelo-Pérez, 2013). The rationale for conducting a systematic review may be to address gaps or differing results in current studies. Clear research question/s should be formulated, based on the recent contextual information provided.

A systematic literature review aims to find, combine, and analyse all appropriate articles for the research question/s. This will provide interpretation, clarification and will detect opposing outcomes or connections as well as provide a whole conceptualisation that can provide a space for future research and practice (Siddaway et al., 2019). A systematic literature review methodological approach should be replicable and clear for the purpose of lessening the chances of bias (Perestelo-Pérez, 2013).

Systematic literature reviews have become a prevalent way to acquire current data to make educated judgments for evidence-based practice (Newman & Gough, 2019). There are some differences in systematic reviews with most systematic literature reviews conducted utilising a meta-analytic approach using randomised control trials. However, others include a wider scope with less thorough study designs. Pai et al. (2004) debate that utilising a meta-analytic approach is better compared to a narrative qualitative analysis due to the results being subjective and informal. Although Denison et al. (2013) suggest that if there are high levels of diversity within the results then grouping by study characteristics is appropriate for analysis. Due to the scope of this research being investigated the data is likely to be both qualitative and quantitative. In this systematic literature review, a meta-analysis was not conducted due to the diversity of the study designs, intervention differences, and result outcomes. Instead, a qualitative analysis and synthesis of results was carried out, due to the variability of clinical, methodological, and statistical evidence.

Information sources

This systematic literature review utilised three electronic databases to search for relevant articles for the three research questions. Limits were set as English for language, only peer-reviewed journal articles with the year of publication from 2019-2023 to be relevant to the COVID-19 pandemic. The key databases used were PsycINFO (via OVID), CINAHL (via EBSCO), and Scopus for relevant psychology-based articles. If any new research was published on PsycINFO with these search terms, the author was notified to review this for inclusion in the study.

Search strategy

Separate searches were made for each database and research questions that were relevant to the PICOS factors. An example of this was Teen* or adolescen* or youth or juvenile or "young adult" or children or child or "young people" AND "covid 19" or coronavirus or 2019-ncov or sars-cov-2 or covid-19 AND intervention or treatment or therapy. These terms were combined with the Boolean operator 'AND' to reach relevant articles. OVID database anxiety search terms were, (social) **ADJ4** (anxiety or anxious or fear*), EBSCO database anxiety search terms were, (social) **N4** (anxiety or anxious or fear*), and Scopus database anxiety search terms were, (social) **W/4** (anxiety or anxious or fear*). This proximity search was utilised to allow for a broader search. See Appendix A for the full search strategy in each database PsycINFO, CINAHL and Scopus for each research question.

Eligibility criteria

This systematic review followed a Population, Intervention, Comparison, Outcomes and Study Design (PICOS) as it is an effective way to conduct a systematic review to encourage replicability and bias reduction (Amir-Behghadami & Janati, 2020; Methley et al., 2014). The inclusion and exclusion criteria were defined with the following parameters:

Population

The population of interest in this review will be young people, including children to young adults (10-24 years old) experiencing social anxiety during the COVID-19 pandemic.

Intervention

This systematic review focuses on evidence-based psychological and pharmaceutical interventions which can include CBT, SSRIs, exposure therapy or other evidence-based interventions for treating social anxiety in young people. Due to the pandemic context of this research, the interventions would be performed online through video-conferencing programs such as Zoom.

The Comparator

The comparative factor is not applicable in this research context.

Outcomes

The outcomes that will be assessed are changes in social anxiety levels through anxiety scales. Some research may have pre and post-test outcomes, or time points that can be assessed to show changes in prevalence and intervention. There are three main areas of focus in this review: prevalence, best-practise intervention, as well as the impact of the pandemic on the delivery of these interventions. Due to the context of the research, the best practice intervention articles may also address the impacts the pandemic has had on the delivery.

Study design

This systematic literature review will include any type of study design. Studies were included if the main aim was to investigate the prevalence of social anxiety and/or to evaluate an evidence-based treatment for SAD in young people throughout the pandemic. The articles also

should be peer-reviewed in accepted academic journals, written in English, as well as being published from 2019 onwards.

The researcher also used a checklist based on the CASP (Critical Appraisal Skills Programme, 2018). This questionnaire aided in deciding if the articles met the inclusion criteria. This questionnaire also aided in screening articles' validity, results and if results would be applicable in the study context (CASP, 2018). The data could then be effectively extracted to allow for easy evaluation, critique, and summarisation.

Data collection and analysis

Articles collected comprised data items from PICOS based on the inclusion and exclusion criteria including participants, outcomes, and interventions (Tables 1, 2 and 3). A range of articles will be analysed in this systematic literature review due to being open to any research design. Articles may be analysed that have two or more time points, and pre-and post-test scores showing the effectiveness of interventions may be measured using p values.

Risk of Bias

Every study conducted, whether systematic or not, has a risk of bias. The author should disclose this risk of bias so that others can fully comprehend all factors connected to the research and make fair assessments of the study. All systematic reviews carry a risk of not including all appropriate data due to an error in the search process. This risk is reduced by utilising very structured research frameworks including PICOS and PRISMA to allow for the research process

to be easily reproduced, in addition to clearly described inclusion and exclusion criteria (Perestelo-Pérez, 2013). These strategies also allow for the limiting of selection bias, which is when the author uses personal ruling for whether an article has met the selection criteria. It is suggested that at least three databases should be used in systematic reviews to reduce the risk of bias (Perestelo-Pérez, 2013). This review utilised three databases for the initial search meeting this criterion. There was one independent reviewer who collected the data from the reports.

Conclusion

This chapter has discussed the methodology of this dissertation, the search strategy, the screening, as well as the selection process. This chapter also included the eligibility criteria for the final article inclusion and three flow diagrams outlining the overall process of article selection. The data collection and analysis were summarised along with a risk of bias exploration.

Chapter Three: Results

Introduction

This chapter provides the results of this systematic literature review with the searches that were carried out using the three databases as described in the methods chapter. The section reports on the selection of studies, data evaluation, article characteristics and a summary of the results.

Study selection

There were a total of 1343 articles generated through the three databases. CINAHL (EBSCO) generated 125 articles for prevalence, 42 for evidence-based interventions, and 141 for delivering online interventions. The PsycINFO (OVID) database generated 100 for prevalence, 29 for evidence-based intervention, and 93 for delivering online interventions. The final database utilised was Scopus generated 389 for prevalence, 130 for evidence-based interventions, and 415 for the delivery of online interventions. The different article numbers were generated by using the search terms in three different ways being most relevant for each question as shown in Appendix A.

Inclusion at the title level required mention of mental health in young people, prevalence of anxiety or treatment of anxiety. Titles that mentioned social anxiety but not in the context of COVID or young people were excluded.

The author included the article at the abstract level if there was mention of social anxiety and prevalence, treatment of social anxiety, or online delivery of interventions during the pandemic. Studies were excluded if the participants were not considered young people (10 to 24 years old). Articles were still selected in cases where the authors were investigating the treatment of other disorders as well as social anxiety.

After full article screening, only the studies with a clear discussion about evidence-based intervention for social anxiety, prevalence changes in social anxiety or guidance on online delivery of evidence-based interventions were included. Articles had to be published in English, and any article was eligible for inclusion. From this process 16 were selected for inclusion.

The use of a PICOS framework allowed for consistency throughout the article selection process which aided with selection ambiguities and research that met borderline criteria. This research found two articles that met borderline criteria, including meeting all criteria. However, it also included participants that were outside the age bracket of 10-24 years old and therefore were excluded from this research to keep consistent with this inclusion criteria. Another study met borderline criteria which looked at the social anxiety in young people although its main focus was on substance use disorders. This meant it did not meet the criteria for this systematic literature review and was excluded due to social anxiety treatment or prevalence not being the main focus of the research.

The search was split into three sections for the three research questions. In the first search, the author screened 523 titles, with 74 articles accepted at a title level, pending abstract

screening. After the duplicates (8) were removed and abstract screening was conducted 13 articles remained. Following a full-text examination, seven articles were included in this research. This can be shown depicted in Figure 1.

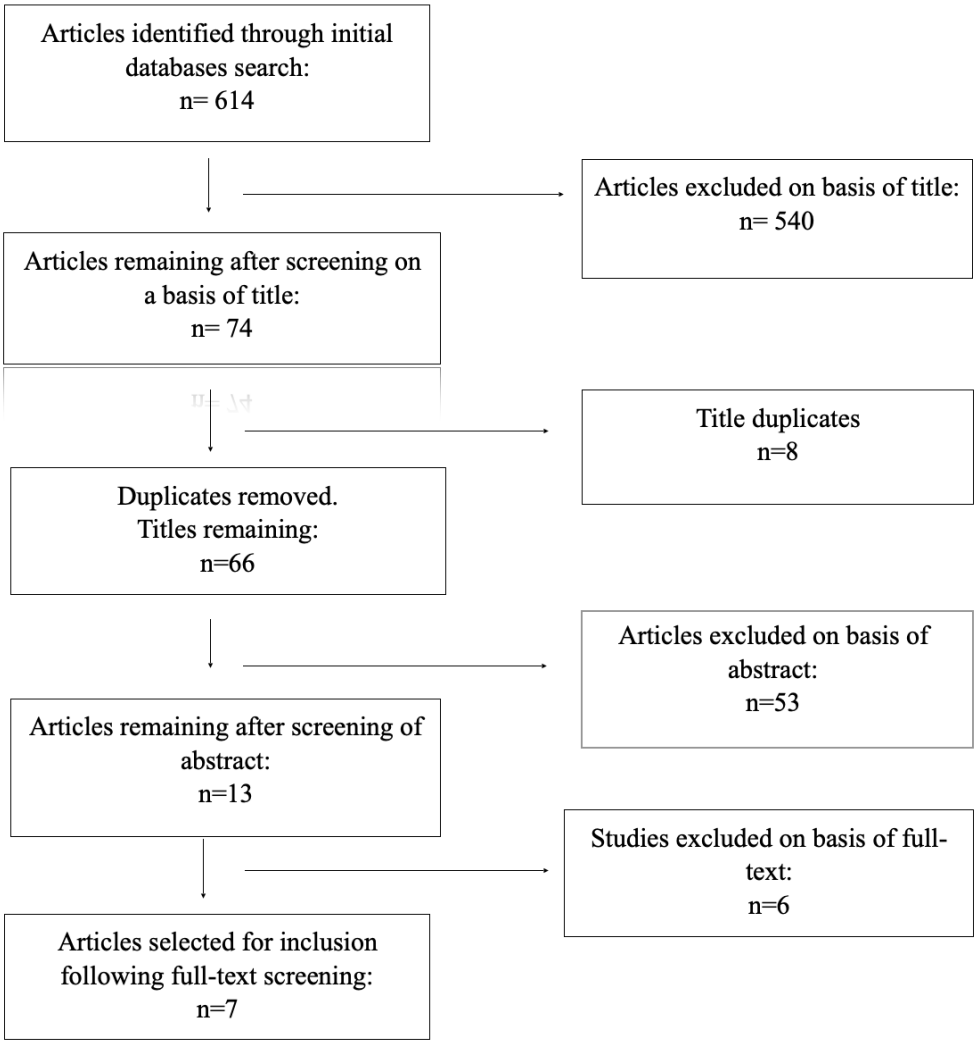

Figure 1: Flow diagram demonstrating systematic search method for prevalence of SAD during COVID in young people.

In the second search, the author depicted 171 titles, with 55 articles accepted at a title level, pending abstract screening. After the duplicates (10) were removed and abstract screening was

conducted 12 articles remained. Following a full-text examination, six articles were included in this research. This can be shown depicted in Figure 2.

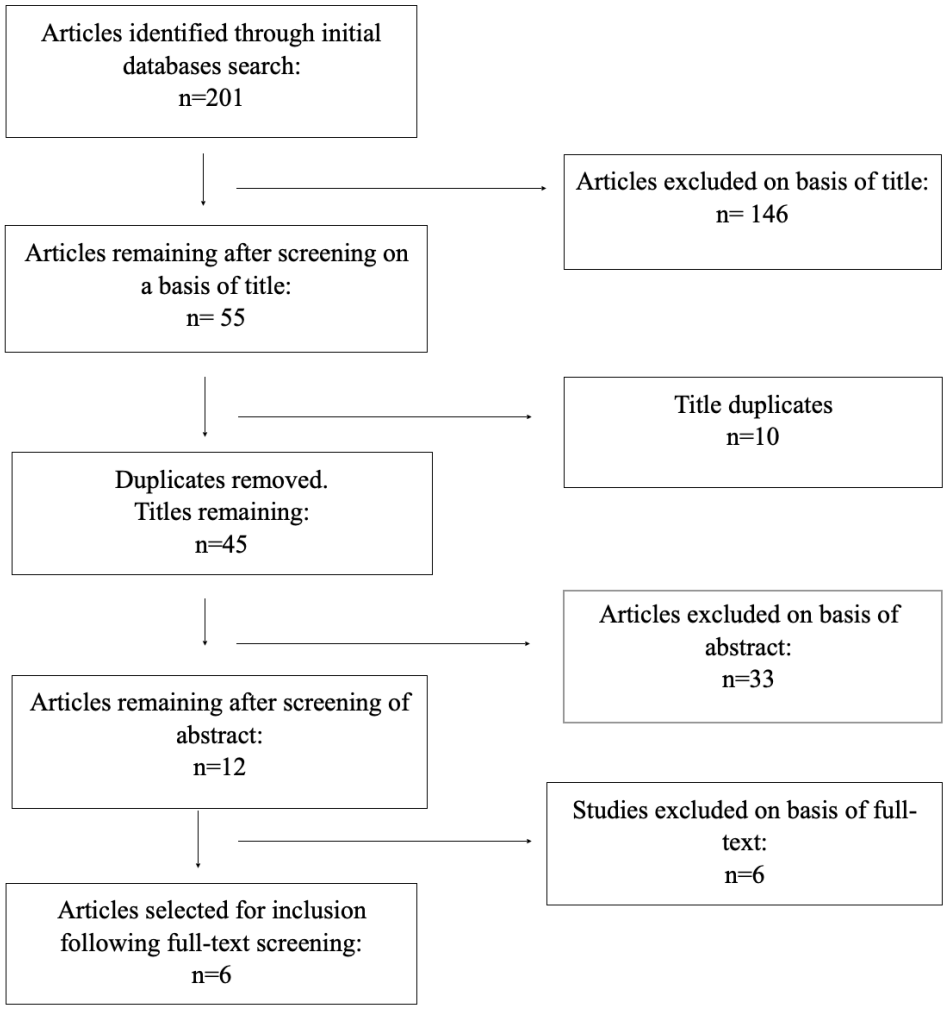

Figure 2: Flow diagram demonstrating systematic search method for interventions for treating young people with social anxiety during COVID.

In the third search, the author depicted 649 titles, with 77 articles accepted at a title level, pending abstract screening. After the duplicates (7) were removed and abstract screening was

conducted 10 articles remained. Following a full-text examination, three articles were included in this research. This can be shown depicted in Figure 3.

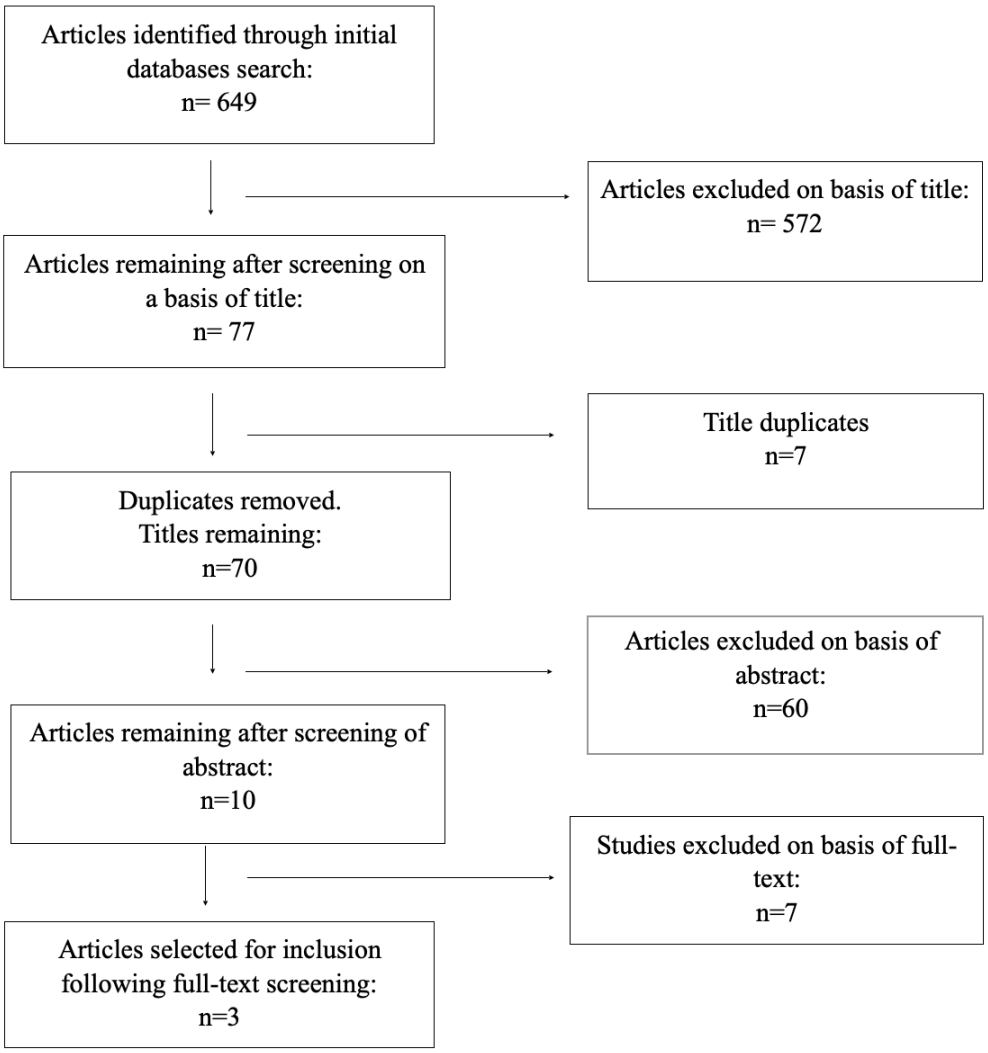

Figure 3: Flow diagram demonstrating systematic search method for online delivery for social anxiety during COVID.

Data collection

Data collection was completed by combining PICOS inclusion and exclusion criteria, and the CASP (2018) acceptability checklist. The key findings related to elevated social anxiety levels, use of CBT-based interventions, and alterations in interventions for online therapy. There

was one independent reviewer who collected the data from the reports. After the initial screening, each article that was accepted was then read in full and analysed for relevance to comparing prevalence before and during COVID-19, interventions that help social anxiety, and intervention adaptations that have been made during COVID-19.

Data extraction

Data from each accepted article was extracted and reported in the following tables. The following data items were included; author and year, population, study design, intervention utilised, outcome measures, overall findings, and study limitations. Data was extracted by one reviewer. Table 1, Table 2, and Table 3 provide an overview of the study characteristics for all three questions. Seven articles provided information on prevalence, six articles provided information on best practices and three provided information on how COVID-19 impacted the delivery of best practices. However, there was an overlap in the articles providing data for evidence-based interventions and the impact of the pandemic on the delivery of these interventions. There were variations in methodology throughout the articles for each question. Most articles had small sample sizes and evaluated different interventions for best practice although all were CBT based. There was also considerable intervention length variation between articles. The methodological variations present a significant issue for results interpretation.

A total of 16 studies were attained for data extraction and evaluation. Of the 16 articles, there were two longitudinal study designs, two quantitative, two pilot, two cross-sectional, one meta-analysis, one network analysis, one case study, three guidance papers, and two quasi-experimental designs. The articles were categorised by the corresponding research questions

relating to the prevalence changes, best practice interventions for SAD, and delivery of best practices during COVID-19.

The length of intervention differed among the articles. The most comprehensive was through the case study which had 18 sessions/over 26 weeks (about six months) (Molino et al., 2022). Other interventions ranged from a seven-week program and a six-session treatment (once a week for two hours). The shortest intervention length was a pilot study of three sessions (once a week) (Zepeda et al., 2021). The longitudinal studies provided the greatest comparison data for the prevalence rates for SAD in young people before and during the COVID-19 pandemic (Morales et al., 2022; Charmaraman et al., 2022). The interventions were delivered to participants in two ways either individual sessions or group-based interventions. The case study started as face-to-face sessions and then changed to online when the pandemic began (Molino et al., 2022). However, most studies had sessions that were online based.

All articles examined SAD prevalence in young people or treatment of SAD in young people during COVID-19. All intervention articles examined variations of CBT treatments, these included exposure therapy, cognitive therapy, and cognitive restructuring. Iyeke and Lawrence (2022) investigated REBT which is the first form of CBT (David et al., 2005). Whilst Zepeda et al. (2021) utilised CBT with elements of DBT. Some articles utilised anxiety levels as an outcome measure (The Screen for Child Anxiety Related Disorders {SCARED}, Social Phobia Inventory {SPIN}, Depression Anxiety Stress Scale {DASS-21}, and Liebowitz Social Anxiety Scale- Self Report {LSAS-SR}).

Outcome effects were measured pre- and post-intervention in all the articles that investigated interventions to improve SAD except for; Khan et al. (2021), Bandelow and Wedekind (2022), Warnock-Parkes et al. (2020), and Peros et al. (2021). The longitudinal articles' lengths varied significantly. One article measured over three months whereas the other measured over one year. Another study conducted a follow-up measured at 14 months post-intervention and results stayed consistent with CBT being a significantly better treatment method than psychoeducational-supportive therapy (PST) (Samantaray et al., 2022).

Table 1: Overview of selected article characteristics for prevalence of SAD

Author, year	**Study design**	**Population**	**Systemic intervention**
Arad et al., 2021	Quantitative	Undergraduate first-year students at Tel Aviv University in Israel (n=99)	Took advantage of the COVID-19 "natural experiment" home isolation period to investigate how low social contact affected socially anxious students. Comparison of the results to the anxiety rates of socially anxious students in previous years. A LSAS-SR was used to measure social anxiety (SA) levels.
Hawes et al., 2021	Quantitative	Young adults and adolescents (n= 451) living in Long Island, New York, USA	Comparing anxiety using SCARED between December 2014 and July 2019 along with COVID-19 experiences, a comparison was conducted between March 27th and May 15th, 2020.
Morales et al., 2022	Longitudinal study	Families (n= 291) with 4-month-old infants (n=156) followed throughout childhood and adolescence.	Investigation into whether certain types of anxiety predicted distinct trajectory of anxiety, perceived stress, and COVID-related worries during the beginning 3 months of the pandemic.

Itani et al., 2021	Pilot study	Adolescents (15–19-year-old) n=178	Prevalence screening of severe social anxiety (SSA) through LSAS-CA online survey.
Li et al., 2022	Network analysis	Chinese children (n=3,107) M=13.33 years old	SA severity is assessed through the DSM-5 Patient Health Questionnaire for Adolescents and the DSM-5 Social Anxiety Disorder Questionnaire.
Charmaraman et al., 2022	Longitudinal study	Middle school students (n=586)	Examined the changes in positive and negative social technology behaviours before the COVID-19 pandemic (fall 2019) compared to during the pandemic (fall 2020) including any differences by subgroups.
Prieto et al., 2023	Cross-sectional study	Primary school students (n=107)	SA prevalence and the impact it has on children and their academic performance. The social anxiety questionnaire (CASO-N24) assessed SA.

Table 2: Overview of selected article characteristics for interventions for SAD

Author, year	**Study design**	**Population**	**Systemic intervention**
Zepeda et al., 2021	Pilot study	Children and youth (6-12) n=27	3 sessions (once a week)/brief internet-based intervention with elements of CBT and DBT.
Peros et al., 2021	Guidance paper	One adolescent group (15-18) n=3 and one young adult group (18-24) n=6	one 5-week (60-minute sessions per week) adolescent group. All adolescents recently engaged in CBT, this group was shortened and solely focused on exposure. One 10-week (90-minute sessions per week) young adult exposure-based group. Zoom-based intervention. Participants had a confirmed SAD diagnosis

Fadhli and Situmorang, 2021	Quasi-experimental design	High school adolescents (n=10)	Aim to demonstrate the effectiveness of a CBT approach with cognitive restructuring (CR) techniques to reduce individual psychosocial anxiety through group counselling.
Bandelow and Wedekind, 2022	Meta-analysis	Patients (n= 4122) with anxiety disorders (panic disorder, GAD and SAD)	Meta-analysis of 39 randomised controlled studies of internet-delivered psychotherapeutic interventions, most studies utilising cognitive behavioural approaches (iCBT). Comparison with a previous meta-analysis examining medications and face-to-face psychotherapy.
Iyeke and Lawrence, 2022	A quasi-experimental design	Nigerian adolescents (n=88) ages between 14-19.	Utilising a 6-week training in REBT counselling approach to manage social anxiety among adolescents in the COVID-19 era.
Samantaray et al., 2022	A cross-sectional observational study.	Medical college students with a primary SAD diagnosis (n=65)	Comparison of individuals with SAD who received CBT versus PST before the COVID-19 pandemic, and the impact of COVID-19-related fear. The CBT group had six sessions weekly for two hours. Whilst the PST group included six sessions of psychoeducation about SAD; a discussion on common problems encountered, and rendered support, but did not communicate any specific advice on exposures.

Table 3: Overview of selected article characteristics for telehealth delivery

Author, year	**Study design**	**Population**	**Systemic intervention**

Molino et al., 2022	Case study	College student (n=1)	Treated with primarily CBT interventions for 18 individual sessions for approximately 6 months, including hybrid treatment starting in person and then changing to online when the pandemic came.
Warnock-Parkes et al., 2020	Guidance paper	Adolescents and adults with SAD diagnosis	Advice for therapists on ways to provide CT-SAD online, suggesting ways for therapists and clients to address the challenges of doing various behavioural experimentations.
Khan et al., 2021	Guidance paper	Youth	Guide clinicians working with youth with social anxiety on how to maintain the ethical, evidence-informed provision of exposure therapy considering these unusual circumstances.

Narrative synthesis of results

A meta-analysis was not conducted due to the diversity of the study designs, intervention differences, and result outcomes. A qualitative analysis and synthesis of results was carried out, due to the variability of clinical, methodological, and statistical evidence. Perestelo-Perez (2013) suggests that qualitative synthesis is the most suitable way to explore the intervention efficacy between studies with a large variation of interventions and designs. Interpretation by qualitative synthesis has been cautioned by some authors, however Denison et al. (2013) suggest grouping results by study characteristics for qualitative interpretation.

Table 4, Table 5, and Table 6 provide an overview of the article's results. The two longitudinal and quantitative studies showed the pandemic had negative impacts on the well-

being and social anxiety levels of young people from before COVID-19 compared with during. A network analysis found an increase from 9% to 12.36% in social anxiety prevalence in Chinese children after the lockdown was lifted (Li et al., 2022). A pilot study investigating the prevalence of SSA found that 18% of the 178 participants presented with SSA. Factors connected to SSA were phone usage, social media, texting, and video games in lockdown (Itani et al., 2021). A cross-sectional study found an increase in social anxiety which had negative impacts on school-aged children's academic performance (Prieto et al., 2023).

Most intervention research looked at variations of CBT such as CR, exposure therapy, and REBT. Cognitive therapy for SAD (CT-SAD) was examined by Warnock-Parkes et al., (2020) which is similar to CBT as both have a focus on changing cognitions, but CBT is distinguished by the additional focus on changing behaviour (Jewell et al., 2011). However, this article also examines behavioural experiments which align the intervention with CBT for SAD. Iyeke and Lawrence's (2022) article which focused on REBT, found significant reductions in young people with SAD. Fadhli and Situmorang (2021) quasi-experimental designs found that a CBT intervention with an emphasis on CR effectively reduced psychosocial anxiety. A cross-sectional study found significant improvements in those who received CBT for SAD compared to the placebo PST (Samantaray et al., 2022). One guidance paper explored exposure-based intervention as an effective evidence-based treatment for SAD in young people even when performed through telehealth. A case study also provided recommendations for telehealth CBT and evidence on the efficacy of CBT for SAD during the pandemic (Molino et al., 2022). A pilot study suggests that a brief three-session CBT-based intervention can be delivered to reduce anxiety symptoms in children and adolescents (Zepeda et al., 2021). However, a meta-analysis

found internet-based CBT to be less effective than individual in-person CBT. The three guidance articles suggest ways in which therapists can effectively treat young people with online-based CT-SAD and exposure therapy in groups and individual therapeutic settings.

There is a large diversity of geographical locations within the studies; one study was conducted in a country located in Nigeria, Africa (Iyeke & Lawrence, 2022), and five were considered Eastern countries including India, Indonesia, Lebanon, China, and Israel (Itani et al., 2021; Arad et al., 2021; Li et al., 2022; Fadhli & Situmorang, 2021; Samantaray et al., 2022). Ten were based in Western countries including Spain, Canada, Germany, The United Kingdom, and The United States of America (Prieto et al., 2022; Charmaraman et al., 2022; Hawes et al., 2021; Morales et al., 2022; Zepeda et al., 2021; Peros et al., 2021; Molino et al., 2022; Warnock-Parkes et al., 2020; Khan et al., 2021; Bandelow & Wedekind, 2022). The majority of data was collected in the USA from six articles included in this systematic literature review. Most studies were published in either 2021 or 2022, with only one published prior (Warnock-Parkes et al., 2020), and one published after (Prieto et al., 2023).

Overall, the prevalence studies suggest SAD increased during the COVID-19 pandemic and had many impacts on a young person's functioning. The intervention studies supported CBT interventions (CR, exposure therapy, REBT) as effective evidence-based treatment for SAD in young people. The overall modality of the interventions delivered was similar, however the intensity, time length and content varied between the interventions. Lastly, articles examining telehealth delivery of interventions suggest CBT, CT-SAD, and exposure therapy can be effectively utilised in online-based interventions.

Table 4: Overview of results for prevalence of SAD

Author, year	**Outcomes**	**Results**	**Conclusion**	**Limitations**
Itani et al., 2021	Prevalence of SSA using the LSAS-CA anxiety and avoidance subscales.	Of the 178 adolescents, 32 had LSAS-CA cut-off scores of ≥ 80 which made an 18% prevalence of SSA.	SAD is one of the most prevalent mental health disorders in young people.	This study has been conducted during the preparatory phase of the pandemic in Lebanon coinciding with two major socio-economic crises that may be causing higher SSA rates.
Prieto et al., 2022	Examining the impact of COVID-19 on children's SA and perceptions of school performance utilising the social anxiety questionnaire (CASO-N24).	38.3% experienced high rates of SA as the year progressed, present in boys and girls. The children who experienced low rates of SA improved schoolwork in physical education, while those who experienced high SA had deteriorating schoolwork.	There were no significant relationships between SA and academic performance by gender or school year.	The study consisted of a small sample group and use of self-report measures which can lead to various biases such as social desirability. The study lacked evaluation of other physiological measures.

Arad et al., 2021	Comparing the level of SA (LSAS) among students before the COVID-19 pandemic and after.	SA reduced socially anxious students from the fall to the spring semester before the COVID-19 pandemic. During the first year of the pandemic, social anxiety levels continued to be high and unaffected. Continuation of the analysis showed that LSAS rates decreased significantly between Time 1 and Time 2 for the non-social distancing group.	Suggests that decreased exposure to social activities may cause an increase in SA. The mandated reduction in social activities is a reason for interruptions in typical processes of symptom decreases through everyday exposure.	The pandemic affected various aspects of mental well-being which made it hard to reduce the influence of one factor such as social avoidance. The LSAS measure provides little evaluation of underlying reasons for fear and evading social activities. SA is highly comorbid with other anxiety disorders and depression. The actual social behaviour of students before and during the instructed social distancing period was not measured.

Charmaraman et al., 2022	Investigate changes in positive and negative social technology behaviours before and during COVID-19 and the impacts on student's well-being.	Students experienced a significant rise in SA, but methods of coping were rising under stress. During the pandemic there was a significant upsurge in checking social media, using social technology before sleeping, and problematic internet use. There were statistically significant effects found however none of these met the effect size criteria of ≥.05.	There was no staunch support that the changes in well-being experienced during the pandemic social distancing period was meaningfully related to social technology use, counter to popular opinion.	Self-report surveys can be subject to recall biases. Time 2 data collection was collected in the fall of 2020 which was during the hybrid learning phase which means that data from the highest impact time of the pandemic was not attained. Only measured two-time points (fall 2019 and fall 2020)

Hawes et al., 2021	Explored changes in anxiety symptoms (SCARED) before and during the beginning period of the pandemic.	There were increased SA symptoms across all participants. Greater lockdown home confinement concerns were uniquely associated with increased generalised anxiety symptoms and decreased SA symptoms.	Adolescents and young adults at an early epicentre of the COVID-19 pandemic in the U.S experienced increased SA symptoms, particularly amongst females. This study suggests that the pandemic is having diverse adverse consequences on the well-being of youth.	Concerns about the generalisability of findings. Due to the importance of conducting assessments in a short period. Researchers utilised symptom inventories instead of diagnostic interviews. Participant recruitment was non-random. The timing of the pre-COVID-19 assessment and the interval between assessments varied substantially. Without a control group that has been time-matched and was not affected by COVID-19, it cannot be determined if symptom rises were connected to the pandemic.
Morales et al., 2022	Compares SA levels (SCARED) before the pandemic and trajectories changes during the first three months.	Individuals with higher pre-pandemic social anxiety experienced lower levels of initial anxiety, stress, and COVID-related worries, but these initial differences in anxiety and stress were reduced in the following months of the pandemic.	The pandemic did not cause an increase in all young people showing high anxiety levels before the pandemic. The unique effects of SA suggest an initial reduction in anxiety, stress, and COVID-related concerns, for adolescents high in SA compared to adolescents lower in SA.	This research lacked the ability to generalise to the population. Participants were relatively homogenous (Largely caucasian from moderate-to-high SES). Low numbers experienced significant COVID-related health issues. There was no evaluation pre-pandemic. Lastly, there was missing data across measures.

Li et al., 2022	SA levels he (DSM-5 Social Anxiety Disorder Questionnaire) children left behind 6 months post-lockdown	Post lockdown COVID-19 lockdown, the prevalence of SA in left-behind children was 12.36%, with a co-morbidity rate of 8.98%.	There was a high prevalence of SA among left-behind children in China post-lockdown.	The data used were all derived from a cross-sectional survey, therefore dynamic interpretation of symptoms was not possible. Remains unclear whether findings apply to groups with different cultural backgrounds, especially people from Western countries.

Table 5: Overview of results for intervention for SAD

Author, year	**Outcomes**	**Results**	**Conclusion**	**Limitations**
Zepeda et al., 2021	Investigated the effectiveness of iCOPE with COVID-19, a brief teletherapy intervention for SA (SCARED).	Significant reductions in SA from pre- to post-intervention, $t(9) = 3.37$, $p = .008$, $d = 0.1.07$.	Suggests that a three-session CBT program can be successfully delivered to young people with SA. Early evidence shows that a brief intervention that targets thinking, behavioural, and affective coping tools can help to reduce anxiety.	A small sample size (n=27) could have lessened the ability to determine statistical significance in subscales of the SCARED measure. Not all participants completed the outcome measure only 10 children and 8 parents completed the questionnaires. Self-reported measures provide potential bias. No long-term effects were found from this intervention.

Peros et al., 2021	Evaluating exposure-based group considerations, challenges, and benefits of leading a group through telehealth.	The telehealth group offered members flexibility and the opportunity to attend group sessions that they may have otherwise been difficult to attend.	Telehealth provides opportunities for exposures that would otherwise be difficult or impossible to do. There were multiple benefits to group exposure-based CBT for young people.	Small sample size (n=9) as well as being relevant to the COVID-19 period there are issues of generalisation beyond the pandemic.
Iyeke and Lawrence, 2022	Utilised REBT to teach adolescents how to cope with SA during COVID-19.	Evidence of REBT significantly reducing SA with pre-test and post-test mean scores of 47.56% ± 6.58 and 30.23%±14.29. The main effect of REBT treatment was found to be significant (F 2, 233= 41.82, p= .000).	REBT is an effective counselling approach in reducing SA in school students.	This study had a small sample size and focused only on school-going adolescents which limits the generalisability. Uses self-report measures which allows for potential bias. The authors provided minimal information on the limitations of the study.

Bandelow and Wedekind, 2022	Investigating anxiety disorders (SAD, GAD, and panic disorder) in comparison to previous meta-analysis examining medications and face-to-face therapy.	In direct comparisons, Internet-delivered psychotherapeutic interventions (IPIs) were as effective as F2F-CBT and superior to waitlist controls. Interventions that have a more thorough therapist connection had increased effect sizes (ES). With these larger ES data, another comparison found that iCBT was less effective than individual F2F-CBT and medications. Although, not different from pill placebos, and more effective than psychological placebo and waitlist ($p > .0001$ for all comparisons).	IPIs may be a useful tool when face-to-face therapy is not easily available, or as an add-on to standard psychotherapeutic or psychopharmacological treatments but there should be caution if used as a solo treatment method.	

Samantaray et al., 2022	Comparison of SA levels in participants with SAD for those who received CBT versus psychoeducational-supportive therapy (PST) pre-lockdown.	The treatment effects in the CBT group were significantly better than the PST group at post-intervention SAD severity in the CBT group decreased significantly from pre-intervention to post-intervention {9.76 (95% CI, 4.63 to 14.89), p <0.0005}, and from pre-intervention to post-lockdown {7.98 (95% CI, 3.26 to 12.69), p <0.0005}.	The positive impact of CBT for SAD continued during lockdown and was associated with significantly less COVID-19-related fear. Social phobia increased post-lockdown.	Only self-report measures reveal bias. Participants were students in the medical field who had proximity to frontline health workers of COVID-19. Inability to generalise to the public.
Fadhli and Situmorang, 2021	Effectiveness CR technique to lower psychosocial anxiety through group counselling.	Results showed that the CR technique effectively reduced psychosocial anxiety in the COVID-19 outbreak, experimental group P<0.01 vs. P > 0.128 control group.	Aimed to increase self-defence and self-control by encouraging rational problem-solving abilities, social skills, and active participation in social tasks. The CR technique effectively reduced psychosocial anxiety during the COVID-19 pandemic.	Only 10 participants mean there are issues of generalisability

Table 6: Overview of results for telehealth delivery

Author, year	**Outcomes**	**Results**	**Conclusion**	**Limitations**
Molino et al., 2022	A case study investigating CBT-based telehealth for a female with SAD (DASS-21 SPIN, LSAS-SR)	CBT via telehealth, with HIPAA-compliant adaptations, continued to be useful in addressing new stressors and generalised anxiety which became more distressing at the start of the pandemic and the initiation of pandemic-related public health guidance and regulations. Case study continues to decrease in SAD during the pandemic telehealth CBT. The anxiety subscale for DASS-21 improved from 24 to 2. SPIN improved from above 45 to under 10. LSAS-SR improved from above 100 to 20.	CBT is recommended for SAD by NICE and the Anxiety and Depression Association of America. Treating SAD with CBT involves assessing historical aspects, thoughts, and physical symptoms that prompt SA, and treatment planning including psychoeducation, CR, and exposure therapy to build new knowledge and conditioning.	The case study meant that there was only one participant who had comorbidity of ADHD and GAD which makes it difficult to generalise.

Warnock-Parkes et al., 2020	Guide clinicians on how to deliver CT-SAD remotely and suggest novel ways for therapists and patients to overcome the challenges of carrying out a range of behavioural experiments during remote treatment delivery.	Key features of CT-SAD (video feedback, attention training, behavioural experiments, and memory-focused techniques can be adapted to be online delivered. Important to discuss practical problems which may include privacy, technical issues, distractions, and consent for recording.	All core interventions of CT-SAD can be effectively delivered remotely via video conference with some adaptations. Remotely delivered therapy might be particularly appealing to patients with SAD who often avoid help-seeking due to anxiety. Behavioural experiments can be carried out during remotely delivered therapy sessions in several ways (the patient speaking to strangers via the webcam or on the telephone, leaving home to do an activity outdoors with the psychologist on a phone, or other telehealth platforms).	

Khan et al., 2021	Guide clinicians working with youth with SAD on how to maintain ethical, evidence-informed provision of exposure therapy during COVID-19	Important to have a private, undistracted area for teletherapy. Monitoring and addressing safety behaviours may be harder for therapists. Important for therapists to adopt exposure therapy. Flexibility is key, "brave challenges" should be changed during the pandemic to keep safe from the virus. Caregivers are important in helping support out-of-session exposure exercises.	The impact of the pandemic will persist. Clinicians working with young people presenting with SAD should continue to use exposure therapy, although with adaptations.	

Risk of Bias

Efforts have been made to avoid mistakes in data extraction by considering PRISMA however, there are potential sources of bias in research through incomplete data, study design, researchers' experience, data reporting and evaluation (Liberati et al., 2009). Liberati et al. (2009) suggest that data can be easily misinterpreted when researchers use multiple ways of analysing and showing results. Denison et al. (2013) have stated that there are favoured results when applying for publication which can be a source of bias. There were no statistical methods utilised to provide an assessment of the risk of bias in the data collected due to the scope of the research.

Conclusion

This chapter has analysed and summarised the key aspects of each of the 16 articles selected for this systematic literature review. The author has provided three article characteristic overview tables for each research question and three tables summarising the focus, main results, conclusion, and limitations of each article.

Chapter Four: Discussion

Introduction

The overall purpose and objective of this systematic literature review was to investigate the prevalence of social anxiety in young people as well as explore the best practice interventions and implications of telehealth delivery during the pandemic. This section will summarise and synthesise the main results of the review, compare the findings of the review to existing literature, and state the limitations of the review. This section will also include the author's interpretation of the results and the implications for practice and future research.

Synthesis of findings

Research is increasingly recognising the impact of the COVID-19 pandemic on young people and their well-being. In particular social anxiety has also significantly impacted this population group. This systematic literature review aimed to identify the impact of the pandemic on young people regarding the prevalence of SAD and evidence-based interventions utilised at this time, as well as how the delivery of these interventions has been altered in the telehealth sector.

Current research has suggested that CBT is the gold standard practice for treating SAD in young people (NICE, 2013; Otte, 2011; Kindred et al., 2022). CBT has many variations of treatment including exposure therapy, cognitive restructuring, improving social skills, learning relaxation techniques, using problem-solving skills to cope, as well as other aspects (APA,

2022). These skills and intervention techniques can be utilised in both individual and group therapeutic spaces. This systematic literature review examined mainly CBT-based interventions and variations which included CR, DBT, REBT, and exposure therapy.

This systematic literature review identified findings through 16 articles providing answers to the three key research questions. The articles were published between 2020-2023 with varied research designs conducted in African, Western, and Eastern countries. The sample sizes were predominately small and examined different forms of CBT interventions with considerable variations in intervention lengths between each study. The methodological variations pose a complication in interpreting the results. Despite these differences, there were general positive trends in the articles relating to CBT interventions and post-test outcomes. In the following section, the results of the literature review will be discussed concerning the three research questions; social anxiety prevalence during the pandemic compared to prior, best practices for treating SAD in young people, and how the delivery of interventions has been impacted by COVID-19.

Prevalence rates of social anxiety pre- and during the COVID-19 pandemic

This systematic literature review identified seven studies that focused on prevalence rates before and during COVID-19. The pandemic meant that communities had to isolate and social distance for months at a time. It was hypothesised that this would have a negative impact on young people with social anxiety and increase SAD (Officer et al., 2022; Singh et al., 2020). According to Hawes et al. (2021) and Arad et al. (2021), there was a decrease in SA levels prior

to the pandemic with the former study focussing on the 2014-2019 data while the latter looked at the fall to spring semester between 2016-2019. The main finding from the seven articles examined was a significant increase in social anxiety during the pandemic, compared to before (Charmaraman et al., 2022; Hawes et al., 2021; Arad et al., 2021). Itani et al. (2021) discovered a prominent level of severe social anxiety during the pandemic, whilst Prieto et al. (2022) found amplified rates of social anxiety worsening as the year progressed. Li et al. (2022) and Samantaray et al. (2022) noted heightened rates of social anxiety and social phobia even after the lockdown restrictions were lifted. This finding is important as it shows that social anxiety has continued to impact young people even after the peak of the pandemic restrictions and will likely continue to impact society post-pandemic. This study was conducted in China where COVID-19 first appeared, and it remains unclear whether that may have exacerbated social anxiety symptoms here more than in other countries. A suggested factor that contributed to the increased prevalence was isolation (Charmaraman et al., 2022; Hawes et al., 2021; Itani et al., 2021). In contrast, Li et al. (2022) suggest that loneliness during the pandemic may not be the most crucial factor causing anxiety in children, but that does not stop the authors from viewing increased face-to-face interactions post-lockdown as beneficial. As expected, there has been a rise in social anxiety during the pandemic which has caused social anxiety to be one of the most prevalent mental health disorders worldwide (Itani, et al., 2021).

Morales et al. (2022) suggest that the initial decrease in social interaction was not distressing for those high in social anxiety. Although Hawes et al. (2021) found an overall increase in social anxiety, it was also reported that greater pandemic home confinement was uniquely linked to increased generalised anxiety symptoms and decreased social anxiety

symptoms. This may be due to young people with social anxiety symptoms experiencing relief because the isolation period meant encountering very limited social interactions. This is consistent with Arad et al. (2021) who state coping strategies such as avoidance or safety behaviours that are commonly seen as helpful can be a harmful way to manage social anxiety. Charmaraman et al. (2022) found online social anxiety did not change over time, although social anxiety not specific to online behaviour did negatively impact well-being levels over time. The authors also suggested that young people are less impacted by social media than by face-to-face interactions. Mobile device use provided minute positive results to well-being, such as support seeking online being linked to coping strategies for stress (Charmaraman et al., 2022). In contrast, Itani et al. (2021) discovered high rates of phone usage were strongly connected to young people experiencing SSA. These articles provide some opposing information on how social anxiety in young people is being impacted by phone usage.

Gender differences varied in the seven articles, Morales et al. (2022) and Hawes et al. (2021) suggested that females were generally impacted by social anxiety more than males which is consistent with previous research (Bandelow & Michaelis, 2015; Kessler et al., 2005; McLean et al., 2011). However, Prieto et al. (2022) found both boys and girls were impacted by high and extremely high social anxiety, with a slight elevation in percentage for boys in the extremely high category. Itani et al. (2021) recommend more research on SSA prevalence is desirable to address specific gender differences as there is limited research on this disorder.

The implication for the increase in social anxiety is that young people may remain more cautious and tend to avoid big gatherings. This is likely to have a negative effect on improving social anxiety levels (Itani et al., 2021). Safety and avoidance behaviours may continue to escalate social anxiety levels in young people for the foreseeable future, which can prolong the increased demand on the already under-resourced mental health care system. There is a greater need for effective SAD intervention for many reasons including; the rise in prevalence, and the challenging circumstances of finding therapeutic support during the pandemic. Coping strategies are becoming important for mitigating the impacts of social anxiety (Faize & Husain, 2021). Some students with SSA identified efficient coping strategies and were engaging in different personal activities at home, adopting COVID-19 safety guidelines and avoiding media. However, some students reported an inability to cope with the anxiety being faced during the pandemic (Cielo et al., 2021).

The overall limitations found from these seven studies included an inability to generalise due to most of the samples being under 200 participants (Prieto et al., 2022; Morales et al., 2022; Itani et al., 2021; Arad et al., 2021). Hawes et al. (2021) and Charmaraman et al. (2022) had modest sample sizes of 451 and 586 participants. Whilst Li et al. (2022) provided the largest sample size with 3107 participants. However, due to the specific region studied, it remains questionable whether the results can be generalised to other cultures and demographics. Prieto et al. (2022), Charmaraman et al. (2022) and Hawes et al. (2021) used self-reporting measures that could acquire response bias. With these limitations taken into consideration, it is believed that these studies still provided valid and relevant results to the prevalence of social anxiety in young

people. Although it could be of benefit for research to accommodate larger sample sizes, diverse cultures, and socio-economic status to allow for further ability to generalise the findings.

Complexities that the pandemic has added to social anxiety are that the actual event itself has increased social anxiety in young people, and there is added pressure on the mental health care system, with the traditional modes of therapy not readily available. The current research indicates that the pandemic caused social anxiety prevalence in young people to rise (Itani et al., 2021; Charmaraman et al., 2022; Hawes et al., 2021; Arad et al., 2021; Prieto et al., 2022; Li et al., 2022). The next section discusses the increased demand for therapy and the evidence-based interventions utilised during the pandemic for SAD in young people.

Best practice for treating social anxiety

SAD is one of the few common psychological disorders for which NICE does not endorse stepped care but rather recommends that clients are offered face-to-face high-intensity treatment immediately (Warnock-Parkes et al., 2020). This recommendation could not be completely met throughout the pandemic due to the distancing measures which meant online therapy became a prominent part of the therapeutic realm. Treatments that were commonly recognised to have a positive impact on SAD symptoms were adapted to become suitable for online-based therapy.

This systematic literature review identified six studies that focused on best practice interventions for young people with SAD during the pandemic. The six articles were based on CBT approaches including CR, DBT skills, exposure therapy and REBT. REBT adopts elements

of CBT that examine behavioural, cognitive, and emotional control, which translates into thinking, judging, deciding, analysing, and doing in hopes of eliminating irrational beliefs resulting in emotional and behavioural distress. All of these approaches were found to be effective in treating social anxiety in young people. CBT approaches were covered by Bandelow and Wedekind (2022), Fahdli and Situmorang (2021), Zepeda et al. (2021), Iyeke and Lawrence (2022), and Samantaray et al. (2022) whilst exposure-based was covered by Peros et al. (2021) and Zepeda et al. (2021). The majority of articles mentioned CBT as a favoured and applicable mode of therapy. This is due to the recognised efficacy of helping young people with SAD (Hofmann et al., 2012; Kodal et al., 2018; Pegg et al., 2022). It is not surprising that CBT was a favoured form of intervention due to its ease of use and proof of efficacy. However, Bandelow and Wedekind (2022) specifically investigated iCBT versus face-to-face therapy and suggested that face-to-face was superior and recommended that iCBT not be utilised as monotherapy.

Zepeda et al. (2021) utilised the shortest intervention period of three sessions whilst, Iyeke and Lawrence (2022) and Samantaray et al. (2022) both utilised a six-week intervention which was shortened from the typical 12 weeks (about three months). The longest intervention was Molino et al. (2022) which consisted of 18 individual sessions over the course of approximately six months. Although the intervention lengths varied the treatment provided positive outcomes post-intervention. Treatment effects of CBT in young people experiencing SAD were maintained long-term despite the social restrictions during the pandemic lockdown. Whereas other interventions including psychoeducational-supportive therapy did not have therapeutic benefits (Samantaray et al., 2022). The long-term benefits of CBT are consistent with multiple studies (Satre et al., 2020; Molino et al., 2022).

Fadhli and Situmorang (2021), Zepeda et al. (2021) and Samantaray et al. (2022) utilised cognitive restructuring as a fundamental part of reframing unhelpful and negative thoughts and beliefs of participants. Zepeda et al. (2021) were unique with the brief intervention and the use of a DBT-based technique, which dedicated one of the three sessions to understanding the acronym "DISTRACT" skill. This acronym stands for; "do something else, imagine pleasant events, stop thinking about it, think about something else, remind yourself of positive experiences, ask for help, count your breaths, and take a break" (Zepeda et al., 202, p.211). This was utilised as a coping strategy to teach children how to manage when emotions became intense. Although this research found a decrease in social anxiety, there were no long-term effects examined which questions whether the intervention needed to be longer and/or focus more on the negative cognitions and behaviours behind the SAD symptoms.

Samantaray et al. (2022) discovered SAD severity in the CBT group decreased significantly from pre-intervention to post-intervention (p <0.0005), and from pre-intervention to post-lockdown (p <0.0005). Another research investigating CBT skills found statistical significance in the experimental versus control group (p<0.01 vs. p> 0.128) providing evidence of the cognitive restructuring technique effectively reducing psychosocial anxiety (Fadhli & Situmorang, 2021). Zepeda et al. (2021) found significant reductions in social anxiety from pre- to post-intervention (p = .008). These articles have provided evidence of the effectiveness of CBT skills in treating social anxiety in young people. Bandelow and Wedekind's (2022) meta-analysis had conflicting findings, internet-delivered therapies were found to be as effective as face-to-face CBT and superior to waitlist controls in direct comparison. However, found effect sizes to be larger with

interventions with more therapist connection. After taking into account the larger effect sizes another comparison found internet-delivered therapies to be less effective than face-to-face CBT. Although internet-delivered therapies were found to be not different from pill placebos, and more effective than psychological placebo and waitlist ($p > .0001$ for all comparisons). These results suggest that face-to-face CBT is superior to online CBT treatment and should be taken into consideration by therapists post-pandemic to prioritise face-to-face sessions with clients and utilise online sessions for special circumstances.

These shortened interventions provide some evidence for the efficacy of brief intervention which may aid therapists in meeting the demand in the mental health system, whilst also providing effective skills in a shorter timeframe than the typical 12-week CBT intervention timeframe. The group-based interventions also provide evidence for the efficacy of group work for SAD in young people which can help with the pressure on the system as well by providing therapy to multiple people at one time and giving the young people peer support through the group.

The overall limitations found throughout the articles regarding best practice interventions were issues with generalisability. There were a few reasons for this including small sample sizes, studies being only relevant to the COVID-19 pandemic era, and participants who were in close proximity to front-line workers (Fadhli & Situmorang, 2021; Zepeda et al., 2021; Iyeke & Lawrence 2022; Peros et al., 2021; Samantaray et al., 2022). Three articles also used self-reported measures which can cause a response bias. Lastly, it may have been beneficial to see an assessment of other therapeutic activities that participants did during the lockdown period in

conjunction with the exposure activities such as family support, use of online resources or anxiety applications (Samantaray et al., 2022).

How has COVID-19 affected the delivery of the best practice interventions?

Before the pandemic, face-to-face therapy was the therapeutic standard practice (Warnock-Parkes et al., 2020). This was due to many reasons which included therapists being able to notice body language or other cues important to diagnose, as well as relationship and rapport building (Mercadal Rotger & Cabré, 2022). There was an inability to undergo face-to-face psychological treatment during the pandemic although many people still needed psychological support, which led to the rapid change to online delivered therapy. Findings from this systematic literature review suggest there is evidence for the effective treatment of SAD through telehealth using CBT, CT and exposure skills (Molino et al., 2022; Warnock-Parkes et al., 2020; Khan et al., 2021; Fadhli & Situmorang, 2021; Zepeda et al., 2021; Peros et al., 2021). Although there is compelling evidence in favour of internet-delivered therapy, the effect sizes may not be as large as face-to-face CBT (Bandelow & Wedekind, 2022). Regular assessment of the client's social anxiety levels through measures can help to see if the treatment is having a positive effect while using telehealth.

Guidelines for treating SAD in young people

The COVID-19 pandemic has impacted the way interventions can be delivered due to the pivot to online-based therapy. There has been guidance provided on how telehealth treatment should be conducted. This begins at the setting up stage with suggestions including having a

practice session for the purpose that the client can feel more confident and less anxious about the technical difficulties that can be present when utilising computers, the internet, and video conferencing software (Khan et al., 2021; Warnock-Parkes et al., 2020; Molino et al., 2022; Peros et al., 2021). This setting up session allows for therapists and clients to find a controlled environment in which they are least likely to be disturbed during intervention sessions (Khan et al., 2021; Warnock-Parkes et al., 2020). Monitoring of safety behaviours was a key aspect of telehealth treatment for SAD, therapists should be watching for behaviours including looking away, turning off the camera and increased fidgeting. However, it is acknowledged that this may be more difficult online than in face-to-face sessions (Khan et al., 2021; Peros et al., 2021). Warnock-Parkes et al. (2020) suggest that clients with SAD begin with the self-view function turned off to decrease negative self-talk and minimise the anxiety present during the session, and eventually, this can become an exposure practice.

Exposure practice is a more challenging aspect of delivering CBT-based interventions through telehealth for SAD due to the lack of social exposure opportunities, although typical exposures can be modified to meet the pandemic safety guidelines. Khan et al. (2021) provides examples of modifications used for the goal of tolerating embarrassment a young person may have worn a silly hat during the day while running errands. However, with lockdown restrictions, this may be altered to the young person only completing this activity when errands are a necessity for instance needing to go to the grocery store.

The research analysed in this systematic literature review has examined CBT, exposure therapy, CR, and REBT which all have been shown to have positive impacts on participants post-intervention. CBT has been advised as the best practice before COVID-19 and continues to show evidence of its efficacy during the pandemic.

Benefits of online therapy

The pandemic caused an increase in the prevalence of SAD therefore there has been a higher demand for therapeutic intervention (Hamlett et al., 2023; Warnock-Parkes et al., 2020; Molino et al., 2022). Telehealth therapy has meant that many people who required support were able to access this even with the pandemic distancing measures in place. Particularly those presenting with SAD may benefit from the widespread pivot to online delivery as sessions would not have to begin in-person in an unknown environment. This could potentially decrease anxiety and negative emotions around starting therapy. Young people may also benefit from increased control over schedules and improvement of certain stressors which may include transportation hassles, being time-poor, anxiety about travelling to the clinic, stigma of being seen at a mental health clinic and costs (Satre et al., 2020; Warnock-Parkes et al., 2020). All these factors being addressed through online therapy opportunities can improve patient attendance rates. This was present in Molino et al. (2022) who shared that the changes in treatment delivery allowed the client to benefit from going to the support group as they did not have to physically travel to the clinic.

The ability to provide group settings online has helped with the demand. A particularly positive tool that is featured through telehealth software is "breakout rooms" which can provide smaller private chats within the group. This allows for facilitators to meet with participants one-on-one in a separate breakout room, whilst other group facilitators engage with other group members (Peros et al., 2021).

Drawbacks of online therapy

Although online therapy has proven to have many benefits and allow clients to have more opportunity and autonomy over treatment, there may also be some disadvantages. The shift from in-person to online may cause clients to feel more distant from the therapy and therapist. Molino et al. (2022) client felt "uncomfortable" and "weird" during video calls with friends that would typically be seen in person. There is potential for clients to feel similarly towards the therapists, potentially hindering the treatment and rapport (Satre et al., 2020). Therapists should be aware of these impacts on the client and ask for feedback regularly to improve client outcomes and attendance rates.

Another issue that is prominent with online therapy is that clients need access to the internet and equipment for video conferencing, which may not be possible for some who have financial stress and may be isolating and limiting for low-socio-economics groups. This is particularly concerning because the pandemic caused many people to lose jobs and financial stability. A global recession has followed the peak of the pandemic which means even fewer people will be able to afford internet and luxury products that allow for video conferencing

technology. The cost of therapy can also be a disadvantage, particularly to those impacted greatly through the pandemic and recession. Although online therapy allows for some costs to be minimised such as petrol and parking fees. Other costs exist with online therapy such as Wi-Fi, power, and computer costs. Molino et al. (2022) changed from a registered therapist to a graduate therapist to provide cheaper prices for the client. Many therapists allow for payment plans and funding to help when possible whereas others only allow for upfront payment.

Molino et al. (2022) and Warnock-Parkes et al. (2020) both based the evidence-based therapy and guidance for online delivery on Clark and Wells (1995) treatment model for SAD. This involved detecting obstructive, avoidant and/or safety behaviours and creating exposure activities to discover what clients would do if these behaviours were to stop. Additionally raising awareness of thought processes and destructive cognitions related to social anxiety while learning to challenge and change these thoughts (Wong et al., 2014). Evidence from these articles shows CBT for SAD has effective results even with limitations on face-to-face therapy and the ability to engage with in-person social exposures.

Unfortunately, this systematic literature review has come across limited research investigating how the delivery has been impacted for SAD and young people during the pandemic. Future research should focus on the online delivery of evidence-based intervention using telehealth as it is evident that online therapy will remain a prominent treatment mode. Also, research should investigate larger sample sizes to support better generalisability providing more meaningful data to society. The case study in this research followed the treatment of one

female client with SAD. However, it was then found that the client had comorbidities with ADHD and GAD which further complicated the generalisability to the population. Zepeda et al. (2021) showed evidence for a brief CBT-based intervention, although there were no long-term effects provided. This would be an area for future research to solidify the results of this article and provide evidence of consistency in the efficacy of treatment. This systematic literature review had the intent of looking at pharmacological treatments as well as psychological interventions. There was limited information on pharmacological intervention for young people leaving space for future research.

A strength of this research was that it provides a global perspective of how the COVID-19 pandemic impacted social anxiety prevalence and interventions utilised for young people with SAD. This systematic literature review collected data from countries that have lower socio-inequality and abilities to access online therapy. There were also articles included from wealthy countries, which is relevant as the wealth gap makes it harder for people to be able to access services equally in these countries.

It is evident that online delivery of treatment will continue to be a prominent part of therapy post-COVID-19 for many reasons including but not limited to; health and safety, convenience, and efficacy of therapeutic interventions (Peros et al., 2021; Satre et al., 2020; Warnock-Parkes et al., 2020). Altered interventions for telehealth have compelling evidence for efficacy, particularly CBT-based treatment.

Overall findings

The systematic literature review shows evidence of the pandemic increasing SAD among young people. Compelling evidence suggests CBT and CBT variations of treatment are effective evidence-based interventions for treating social anxiety symptoms both face-to-face and online. There are benefits and drawbacks to telehealth, although a large benefit is providing the opportunity for young people to receive therapy in lockdowns. Outcomes include;

1. During the pandemic, there has been a significant increase in social anxiety in young people when compared to previous years.
2. Significant changes in outcome measures from pre-intervention to post-intervention
3. Online-based CBT interventions which include CT, CR, and exposure therapy were found to be beneficial for young people with SAD and allow for long-term benefits post-intervention.
4. The pandemic altered the way therapy was typically conducted for young people with SAD. However, with adequate intervention alterations, there have been positive outcomes from online delivered interventions.

Limitations

A limitation of this research was that it used one article reviewer which puts the systematic literature review at risk of reviewer bias. However, efforts have been made to provide objectivity and limit the errors that were made in the article selection process. Efforts have been made to provide objectivity and limit the errors that were made in the article selection process. This included following checklists outlined by CASP (2018) and PRISMA guidelines for

reporting systematic reviews, discussing search strategies with AUT library staff on how to provide inclusive search procedures and developing inclusion and exclusion criteria built on PICOS. However, with the author's experience and knowledge of the scope of research, the risk of bias may have transpired through the exclusion of various language research, possible publication bias and through selection of databases and search terms. Potential bias may be present from inadequate data, differences in methodology, reporting, and evaluation of data.

Conclusion

This systematic literature review suggests that the pandemic was associated with an increase in SAD in young people and caused a pivot in the way therapy was typically conducted. However, the inconsistent outcome measures and methodological differences throughout the articles are inadequate to establish generalisability from the findings. There are many recommendations for future research including a more thorough examination of SSA, and how prevalence rates are impacted post-lockdown as the pandemic becomes the new normal. Further exploration is needed in telehealth evidence-based interventions with comparisons of face-to-face therapy post-lockdowns. There is space for research on pharmacological intervention impacts on young people with SAD during COVID-19. The lack of evidence on long-term evaluation is an evident limitation. Larger sample sizes and longer-term research to measure evidence-based interventions would be valuable in future research.

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Appendix A

Search strategy for prevalence PsycINFO (OVID):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **ADJ4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

Search strategy for evidence-based interventions PsycINFO (OVID):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **ADJ4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

19. Intervention

20. Treatment

21. Therapy

22. 19 or 20 or 21

23. 18 AND 22

Search strategy for telehealth delivery PsycINFO (OVID):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **ADJ4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. Intervention

13. Treatment

14. Therapy

15. 12 or 13 or 14

16. 11 AND 15

Search strategy for prevalence CINAHL (EBSCO):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **N4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

Search strategy for evidence-based interventions CINAHL (EBSCO):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **N4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

19. Intervention

20. Treatment

21. Therapy

22. 19 or 20 or 21

23. 18 AND 22

Search strategy for telehealth delivery CINAHL (EBSCO):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **N4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. Intervention

13. Treatment

14. Therapy

15. 12 or 13 or 14

16. 11 AND 15

Search strategy for prevalence (Scopus):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **W/4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

Search strategy for evidence-based interventions (Scopus):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **W/4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. "Covid 19"

13. Coronavirus

14. 2019-ncov

15. Sars-cov-2

16. Covid-19

17. 12 or 13 or 14 or 15 or 16

18. 11 AND 17

19. Intervention

20. Treatment

21. Therapy

22. 19 or 20 or 21

23. 18 AND 22

Search strategy for telehealth delivery (Scopus):

1.Teen*

2. Adolescen*

3. Youth

4. Juvenile

5. "Young adult"

6. Children

7. Child

8. "Young people"

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. (Social) **W/4** (Anxiety or Anxious or Fear*)

11. 9 AND 10

12. Intervention

13. Treatment

14. Therapy

15. 12 or 13 or 14

16. 11 AND 15