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Effectiveness and Availability of Occupational Therapy Interventions for Improving Quality of Life for Families Dealing with Virtual Learning During the COVID-19 Pandemic and Substance Use Issues

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Madison Christian, Alexis Lehmann & Hannah Steckler, 2020

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Focused Question

What is the availability for immediate use and the quality of occupational therapy interventions for improving quality of life for families with school-age children dealing with school issues and virtual learning during the COVID-19 pandemic, specifically with parents who are also experiencing substance use issues?

Case Scenario

This critically appraised topic focuses on interventions for improving families' quality of life in relation to parents experiencing substance use issues and the impact of virtual learning on school-aged children during the COVID-19 pandemic. With many factors at play, substance use, and the COVID-19 pandemic are first discussed, then the impacts of virtual learning on children, and finally, occupational therapy's role in improving families' quality of life.

Substance Use and COVID-19 Pandemic

The COVID-19 pandemic was first discovered in December of 2019 (Liu et al., 2020) and is ongoing; therefore, research on topics related to the pandemic are currently emerging. As a result of the pandemic and lockdown orders that took place at the beginning of March of 2020, individuals were spending more time in their homes, working from home, and helping children with distance and virtual learning. As a result of many trying to work and teach their children from home, families were under added stress on top of the uncertainties of the lockdown and the worry about becoming infected by the COVID-19 virus. To cope with this stress, many turned to substance use (Baker et al., 2004; Cepeda et al., 2010; Goldmann and Galea, 2014).

Substance use is defined as “the recurrent use of alcohol and/or drugs that causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home” (Rural Health Information Hub, 2020, p. 1). Early in the pandemic, data from national and international surveys indicated increased rates of substance use, particularly alcohol; and having children at home was related to an increased consumption of alcohol (Schmidt et al., 2021). Among substance users, there were also increases in other drugs consumed related to the COVID-19 pandemic, such as cannabis, Ritalin or similar substances, pain relievers, and sedatives (Gritsenko et al., 2020; Roberts et al., 2021). It has been suggested that for many parents, having to ‘home-school’ their children alongside working from home during the COVID-19 lockdown may have led to role overload and distress, causing increased substance use (Roberts et al., 2021; Sallie et al., 2020).

Education and COVID-19 Pandemic

School closure has impacted children and adolescents between the ages of five and eighteen (Nearchou et al., 2020). The COVID-19 pandemic led to significant changes in the lives of many people globally, which has caused concern for the overall well-being of children (Choi et al., 2021). Some of these changes include virtual classes, the limitation of being involved in regular social participation events and spending more time at home with parents (Choi et al., 2021). Concerns with lifestyle behaviors due to virtual learning and spending more time at home lead to negative impacts on overall health in children and include a decrease in physical activity, which is associated with negative psychological issues (Pfefferbaum, 2021). It was found in a recent study that adverse effects of distanced learning on both parents and children were strongly related; more specifically, negative effects of distance learning and executive functioning deficits were influenced based on sex and age (Crisci et al., 2021; Nearchou et al., 2020).

Quality of Life and Occupational Therapy

Quality of life is not universally defined. For the purpose of this critically appraised topic, quality of life includes physical health, psychological state, level of independence, social



relationships, and aspects of the environment (World Health Organization, 2012). Quality of life is ingrained in multiple contexts, including social, cultural, and environmental. Because of this, it is impossible to analyze one's quality of life based on only health status, mental state, lifestyle, or any other single factor (World Health Organization, 2012). This critically appraised topic focuses on family quality of life, so it is important to recognize the complexity in defining family. In today's world, there are various family types and structures, each of which are dynamic, interconnected, and influenced by the environment (Samuel et al., 2012). Family quality of life is concerned with how each family member experiences quality of life as well as how the family as a whole has access to opportunities needed to achieve its goals in their society (Brown & Brown, 2014). The COVID-19 pandemic has had huge effects on family quality of life, both for individual family members and family units. There were increases in depressive symptoms, anxiety, job loss, and domestic violence for parents during the pandemic and higher rates of adverse childhood experiences for children (Calvano et al., 2021). Families suffered from income loss, changes in the parent/child relationship, and loss of opportunities in the community (Mackler et al., 2015).

Occupational therapists are in a unique position to be able to provide interventions to improve families' quality of life during the COVID-19 pandemic. Due to the wide variety of settings that occupational therapists practice in, they are able to provide interventions in mental health, education, social participation, and occupational engagement, all things that the pandemic has severely impacted. One way that occupational therapists improved quality of life during the pandemic was helping clients participate in meaningful activities while staying safe (Kamalakkanan & Chakraborty, 2020). Participating in meaningful activities is essential to prevent occupational deprivation, which negatively affects the quality of life. Occupational therapy can also be beneficial for children with a substance-use parent or family member. It has been shown that children with a substance-using parent who received occupational therapy intervention report reduced mental stress, greater coping skills, increased resilience, improved school performance, and a better parent-child relationship (Broning et al., 2019; Gance-Cleveland et al., 2008). Each of these factors affected contributes to a greater quality of life.

When considering a particular theory, the Person-Environment-Occupation (PEO) model is the most suitable model for our focus question. The PEO model is focused on what surrounds the person, and these specific domains include the person, environment, occupation, and occupational performance (Baptiste, 2017, p. 141). The person is made up of school-aged children in relation to the focus question. The environment includes living at home, utilizing virtual learning, and being surrounded by parents or caregivers who deal with substance use, and the occupational focus is on education.

Purpose Statement

Currently, there is an overall lack of evidence examining the effects of occupational therapy interventions to enhance families' quality of life while dealing with virtual learning in school-aged children and the impacts of substance use on parents. The purpose of this critically appraised topic is to determine the availability for immediate use and the quality of occupational therapy interventions for improving the quality of life for families with school-age children dealing with school issues and virtual learning during the COVID-19 pandemic, specifically with parents who are also experiencing substance use issues.

Methodology

The literature search took place March 4, 2022 to March 9, 2022. In course of the literature searches, a combination of allied health, occupational therapy, and multidisciplinary



databases were utilized, which included Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, ClinicalKey, and Embase. Articles were excluded if they included information about addictions to technology, social media, or phone use. Other types of addiction other than substance use were not included in this critically appraised topic. The following terms were used to search the databases: “occupational therapy,” “family,” “education,” “learning,” “virtual learning,” “relationships,” “parent,” “children,” “kids,” “childhood,” “school,” “COVID-19,” “pandemic,” “COVID-19 pandemic,” “addiction,” “substance abuse,” “drug,” “alcohol,” “substances,” “addictive,” “interventions,” “quality of life,” and “caregiver.” To ensure a refined search, the terms “AND” or “OR” were added between keywords to create database search phrases.

Types of Articles Reviewed

A total of 35 articles were reviewed and 31 articles were selected for further review. Of the 31 articles reviewed, five articles were Level I studies (Broning et al., 2019; Gance-Cleveland & Mays, 2008; Roberts et al., 2021; Samuel et al., 2012; Schmidt et al., 2020), eleven articles were Level IV studies (Crisci et al., 2021; Choi et al., 2021; Dozois, 2011; Garnett et al., 2021; Grisenko et al., 2020; Grossman et al., 2020; Knopik et al., 2021; Maggio et al., 2021; Rogers et al., 2020; Sallie et al., 2020; Touloupis, 2021), and twelve articles were Level NA studies (AOTA, 2021; Baker et al., 2004; Brown & Brown, 2014; Calvano et al., 2021; Daniel, 2020; Cepeda et al., 2010; Goldmann and Galea, 2014; Kamalakannan & Chakraborty, 2020; Liu et al., 2020; Mackler et al., 2015; Pfefferbaum, 2021; Verlenden et al., 2021). Other resources reviewed included government and organization websites (Czeisler et al., 2020; Rural Health Information Hub, 2020; World Health Organization, 2012).

Synthesis

Impact of COVID-19 Pandemic on Parental Substance Use

The COVID-19 pandemic was first discovered in December of 2019 (Liu et al., 2020), which resulted in families spending more time in their homes, working from home, and helping children with distance and virtual learning. Families were under additional stress with the uncertainties of the lockdown, and to cope, many parents turned to substance use. Substance use is defined as “the recurrent use of alcohol and/or drugs that causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home” (Rural Health Information Hub, 2020, p. 1).

Current research has indicated an increase in the rates of substance use, particularly alcohol use (Garnett et al., 2021; Grossman et al., 2020; Schmidt et al., 2021). In a survey of 30,375 adults in the United Kingdom in March of 2020, Garnett et al. (2021) found that one in four respondents reported an increase in consumption since the COVID-19 lockdowns began. Another group of authors, Grossman et al. (2020), found in a survey of 832 participants in the United States that 34.1% of participants reported binge drinking, 7.0% reported extreme binge drinking, and 60% of participants reported an overall increased consumption of alcohol.

While most of the research on substance use during the COVID-19 pandemic has been centered on alcohol consumption, a few articles address cannabis use (Roberts et al., 2021; Schmidt et al., 2021) and other substances (Grisenko et al., 2020; Roberts et al., 2021). In a systematic review of the impact of COVID-19 on alcohol use and other drugs, Schmidt et al. (2021) found in studies completed in France and Canada that individuals in two study samples had increased their cannabis use during the COVID-19 pandemic (Dozois, 2011; Rolland et al., 2020). In an online survey completed by 939 Russian and Belarusian university students, “among substance users, there were increases in specific drugs including 27.3% cannabis, 16.7%



Ritalin or similar substance, 18.2% pain relievers, and 23.5% sedatives” (Grisenko et al., 2020, p. 3). The research on other substances used during the pandemic, specifically in the United States, is limited, and further research is needed.

The upsurge of worry and fear during the COVID-19 pandemic has been suggested to influence rises in substance use (Czeisler et al., 2020; Roberts et al., 2021; Rogers et al., 2020). Through a review of the current literature, it was found that additional parental roles and distress from teaching children their schoolwork at home may be connected to increases in substance use consumption during the pandemic (Grossman et al., 2020; Roberts et al., 2021; Sallie et al., 2020; Schmidt et al., 2020). Sallie et al. (2020) discovered in an international survey of 1,346 participants that home-schooling children led to additional stress and heavier alcohol consumption in parents. Research data shows escalated stress and anxiety will increase motivation to use substances to cope, especially during a disaster or other life event (Baker et al., 2004; Cepeda et al., 2010; Goldmann and Galea, 2014).

Impact of Virtual Learning during COVID-19 Pandemic on Occupational Participation

Impact of Virtual Learning on mental health

Distanced learning is an alternative method for education used during the COVID-19 pandemic; however, face-to-face learning encourages human contact and direct communication, which is fundamental to effective learning (Maggio et al., 2021). Maggio et al. (2021) analyzed an online questionnaire completed by 96 parents and 96 children to investigate the psycho-emotional impact of the COVID-19 pandemic. Parents reported higher levels of stress and anxiety, and children reported higher levels of depression and anxiety (Maggio et al., 2021; Nearchou et al., 2020). The stress and anxiety in parents created by distance learning showed a positive correlation with the anxiety and depression of their children (Maggio et al., 2021). Another online survey involving 637 parents with a child between the ages of six and 19, was completed by Crisci et al. (2021), and they looked at the impact of virtual learning on the mental health of both children and parents, specifically, children's executive functions and parents' psychological well-being. In the same study, Crisci et al. (2021) found that the combination of the age of the child and distance learning leads to executive functioning deficits and a decrease in parent well-being. School closure has significantly impacted those between the ages of five and eighteen years (Nearchou et al., 2020).

Parental experiences of virtual learning during COVID-19

Due to the COVID-19 pandemic, students' and parents' lives have been impacted in diverse ways, specifically, moving to asynchronous or virtual learning (Daniel, 2020). The changes in the mode of instruction have been shown to increase psychosocial stressors in both children and parents that can negatively impact mental health and create problems in education (Verlenden et al., 2021). Knopik et al. (2021) surveyed 421 parents of primary school children to identify the parents' perspectives about their children's distance learning education during the COVID-19 pandemic. Knopik et al. (2021) found that parents took three common approaches while their children participated in distance learning. The approaches included (1) the committed teacher approach, (2) the autonomy-supporting coach, and (3) the committed teacher and intervener approach (Knopik et al., 2021). Parents observed fewer negative impacts on their children's development during remote learning when utilizing the committed teacher and intervener approach (Knopik et al., 2021). Touloupis (2021) conducted a survey of 271 parents of children who have learning disabilities to understand parental involvement in children's homework during the COVID-19 pandemic and found that the amount of involvement correlated with the parent's emotional state. Children who are not receiving in-person instruction and have



parents who experience negative mental, emotional, or physical health may need various support options when getting through the negative impacts of the COVID-19 pandemic (Verlenden et al., 2021).

Benefits of Occupational Therapy During the COVID-19 Pandemic

Occupational therapists are in a good position to assist during the COVID-19 pandemic due to their expertise in activity analysis and knowledge of patterns of behavior (Gance-Cleveland & Mays, 2008; Kamalakannan & Chakraborty, 2020). The multitude of new precautions during the pandemic, including social distancing and quarantine, left many individuals socially and occupationally deprived (Verlenden et al., 2021). During this time, occupational therapists have the skills to develop strategies to facilitate occupational engagement while keeping their clients safe by prioritizing occupations based on risks and adapting the environment to allow for participation in safe occupations (Kamalakannan & Chakraborty, 2020). Using these techniques, occupational therapists can also help formulate exit strategies for lockdowns and adapt public environments, including schools, to allow for more participation (Kamalakannan & Chakraborty, 2020).

Interventions Available for Improving Quality of Life During COVID-19 Pandemic

Two interventions that are appropriate for improving the quality of life during the COVID-19 pandemic for children with a substance-using parent are TRAMPOLINE and school-based support groups (SBSGs). TRAMPOLINE is a psycho-educative group intervention that aims to teach coping mechanisms, reduce psychological stress, extend knowledge about addiction, and develop a positive self-concept (Broning et al., 2019). This intervention is specifically designed for children with at least one substance-using parent and special training is required to administer TRAMPOLINE interventions. SBSGs encourage clients to identify strengths and personal resiliency. SBSGs are a “group of students with a common problem who come together for mutual support in a process-oriented, time-limited, psychoeducational group” (Gance-Cleveland & Mays, 2008). The goal of SBSGs is to increase knowledge, set goals, and develop patterns of behavior to reach those set goals. Both interventions found are psychoeducational, teach coping skills, aim to improve self-esteem, and are centered around knowledge about addiction and substance use.

Overall, there is a lack of researched interventions specifically for families with a substance-using parent during the COVID-19 pandemic. This could be because the COVID-19 pandemic is so new and because parents with substance use are very hard to study due to their lack of participation in research studies. Children of substance-using parents are also an underrepresented population in research and more studies are needed to fully understand their needs.

Characteristics of Available Interventions

Findings of a randomized control trial by Broning et al., (2019), consisting of 218 8–12-year-old children, showed a large standard error between the control group and the group receiving the TRAMPOLINE intervention. This suggests heterogeneity between groups. Broning et al., (2019), also found minimal to no changes in self-efficacy, self-perception, and physical stress symptoms in the same study. More research is needed on TRAMPOLINE interventions to examine the effects of these results. In a randomized, controlled, pretest-posttest pilot study consisting of 109 high school students, Gance-Cleveland and Mays, (2008), found that SBSGs are not well supported by the evidence yet. However, the study does indicate more research to determine the effects of the intervention would be of merit. Gance-Cleveland and Mays also found that there are gender and developmental considerations that have not been explored well.



For example, in the study by Gance-Cleveland and Mays, (2008), girls demonstrated improved resilience and there was a lack of significant differences in coping for boys. This is another area of potential future research.

Based on the current evidence, interventions for improving the quality of life for children with at least one substance-using parent are focused on making the child feel less socially isolated, improving knowledge about substance use, and developing appropriate coping skills (Broning et al., 2019; Gance-Cleveland & Mays, 2008). Broning et al., (2019), found that by improving socialization through TRAMPOLINE, the children were able to engage in more communication with others, including asking others for help. In a randomized control trial, Gance-Cleveland and Mays, (2008), found that SBSGs improve socialization, participation in meaningful activities, and self-confidence, all of which improve the overall resilience of the child. This will help the child work through difficult situations throughout their lifespan (Gance-Cleveland & Mays, 2008). Both TRAMPOLINE and SBSGs have been linked to significantly improved knowledge about substance use (Broning et al., 2019; Gance-Cleveland & Mays, 2008). Knowledge about substance use can help children with a substance-using parent to relinquish responsibility for their parents' behaviors and improve coping skills and communication with parents, which in turn improves the dynamics of the family as a whole (Broning et al., 2019). While TRAMPOLINE and SBSGs are not interventions created specifically for occupational therapists, they do fall into occupational therapy's scope of practice and occupational therapists would make an excellent part of the psycho-educational team (AOTA, 2021). Occupational therapists are experts in patterns of behavior (routines, roles, habits, and rituals), which is what SBSGs focus on (Gance-Cleveland & Mays, 2008; AOTA, 2021). Due to their holistic approach to the client and their environment, occupational therapists are also in a good position to help develop stress management and coping strategies, which is a major component of psycho-educational groups (Broning et al., 2019; Gance-Cleveland & Mays, 2008). Children with a substance-using parent are more likely to have decreased cognitive and verbal abilities as well as more behavioral problems (Gance-Cleveland & Mays, 2008). By participating in psycho-educational groups, occupational therapists could work with the child to remediate these problems at the same time as increasing their knowledge and tools to cope with their situation.

Overall, there is a significant lack of evidence in interventions for occupational therapists to work with families with a parent struggling with substance use. There is also a lack of evidence regarding interventions to improve families' quality of life during the COVID-19 pandemic. More research is needed to discover occupational therapy's role in psycho-educative groups and how they fit into occupational therapy's scope of practice.

Limitations of Occupational Therapy Services

While there are many benefits of occupational therapy, there are also some limitations. For example, occupational therapists are in a good position to assist in formulating exit strategies during the COVID-19 lockdown, but isolation may be government-mandated, making the exit strategies futile (Kamalakaran & Chakraborty, 2020). As far as services for families with a substance-using parent, research is very limited (Broning et al., 2019; Gance-Cleveland & Mays, 2008). This is partly because many substance-using parents are not willing to disclose using substances to participate in research studies (Broning et al., 2019). As far as specific interventions are concerned, neither the TRAMPOLINE nor the SBSG is specific to the occupational therapy profession, however, they do fall into the occupational therapy scope of practice and occupational therapists could use their holistic view of the client



and their environment to improve quality of life and occupational performance (Broning et al., 2019; Gance-Cleveland & Mays, 2008). Occupational therapists may facilitate psycho-educative groups with training (Gance-Cleveland & Mays, 2008). More research is needed to determine how occupational therapy practitioners could fit into the psycho-educational team and how these interventions fall into the occupational therapy scope of practice. There is also research needed to determine occupational therapy-specific interventions for families with a substance-using parent.

Summary of Synthesis

After reviewing available literature through the lens of the PEO Model (Baptiste, 2017), it was found that the fit between school-aged children and virtual learning during the COVID-19 pandemic was poor (Nearchou et al., 2020), and additional stress from teaching children at home led to increased rates of substance use in parents (Grossman et al., 2020; Roberts et al., 2021; Sallie et al., 2020; Schmidt et al., 2020). The pandemic has severely impacted mental health, education, social participation, and occupational engagement, which are all important for quality of life (Brown & Brown, 2014). Interventions available for immediate use in improving families' quality of life originate in other disciplines (Broning et al., 2019; Gance-Cleveland & Mays, 2008). However, because occupational therapy has a holistic view of the client and their environment (Broning et al., 2019; Gance-Cleveland & Mays, 2008), therapists could utilize interventions to improve occupational performance in families.

Focused Question

What is the availability for immediate use and the quality of occupational therapy interventions for improving quality of life for families with school-age children dealing with school issues and virtual learning during the COVID-19 pandemic, specifically with parents who are also experiencing substance use issues?

Clinical Bottom Line

The need for occupational therapy interventions for improving families' quality of life is apparent because the COVID-19 pandemic presented additional stress and role changes among families of school-aged children (Calvano et al., 2021). Familial structures can be defined differently across cultures and were impacted greatly during the COVID-19 pandemic (Samuel et al., 2012). Quality of life in families is dependent on individual experiences as well as the experiences of the family as a unit (Brown & Brown, 2014). After reviewing the research pertaining to the subject, additional roles and stress in parents adapting to a teaching role for their children at home may be connected to increased substance use consumption during the pandemic (Grossman et al., 2020; Roberts et al., 2021; Sallie et al., 2020; Schmidt et al., 2020). Interventions are needed to improve families' quality of life for children experiencing issues related to virtual learning and parents suffering from mental, emotional, or physical distress (Verlenden et al., 2021).

Current interventions for school-aged children are focused on psycho-education and are based on group-based, educational contexts (Gance-Cleveland & Mays, 2008). Gance-Cleveland and Mays refer to school-based settings as the "catch-all" for interventions for children who are all experiencing difficulties with virtual learning and parental substance use (2008). While TRAMPOLINE and SBSGs are not interventions created specifically for occupational therapists, they do fall into occupational therapy's scope of practice and occupational therapists would make an excellent part of the psycho-educational team (AOTA, 2021). Occupational therapists often work with teachers, social workers, school psychologists, and counselors in the school context (AOTA, 2017). However, there are limited interventions based in occupational therapy



for practitioners to utilize that address quality of life in children and their families in all contexts. The few interventions that have been researched focused on addressing coping skills, socialization, and routines and habits of children (Broning et al., 2019; Gance-Cleveland & Mays, 2008). While other disciplines completed these interventions, these areas are within occupational therapy's scope of practice (AOTA, 2020). Occupational therapists are knowledgeable in how coping, social participation, and routines and habits affect engagement in occupations, such as education (AOTA, 2020). If children are better equipped to cope with adversity and have appropriate social skills, they can build healthier connections with their parent or parents suffering from substance use (Broning et al., 2019).

The current evidence is deficient in available studies for occupational therapy interventions for immediate use and their quality for improving families' quality of life among school-age children dealing with school issues and virtual learning during the COVID-19 pandemic, specifically with parents experiencing substance use issues. Currently, the research has focused on the COVID-19 pandemic's effect on substance use (Garnett et al., 2021; Grossman et al., 2020; Schmidt et al., 2021), the effect on children's mental health and virtual learning (Maggio et al., 2021), and briefly occupational therapy's role during the pandemic (Kamalakaran & Chakraborty, 2020). While a small portion of research has looked at the parental experience of virtual learning, literature bridging the connection between parental substance use, virtual learning during the pandemic, and interventions to improve families' quality of life is deficient, and further research is needed. The studies on occupational therapy interventions for families' quality of life mainly were pilot studies conducted among other healthcare disciplines, such as nursing and social work (Broning et al., 2019; Gance-Cleveland & Mays, 2008), which warrants a need for research in occupational therapy's domain.



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