



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Addressing Pediatric Mental Health Using Telehealth During Coronavirus Disease-2019 and Beyond: A Narrative Review

Natoshia R. Cunningham, PhD; Samantha L. Ely, BA; Brittany N. Barber Garcia, PhD; Jennifer Bowden, MD

From the Department of Family Medicine, Michigan State University (NR Cunningham and SL Ely), Grand Rapids, Mich; College of Human Medicine, Michigan State University (BNB Garcia and J Bowden), Grand Rapids, Mich; and Spectrum Health, Helen DeVos Children's Hospital (BN Barber Garcia and J Bowden), Grand Rapids, Mich

The authors have no conflicts of interest to disclose.

Address correspondence to Natoshia R. Cunningham, PhD, Department of Family Medicine, Michigan State University, 15 Michigan St NE, Grand Rapids, MI 49503 (e-mail: Natoshia@msu.edu).

Received for publication November 4, 2020; accepted June 3, 2021.

ABSTRACT

The pediatrician serves as a frontline provider addressing patients' medical and mental health needs, yet coronavirus disease-2019 (COVID-19) is reshaping the way physicians deliver care. Pediatricians are increasingly faced with the challenge of delivering care, including mental health care, remotely. Given the rapidly evolving literature, we performed a narrative review of the use of telehealth for mental health care for pediatric populations during the COVID-19 pandemic. Areas of focus included 1) pediatric primary care settings, 2) special pediatric populations (eg, eating disorders, autism), 3) access and engagement in telehealth care, and 4) training opportunities available for mental health providers. Themes that emerged across studies included the importance of meeting patients' needs (eg, access to technological resources) to

optimize success in using telehealth tools and challenges around provider access to support tools for use during telehealth. Thus, we provided a summary of evidence-based tools (including COVID-19 specific resources) for improving the remote delivery of mental health care by pediatricians. We also reviewed future directions including trials currently underway to enhance understanding of future telehealth applications for pediatric mental health care.

KEYWORDS: coronavirus disease-2019; mental health; pediatric; primary care; telehealth

ACADEMIC PEDIATRICS 2021;21:1108–1117

WHAT'S NEW

The evolving literature on telehealth for pediatric mental health care during the coronavirus disease-2019 pandemic is reviewed. Common themes, limitations, and future directions pertinent to pediatric care are provided. Evidence-based tools are also summarized to promote effective telehealth delivery.

IN THE WAKE of coronavirus disease-2019 (COVID-19), the physician is increasingly tasked with using remote strategies to address patients' medical and mental health needs. *Telehealth* is technology-facilitated communication between the patient (caregiver) and provider to allow individuals to function as if physically together.¹ Telehealth for mental health care (herein referred to as telehealth) can be used for both symptom assessment and intervention. Prior to the COVID-19 pandemic, telehealth was already used to manage chronic pain,² obesity,³ and sleep problems,⁴ all of which are common presenting complaints in

pediatric primary care settings. The rapport between providers and patients in virtual settings was shown to be comparable to in-person treatment⁵ with increased patient disclosure.⁶ Prior to COVID-19, telehealth was only used by 15% of pediatricians⁷ and fewer than 50% of mental health providers.⁸ While billing and insurance coverage limitations previously affected use,⁷ there is now increasing reimbursement for telehealth services in response to the COVID-19 pandemic.⁹ As a result, remotely delivered care has increased and will only continue to evolve. Our goals of this narrative review were twofold: we reviewed emerging literature on the use of telehealth for pediatric mental health care *during the COVID-19 pandemic*. Second, we shared freely available evidence-based tools that clinicians may wish to use to enhance telehealth practice.

REVIEW METHODOLOGY

We conducted a search for English-language articles on telehealth offered for mental health *during* the COVID-19 pandemic (January 2020 to March 2021). Articles in

PubMed, Embase, PsychInfo, and LitCOVID were searched and filtered. Telehealth terms included, “telehealth” OR “telemedicine”; mental health language included, “mental health” OR “mental illness” OR “mental disorder” OR “anxiety” OR “depression” OR “ADHD” OR “distress” OR “worry” OR “behavior*” OR “autism.” The terms, “pediatric” OR “child*” OR “adolescent” OR “teen” were also searched.

The search revealed 876 articles, of which 73 seemed potentially appropriate following a title/abstract review, and 54 were deemed appropriate after a comprehensive review. Further, 1 article (identified by expert knowledge) was also included, totaling 55 original scientific papers in this review (Table 1).

RESULTS

PRIMARY CARE

Several primary care clinics described the transition from in-person to virtual care as a result of COVID-19.^{10–12} Once telehealth was employed, the frequency of visits was comparable¹⁰ or increased¹¹ due to its use. There were also decreased no-show rates for those with pre-existing barriers to in-person care.¹³ Mental health concerns were among the most common presenting complaints during COVID-19 (28%–36%),¹¹ and integration of behavioral health treatment via telehealth was found to be feasible.¹³ A variety of mental health services, including eating disorder treatments and addiction treatments, were also successfully implemented.¹⁰

Telehealth use was more common for patients who engaged in preventive care in the prior year, younger children (ages 0–2 years), and those who identified as non-Hispanic white, suggesting barriers to access for minority populations.¹¹ In addition, several challenges (eg, patient privacy, inadequate infrastructure, limited mental health protocols) were reported following the rapid transition to telehealth.¹² Cumulatively, these studies suggest mental health concerns encompass a large portion of pediatric primary care visits and telehealth has the potential to increase access to care, though disparities in care and lack of provider resources remain barriers.

SPECIAL POPULATIONS

Multiple studies addressed specific pediatric populations including those diagnosed with eating disorders,^{14–18} attention deficit hyperactivity disorder (ADHD),¹⁹ autism,^{19–23} other severe mental health concerns,^{24–34} and chronic medical conditions including epilepsy.^{35,36}

Among individuals with eating disorders, worsening symptoms (eg, increased distress, binge eating) were reported during the COVID-19 pandemic, signaling the need for additional and/or sustained psychological care.^{14,15,17,18} However, patients reported a decreased willingness to attend in-person visits due to fears related to contracting COVID-19, which may be indicative of support for telehealth options.¹⁵ Importantly, strategies traditionally considered typical of in-person treatment for eating disorders (eg, group therapy, family involvement,

and specialist consultation) were found to be readily adapted to telehealth, even in an inpatient treatment setting.¹⁶ In fact, virtual adaptations were planned to continue beyond the COVID-19 pandemic (eg, utilizing video platforms when patients, families, or staff are unavailable for in-person meetings).¹⁶ Patients generally reported an appreciation for the use of telehealth services to manage mental health,¹⁴ but engagement and treatment response may depend on eating disorder subtype, and further research is needed.¹⁸

Telehealth was also employed among youth with severe mental health issues receiving care in an inpatient unit.^{29,30,32,34} Units used telehealth to mitigate COVID-19 outbreaks²⁹ and to decrease hospitalization length (from approximately 26 days to 10 days) during the COVID-19 pandemic.³⁰ However, greater improvement correlated with longer in-person stays, suggesting that those with severe mental health issues may benefit more from in-person care.³⁰ Conversely, another study in an inpatient unit reported high satisfaction with telehealth among patients and families, though patients had difficulty returning to in-person care routines after a lockdown period.³² Further, several studies of youth with complex mental health needs reported that telehealth was feasible for providing care that was conventionally offered in-person.^{27,33,34}

Caregivers of youth with neurodevelopmental disorders reported that telehealth interventions were practical, helpful, and easy to implement.³¹ A small cohort of children with autism demonstrated symptom improvement while utilizing a virtual program led by providers and caregivers.²² However, other studies of children with autism reported several challenges (eg, decreased follow-up, potential worsening of symptoms) during telehealth.^{20,21} Other investigations of youth with complex disabilities reported increased mental health concerns among children and caregivers,²⁵ as well as mixed to low satisfaction with virtual care (eg, decreased access to care, perceived as a poor fit for their child).^{25,26} More than a quarter of caregivers reported inadequate support from those who addressed mental health challenges (eg, in schools or health care settings).²⁸ Parents of children with epilepsy similarly reported limited or inadequate access to resources for their children via telehealth.^{35,36} Given the mixed satisfaction and access to virtual care for complex mental health issues, telehealth alone may be inadequate to meet the needs of all children.

In addition to delivering care, telehealth posed challenges when used to conduct neuropsychological assessments virtually during the COVID-19 pandemic.^{37,38} One group noted that 63% of their patients needed further in-person evaluation.³⁹ However, other investigations reported leveraging digital technologies (eg, using live video and recordings) to enhance neuropsychological assessment for complex conditions such as autism and ADHD.^{19,23} One survey-based study revealed that several clinics were able to continue virtual assessment and even provided language interpreters for the majority of patients who needed such services.⁴⁰ Some reported they will continue to use virtual assessment strategies beyond the

COVID-19 pandemic.⁴¹ While challenges should be considered, telehealth presents another avenue for pediatricians recommending patients to specialized treatment.

ACCESS AND ENGAGEMENT

The COVID-19 pandemic adversely impacted patient mental health^{42,43} and increased the need for care (particularly in clinical populations) during the COVID-19 pandemic.^{10,11,44} However, less engagement in pediatric telehealth was noted specifically for psychotherapy, especially when compared to medication management.⁴⁵ Interestingly, in a community sample of high school youth, a sizable portion (one third) reported mental health concerns due to COVID-19, but only 40% intended to seek treatment. These findings mirror that of an intensive outpatient clinic providing mental health services, which reported increased rates of attendance via telehealth,⁴⁶ but an overall decline in service use.⁴⁷ Indeed, service use within settings may have varied throughout the pandemic. For example, while COVID-19 likely triggers increased distress in many children, a subset of youth (such as those with social anxiety) may experience diminished symptoms with virtual schooling or social distancing,¹³ and may discontinue treatment due to decreased anxiety.¹³ However, the return to in-person activities may increase anxiety for these youth and increase telehealth engagement. Indeed, this pattern has already been observed in some settings, with increased telehealth use at the onset of the pandemic, followed by decreased use during stay at home orders, and increased use again when some schools transitioned from virtual to in-person learning.⁴⁸

Services were even paused for some clinics, as a survey of pediatric/adult mental health clinic directors reported 23.7% of their facilities closed for a period of time,⁴⁹ and of those that remained open, 86% provided telehealth. A large survey of US mental health clinics (n = 8860) found only 45.2% of clinics treating children offered telehealth during the COVID-19 pandemic.⁵⁰ Staff deployment to care for COVID-19 patients also limited access to care,⁵¹ and systematic issues (eg, lack of platform, complex administrative processes, low rates of reimbursement for telehealth) were identified as challenges.⁵² Unsurprisingly, health care systems with the most successful transition to telehealth already had existing infrastructure and resources prior to the COVID-19 pandemic.^{53,54}

Limited use of telehealth occurred in clinics that did not accept Medicaid and were in metropolitan areas, as well as areas with more COVID-19 cases and shelter-in-place orders.⁵⁰ In inner-city mental health clinics, immigrant/refugee youth faced several challenges of remotely delivered care (eg, increased distress among children and their families, internet access difficulties, lack of technological devices, lack of a secure/private space).^{55,56} In line with such research, gaps in mental health care were exacerbated for minority individuals during the COVID-19 pandemic.^{11,24} For families with lower socioeconomic status, phone versus video platforms enhanced engagement,⁵³ and youth reported they were more likely to use telehealth if it was secure and available in instant messaging or video format.⁵⁷ Some families of youth with

ADHD expressed appreciation for text messages helping them manage their child's symptoms.⁵⁸

Patient telehealth use during the COVID-19 pandemic posed challenges^{51,59,60} (eg, technological issues, privacy concerns, scheduling conflicts, and engaging patients physically/emotionally), with such reasons also being endorsed for missed appointments.⁵⁹ On the other hand, clinicians effectively transitioning to telehealth care reported supervisor support and ability to adjust to technological challenges as factors contributing to their success.⁶⁰ Among community mental health providers (n = 93) the adaption to telehealth delivery was generally viewed positively; however, providers noted risks to confidentiality, limits to delivering certain types of interventions (eg, access to tangible behavioral reinforcers), and other challenges specific to pediatric populations (eg, distractions, lack of parental support).⁶¹

TRAINING

In the wake of COVID-19, provider training was enhanced to effectively use telehealth for addressing mental health concerns in children. One study described implementing a virtual training platform for mental health providers in a low-income country (Nepal) with a population of over 29 million (40–50% are children), yet only 1 full-time pediatric outpatient psychiatric clinic.⁶² Impressively, this program launched during the COVID-19 pandemic and increased access to mental health care throughout the country. Successes were also achieved in disseminating psychological first aid and other provider training resources (Table 2), and adapting a standard in-person, empirically supported treatment for child behavioral concerns (Parent-Child Interaction Therapy) for use in a telehealth platform following the COVID-19 pandemic.⁶³

Another paper described a 1-day pediatric cognitive behavioral therapy training program that was delivered virtually as a result of the pandemic.⁶⁴ Even with this virtual adaptation, providers reported a statistically significant increase in knowledge of key concepts and positive feedback on the experience after undergoing the training. Across these investigations, virtual trainings enhanced provider knowledge and increased patients' access to care. It would be useful to compare in-person versus virtually delivered training modalities in future research to assess the effectiveness of training.

WHAT HAVE WE LEARNED?

The use of telehealth across a variety of patient settings/populations can inform primary care providers. Across settings, the rapid adoption of telehealth services was made possible due to a multitude of factors, such as health insurance companies agreeing to cover such services, relaxed regulations across technological platforms, and access to resources. Impressively, telehealth integration allowed for widespread access to mental health care in some instances. Benefits of telehealth included continuity of care and increased access to care for patients with barriers to in-person treatment. In some cases, telehealth was

Table 1. Articles Pertaining to Telehealth for Pediatric Mental Health During COVID-19

Target	Study	Sample	Study Findings
Primary care	Barney et al, 2020	Adolescents and young adults in an urban academic medical center	TH visits increased 0–97%; Maintained pre-COVID visit rates; Successful for most txs but not for health supervision
	Schweiberger et al, 2020	45 pediatric primary care clinics	MH consults were the most common TH visit; TH use varied based on child's demographics and preventive care use; Practices with higher TH use had fewer in-person visits but more visits overall
	Satti and Ojubele, 2020	13 general pediatric clinicians; 1 pediatric behavioral health clinician at a rural medical center	TH visits increased 0–82%; Addressing patient privacy, resources, and creating standard protocols crucial for success
	Perrin et al, 2020	Pediatric and adult psychologists/doctoral trainees	Fewer referrals and some parents opted to pause child's tx; TH increased access to care and rate of visit attendance
Special populations	Termorschuizen et al, 2020	~1000 adolescents and adults with eating disorders in the United States and the Netherlands	Participants reported increases in distress, maladaptive behaviors, anxiety, and fear of relapse during COVID-19. Appreciated TH tx, but some had limited access
	Davis et al, 2020	Children and adolescents with eating disorders in Singapore	TH mediated patient health-related anxiety and fear of infection; Financial support and parent encouragement integral for success
	Datta et al, 2020	Children, adolescents, and young adults with eating disorders in inpatient care	TH effective for inpatient care; Clinic will continue TH for family engagement and bedridden patients post-COVID
	Grael et al, 2020	Children and adolescents with eating disorders	73.1% of visits were via TH and 26.9% in-person; 41.9% of patients had reactivation of sx
	Fernandez-Aranda et al, 2020	Adolescents and adults with eating disorders attending tx centers across Spain	TH effective for patients with anorexia nervosa and obesity but not bulimia nervosa; Those with anorexia nervosa dissatisfied with TH compared to in-person tx; Some patients experienced worsening sx
	Reddy and Brumpton, 2021	Children and adolescents seeking assessment for ASD or ADHD	TH most successful if all other processes are electronic; Videos can be used for behavioral assessments, but physical assessments are better done in-person
	degil Espinosa et al, 2020	Children with ASD and their parents in Italy	Standard tx not supported by TH due to increased caregiver distress/involvement and lack of structure/resources; Protocols successful when tailored to family's needs
	White et al, 2021	Children and adults with ASD and their caregivers	COVID created a disruption in care; Few families had access to TH; TH reported as minimally beneficial; Sx and family distress worsened
	Pollard et al, 2021	Children with ASD	Technician- and caregiver- led TH had comparable tx doses to in-person care; Correct independent responding was maintained or improved with TH
	Wagner et al, 2020	Providers evaluating children for ASD	TH increased access to care; Beneficial to assess child in their natural environment; TH acceptable for assessments, but tech issues often warranted further in-person assessment
	Yang et al, 2020	Children and adults seeking mental health care at a large health center	Non-MH visits declined -38.2%, MH visits increased 11.7%; MH visits via TH rose from 5% to 83.5%; MH visits for minoritized groups decreased
	Masi et al, 2021	Children with neurodevelopmental disorders	68.8% report using TH for child's sx; 54.8% of respondents were dissatisfied with tx; 30% reported TH works well for their child; COVID impacted 76.1% of caregivers' wellbeing
	Murphy et al, 2020	Children with cognitive/physical disabilities	72% of respondents indicated having access to care via TH; 44% had low satisfaction with care, TH accessibility main predictor of satisfaction
	Dursun et al, 2020	Children with mental special needs and their caregivers	Developed tiered intervention app for caregivers to consult specialists on child's sx; Reported high satisfaction with system; 63.3% reported sx improvement
	Faccioli et al, 2021	Children and adolescents with cognitive/physical disabilities	Most had access to remote psychological support; 26.8% of caregivers and 13.2% of adolescents wished they had greater support
	Emans et al, 2020	Adolescents and young adults in mental health clinics in the United States	COVID outbreak in psychiatric unit despite restrictions; TH should be used to lower exposure risk; Coverage of TH critical
Ozbaran et al, 2020	Youth with psychiatric disorders in inpatient care in Turkey	TH offered as alternative to inpatient tx to mitigate infection risk; Hospital stays decreased from 26 to 10 days after COVID	
Summers et al, 2021	Children with neurodevelopmental disorders and their caregivers	TH intervention managing child's sx was easy to use; Tx received from TH viewed as practical, implementable, and helpful	

(Continued)

Table 1. (Continued)

Target	Study	Sample	Study Findings
	Buono et al, 2021	Children and adults with intellectual disabilities in an inpatient facility	TH acceptable by patients and families; Patients using tech-regulated activities had difficulty returning to normal routine after lockdown
	Provenzi et al, 2020	Children with neurological and psychological disabilities	92% of caregivers reported improvement in child's sx after using TH; 40% rated TH more effective than in-person care; Barriers included following provider instructions and internet access
	Taddei and Bulgheroni, 2020	Children presenting to an inpatient/outpatient neuropsychology center	93% of families willing to use TH; TH had high satisfaction and viewed as comparable to in-person tx; Barriers were socio-economic or language-related
	Trivisano et al, 2020	Children and adolescents with epilepsy	25.1% of patients had TH with 93.9% being satisfied and 67.2% felt TH was advantageous; 59.6% of those seeking MH tx specifically felt TH was inadequate
	Brambilla et al, 2020	Children with Dravet Syndrome	Few had access to MH care via TH, and half of those who did were unsatisfied; Most who did not have access wished they did
	Pritchard et al, 2020	Pediatric psychologists and neuropsychologists	Tiered system of TH effective and will be used post-COVID; TH not suitable for all types of assessments
	Koterba et al, 2020	Inpatient pediatric neuropsychologists	Some inpatient care can be done via TH, but in-person tx still required; Neuropsychological assessments via TH not feasible
	Ramson et al, 2020	Children, adolescents, and young adults with complex medical issues	Demographics did not affect TH use; Laptops/desktops better for test administration than phone/tablet; 63% needed further in-person evaluation
	Wallis et al, 2020	35 developmental behavior pediatric clinics	Most clinics used TH to conduct evaluations and all used TH for follow-ups; >88% of clinics used TH for med management; >90% could provide interpreters and incorporate other team members for visits
	Hammers et al, 2020	Pediatric neuropsychology providers	Survey-based study found providers used TH for interviews, testing, feedback, and intervention; Most said they would use TH post-COVID
Access and engagement	Revet et al, 2021	Heads of European child/adolescent psych services	COVID viewed to have a medium to strong impact on patients' MH; 95% of centers now offered TH despite only 20% using TH before COVID; 80% of centers had restricted or closed services; Referral rates decreased
	FAIR Health, 2021	Children and young adults (0–22 years) filing a health care claim	All medical claims decreased during 2020, but MH claims increased. TH consultation for MH skyrocketed in 2020
	Crockett et al, 2020	Children attending inpatient/outpatient behavioral psych clinics	Appointment volume increased 30% compared to pre-COVID and was 40% higher than the same time frame in 2019
	Hoffnung et al, 2021	Children and adults attending community mental health clinics	Children did not use TH as much as adults and were quicker to return to in-person tx; Children less likely to use psychotherapy services compared to other services
	Childs et al, 2020	Adolescents and adults with severe psychiatric disorders presenting to intensive outpatient	Rate of appointment attendance increased from 59.6–67.95%; Group-based TH sessions increased, overall visits declined
	Childs et al, 2020	Adolescents with severe psychiatric disorders in intensive outpatient	Number of visits declined after TH employed; Group therapy can be done through TH but not sustainable
	Renjan and Fung, 2020	Children and adolescents referred to a community mental health program	TH initially had logistical issues but increased access to care; Referrals increased with onset of COVID, decreased during stay-at-home orders, and increased again when schools resumed in-person learning
	Hames et al, 2020	Directors/representatives of psychology training clinics for all ages	23.7% of training clinics closed; 86% of open clinics offered TH; 80% suspended some services (eg, assessments)
	Cantor et al, 2021	>8000 outpatient mental health facilities	Of clinics offering pediatric services, 45.2% offered TH; Clinics less likely to have TH if they did not accept Medicaid, were in metropolitan areas, had shelter-in-place orders, or more COVID cases
	Mulay et al, 2021	Children presenting to a developmental/behavioral health unit in Singapore	Visits proportionately decreased when staff were deployed to help with COVID; TH viewed positively by patients; Barriers included lack of resources for staff/patients, communication across unit, and lack of emotional connection

(Continued)

Table 1. (Continued)

Target	Study	Sample	Study Findings
	Sharma et al, 2020	Children and adolescents attending a psychiatry department	Slower transition to TH; Barriers included lack of sustainable platform and complex administrative processes; Documentation and time effort for TH comparable to in-person tx, but revenue was lower
	Ramtekkar et al, 2020	Children attending a large pediatric behavioral health unit	TH used prior for medication management but rapidly expanded with COVID; Evaluations (except physical assessments) could be done via TH; Easier to engage lower SES families via phone
	Lim et al, 2020	Adolescents with diabetes in a health/psychoeducation program	TH was paramount for COVID-related distress screening; 80% of patients/families rated TH comparable to in-person tx, 20% preferred TH; No adverse outcomes arose
	Endale et al, 2020	Refugee children and families presenting to a community mental health center	Initial resource barriers for underserved populations; CBT via TH became comparable to in-person services over time
	Falicov et al, 2020	Immigrant families presenting to a community mental health center	TH can pose barriers for those with limited resources; Flexibility from providers/teams critical for TH to be successful
	Li and Leung, 2020	High school students in China	One third of respondents had COVID-related distress; 40% of respondents said they would use TH; More likely to seek out TH if it was secure, in instant messaging or video platform, and had positive experiences with prior MH tx
	Shah et al, 2021	Children with ADHD	Texting intervention created to help caregivers manage their child's sx; 55.2% of caregivers found it helpful but wished for more sx- and age-specific interventions
	Sezgin et al, 2020	Children, adolescents, and young adults attending a behavioral health clinic	36% of TH cancellations/reschedules due to tech issues, 25% due to emotional/physical engagement, 24% due to scheduling issues
	Simms et al, 2021	Children and their families seeking family-based therapy	TH most successful when care team committed to delivering tx via TH over other methods, adhered to practices with minor adjustments for technology, and had regular check-ins with supervisors to review tx delivery
	Sklar et al, 2020	Pediatric mental health providers in community-based programs	TH viewed positively with patient/provider relationships rated better than usual; Some interventions were hard to employ; Child engagement was lower than in-person tx
Training	Dhonju et al, 2021	Children and adolescents referred to a community mental health program in Nepal	Tiered TH approach to address COVID-related distress successful; Barriers included reaching those with lack of resources, stigma against MH, and scheduling conflicts
	Gurwitsch et al, 2020	Pediatric mental health providers	Psychological first aid via TH successful in managing urgent needs; Insurance coverage and training resources critical for success
	Batchelor et al, 2020	Pediatric psychologists, students, and volunteers	Remotely provided CBT training rated positively and increased knowledge

COVID-19 indicates coronavirus disease-2019; TH, telehealth; tx, treatment; MH, mental health; sx, symptoms; ASD, autism spectrum disorder; ADHD, attention deficit hyperactivity disorder; and CBT, cognitive behavioral therapy.

effectively used in instances where it was previously thought that in-person care would be preferable (eg, inpatient treatment). However, some aspects of care (eg, comprehensive assessment, treatment for those with severe psychopathology) may not always be appropriate in a telehealth platform. Other issues raised included safety/privacy concerns, limited access to internet/technological support tools, and limited provider access to protocols. Variable patterns of telehealth use have emerged as well. While telehealth allows for continuity of care in some instances, the barriers noted above necessitate that disparities in care are better studied to increase access to telehealth services particularly for minoritized groups.

PROVIDER RECOMMENDATIONS AND EVIDENCE-BASED RESOURCES

Given multiple investigations noted limited access to knowledge and resources,^{12,20,29,51,52,61,62} we curated

freely available, evidence-based resources (Table 2). Included is the American Medical Association's Behavioral Health Integration Compendium, a detailed guide for providers to implement mental health care (including telehealth) into current practice. A training program by the American Psychological Association for delivering telehealth for mental health care is also provided. Additional resources are offered for managing common issues such as COVID-specific distress, anxiety, and pain.

FUTURE DIRECTIONS

COVID-19 increased the adaptation of telehealth into clinical practice, yet little is known about the safety and effectiveness of these strategies in controlled trials. It will be important to investigate the effects of telehealth in treating specific mental health conditions. Further, it is important to better understand and address barriers to

Table 2. General and COVID-19 Specific Tools for Managing Mental Health in Primary Care

Resource	Description	Evidence	Grade [†]
Tools for providers			
Behavioral Health Integration Compendium https://www.ama-assn.org/delivering-care/public-health/compendium-behavioral-health-integration-resources-physician	Compendium of resources for physicians to integrate behavioral health into practice	Multiple [‡]	1–5
National Child Traumatic Stress Network Resources https://www.nctsn.org/	Resources for understanding and coping with trauma in children	Multiple [‡]	1–5
American Academy of Pediatrics Mental Health Screening and Assessment Tools https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Documents/MH_ScreeningChart.pdf	List of mental health screening tools used in primary care settings	Multiple [‡]	1–5
American Psychological Association's, "Telepsychology Best Practice 101 Series"* https://apa.contentonline/catalog/product.xhtml?eid=15132&eid=1921	Course for practitioners on best practice of telehealth for psychological care	Multiple [‡]	1–5
COVID-19 Specific Tools			
National Child Traumatic Stress Network COVID-19 Resources https://www.nctsn.org/resources/nctsn-resources-related-to-covid-19	Compilation of COVID-19 specific resources for providers, children, and their families	Multiple [‡]	1–5
COVID-19 Exposure and Family Impact Survey https://www.healthcaretoolbox.org/tools-and-resources/covid-19-cefis.html	Measure of COVID-19 related family distress, available for parents, adolescents, and young adults	Kazak et al, 2021 ⁶⁵	3
Tools for patients			
<i>Anxiety</i>			
Anxiety Coach https://anxietycoach.mayoclinic.org	Anxiety/OCD program (5 modules) for children and their families	Whiteside, et al, 2019 ⁶⁶	4
MindShift (App)	Anxiety management tool using CBT	Weekly et al, 2018 ⁶⁷	5
Breathe, Think, Do (App)	Problem solving strategies for children	Weekly et al, 2018 ⁶⁷	5
<i>Pain and somatic symptoms</i>			
Stepped Care for Pain https://steppedcare.research.cchmc.org/	Psychoeducation and relaxation for pain	Cunningham et al, 2021 ⁶⁸	2
WebMAP Mobile (App)	Pain coping program (8 modules)	Palermo et al, 2020 ⁶⁹	2
MyCalmBeat (App)	Guided diaphragmatic breathing	Weekly et al, 2018 ⁶⁷	5
Breathe2Relax (App)	Breathing and muscle relaxation exercises	Weekly et al, 2018 ⁶⁷	5

COVID-19 indicates coronavirus disease-2019; CBT, cognitive behavioral therapy; OCD, obsessive-compulsive disorder.

The above tools are suggestions for providers and their patients/families. Patient resources are geared toward children and adolescent populations.

*Most are freely available at time of press with one exception.

†Grades 1–5 were assigned to resources (with lower numbers indicating greater evidence: 1 = systemic review of randomized trials, 2 = randomized trial, 3 = nonrandomized, controlled study, 4 = case series or studies, 5 = mechanism-based reasoning) based on the OCEBM levels of evidence.⁷⁰

‡Tool is comprised of several resources with varying levels of evidence.

accessing telehealth. While many tools have allowed for mental health self-management outside clinics and may increase access in principle (by reducing the need for staff), additional work is needed to confirm the effectiveness of self-management versus therapist guided strategies. A comparison of the effects of different telehealth methods (eg, video, phone, text messaging) may also be beneficial.

Several clinical trials are currently underway that investigate telehealth interventions for children (see Table 3 for examples). These trials report examining the feasibility and/or effectiveness of such interventions in a range of samples, including healthy adolescents and those with chronic illnesses. Current work is testing text-based apps (NCT04700137), mobile apps (NCT04524598, NCT04672486, NCT04697966), self-management web tools (NCT04634903, NCT04607902), and virtual live interventions (NCT04666493, NCT04548544, NCT04678843, NCT04020484, NCT04591912),

including one to improve psychological distress in youth as a result of COVID-19 (NCT04408027). Two trials (NCT04020484, NCT04678843) formally investigate the implementation process for remotely delivered interventions respectively addressing the mental health needs of those with epilepsy and eating disorders. The findings from these trials may have significant implications for telehealth postpandemic.

CONCLUSIONS

Now more than ever, appropriate mental health care can be provided to pediatric patients in the context of primary care via telehealth. We provided a review of the literature pertaining to use of telehealth for mental health treatment in pediatric patients, synthesized shared themes across these investigations, proposed future directions, and offered relevant evidence-informed resources. With knowledge of effective tools, strategies, and resources,

Table 3. Registered Trials Investigating Virtual Mental Health Interventions for Children

NCT Number*	Sample	Description
NCT04700137	Patients (children and adults), providers, and staff attending a large US Health Care system	Investigating how COVID-19 impacted MH and comparing the effect of 2 forms of a minimally burdensome virtual intervention for loneliness due to COVID-19
NCT04524598	Adolescents and young adults with depressive symptoms	Testing the effectiveness of a mobile app targeting depression with mindfulness strategies, compared against publicly available information on depression
NCT04672486	Adolescents seeking psychological care for stress management	Examining the feasibility and effectiveness of a mobile app teaching problem-solving skills for stress management compared against treatment as usual
NCT04697966	Adolescents with rumination	Investigating the effect of the Headspace app on rumination, attentional control, and brain functional connectivity as compared to a control
NCT04634903, NCT04607902	Adolescents with elevated depressive symptoms	Comparing two online, self-administered, single-session interventions for depression against a control intervention; long-term effects investigated
NCT04666493	Children with autism spectrum disorder and comorbid anxiety	Investigating the effectiveness of a virtual adaptation of a group CBT intervention to treat anxiety
NCT04548544	Healthy adolescents	Testing the feasibility of virtually delivering a mindfulness-based intervention for anxiety and depression symptoms as compared to a control
NCT04678843	Children/adolescents with anorexia nervosa and their families	Examining the implementation process and effectiveness of a virtual adaptation of a family-based therapy for children with eating disorders
NCT04020484	Children with epilepsy and their parents	Investigating the implementation, feasibility, and effectiveness of an online, mindfulness-based, group therapy for children with epilepsy as compared to a waitlist-control
NCT04591912	Adolescents attending high school	Assessing the impact of a remotely delivered program targeting mental health and wellbeing for high school students
NCT04408027	Children with anxiety disorders	Testing the feasibility, barriers to, and acceptability of a virtual CBT program targeting MH issues related to COVID

COVID-19 indicates coronavirus disease-2019; MH, mental health; and CBT, cognitive behavioral therapy.

*Trial registered on ClinicalTrials.gov. Search criteria included trials for pediatric mental health treatments and were registered since the onset of COVID-19 (January 2020-March 2021).

the physician can continue to effectively screen for, assess, and treat mental health concerns virtually.

ACKNOWLEDGMENTS

The authors would like to acknowledge Iris Kovan-Gough, MLS, of Michigan State University for her assistance with collecting abstracts for review.

Previous presentations: Portions of this paper were previously presented as part of a Grand Rounds (Supporting Pediatric Mental Wellness During COVID-19) at Helen DeVos Children's Hospital on May 12, 2020.

Financial statement: The first/corresponding author (N.R.C.) is the Principal Investigator of several current grants pertaining to psychological telehealth for pediatric populations including an NIH/NCCIH K23 award, AT009458, and a Transdisciplinary Research Grant from the Childhood Arthritis and Rheumatology Research Alliance-Arthritis Foundation (CARRA-AF).

Financial disclosure: The authors have no financial relationships relevant to this article to disclose.

Authorship statement: Dr Cunningham designed/conceptualized the paper, reviewed articles for inclusion in the review, drafted the manuscript, and critically reviewed and revised the manuscript. Ms Ely synthesized and updated results from the literature search, reviewed articles for inclusion in the review, drafted portions of the manuscript, and critically reviewed and revised the manuscript. Drs Barber Garcia and Bowden made substantial contributions to the idea/study questions, and critically reviewed and revised the manuscript with substantial input. All authors approve the final manuscript as submitted.

REFERENCES

- Cushing CC. Ehealth applications in pediatric psychology. *Handbook of Pediatric Psychology*. New York, NY: The Guilford Press; 2017:201–211.
- Fisher E, Law E, Dudeney J, et al. Psychological therapies (remotely delivered) for the management of chronic and recurrent pain in children and adolescents. *Cochrane Database Syst Rev*. 2019;4:CD011118.
- Bradley LE, Smith-Mason CE, Corsica JA, et al. Remotely delivered interventions for obesity treatment. *Curr Obes Rep*. 2019;8:354–362.
- McLay L, Sutherland D, Machalicek W, et al. Systematic review of telehealth interventions for the treatment of sleep problems in children and adolescents. *J Behav Educ*. 2020;29:222–245.
- Pruitt LD, Luxton DD, Shore P. Additional clinical benefits of home-based telemental health treatments. *Prof Psychol: Res Pr*. 2014;45:340–346.
- Simpson SG, Reid CL. Therapeutic alliance in videoconferencing psychotherapy: a review. *Aust J Rural Health*. 2014;22:280–299.
- Sisk B, Alexander J, Bodnar C, et al. Pediatrician attitudes toward and experiences with telehealth use: results from a national survey. *Acad Pediatr*. 2020;20:628–635.
- Perry K, Gold S, Shearer EM. Identifying and addressing mental health providers' perceived barriers to clinical video telehealth utilization. *J Clin Psychol*. 2020;76:1125–1134.
- Kinoshita S, Cortright K, Crawford A, et al. Changes in telepsychiatry regulations during the COVID-19 pandemic: 17 countries and regions' approaches to an evolving healthcare landscape. *Psychol Med*. 2020:1–8. <https://doi.org/10.1017/S0033291720004584>. [e-pub ahead of print].
- Barney A, Buckelew S, Mesheriakova V, et al. The COVID-19 pandemic and rapid implementation of adolescent and young adult telemedicine: challenges and opportunities for innovation. *J Adolesc Health*. 2020;67:164–171.
- Schweiberger K, Hoberman A, Iagnemma J, et al. Practice-level variation in telemedicine use in a pediatric primary care network during the COVID-19 pandemic: retrospective analysis and survey study. *J Med Internet Res*. 2020;22:e24345.
- Satti K, Ojugbele O. Lessons learned: pediatric telemental health in a rural medical center in the age of SARS-COV-2. *J Rural Health*. 2020;37:260–262.
- Perrin PB, Rybarczyk BD, Pierce BS, et al. Rapid telepsychology deployment during the COVID-19 pandemic: a special issue commentary and lessons from primary care psychology training. *J Clin Psychol*. 2020;76:1173–1185.

14. Termorshuizen JD, Watson HJ, Thornton LM, et al. Early impact of COVID-19 on individuals with self-reported eating disorders: a survey of ~1,000 individuals in the United States and the Netherlands. *Int J Eat Disord*. 2020;53:1780–1790.
15. Davis C, Ng KC, Oh JY, et al. Caring for children and adolescents with eating disorders in the current Coronavirus 19 pandemic: a Singapore perspective. *J Adolesc Health*. 2020;67:131–134.
16. Datta N, Derenne J, Sanders M, et al. Telehealth transition in a comprehensive care unit for eating disorders: challenges and long-term benefits. *Int J Eat Disord*. 2020;53:1774–1779.
17. Graell M, Morón-Nozaleda MG, Camarero R, et al. Children and adolescents with eating disorders during COVID-19 confinement: difficulties and future challenges. *Eur Eat Disord Rev*. 2020;28:864–870.
18. Fernández-Aranda F, Munguía L, Mestre-Bach G, et al. COVID isolation eating scale (CIES): analysis of the impact of confinement in eating disorders and obesity—a collaborative international study. *Eur Eat Disord Rev*. 2020;28:871–883.
19. Reddy V, Brumpton L. Digital-driven service improvement during the COVID-19 pandemic. *Paediatr Child Health (Oxford)*. 2021;31:220–222.
20. Degli Espinosa F, Metko A, Raimondi M, et al. A model of support for families of children with autism living in the COVID-19 lockdown: lessons from Italy. *Behav Anal Pract*. 2020;13:1–9.
21. White LC, Law JK, Daniels AM, et al. Brief report: impact of COVID-19 on individuals with ASD and their caregivers: a perspective from the SPARK cohort. *J Autism Dev Disord*. 2021:1–8. <https://doi.org/10.1007/s10803-020-04816-6>. [e-pub ahead of print].
22. Pollard JS, LeBlanc LA, Griffin CA, et al. The effects of transition to technician-delivered telehealth aba treatment during the COVID-19 crisis: a preliminary analysis. *J Appl Behav Anal*. 2021;54:87–102.
23. Wagner L, Corona LL, Weitlauf AS, et al. Use of the Tele-ASD-PEDS for autism evaluations in response to COVID-19: preliminary outcomes and clinician acceptability. *J Autism Dev Disord*. 2020:1–10. <https://doi.org/10.1007/s10803-020-04767-y>. [e-pub ahead of print].
24. Yang J, Landrum MB, Zhou L, et al. Disparities in outpatient visits for mental health and/or substance use disorders during the COVID surge and partial reopening in Massachusetts. *Gen Hosp Psychiatry*. 2020;67:100–106.
25. Masi A, Mendoza Diaz A, Tully L, et al. Impact of the COVID-19 pandemic on the well-being of children with neurodevelopmental disabilities and their parents. *J Paediatr Child Health*. 2021;57:631–636.
26. Murphy A, Pinkerton LM, Bruckner E, et al. The impact of the novel Coronavirus Disease 2019 on therapy service delivery for children with disabilities. *J Pediatr*. 2021;231:168–177. e161.
27. Dursun OB, Turan B, Gulsen M, et al. Caring for the most vulnerable: a model for managing maladaptive behavior in children with mental special needs during the COVID-19 pandemic. *Telemed J E Health*. 2020. <https://doi.org/10.1089/tmj.2020.0380>. [e-pub ahead of print].
28. Faccioli S, Lombardi F, Bellini P, et al. How did Italian adolescents with disability and parents deal with the COVID-19 emergency? *Int J Environ Res Public Health*. 2021;18:1687.
29. Emans SJ, Ford CA, Irwin Jr CE, et al. Early COVID-19 impact on adolescent health and medicine programs in the United States: LEAH program leadership reflections. *J Adolesc Health*. 2020;67:11–15.
30. Ozbaran NB, Kose S, Barankoglu I, et al. A new challenge for child psychiatrists: inpatient care management during Coronavirus pandemic. *Asian J Psychiatr*. 2020;54: 102303.
31. Summers J, Baribeau D, Mockford M, et al. Supporting children with neurodevelopmental disorders during the COVID-19 pandemic. *J Am Acad Child Adolesc Psychiatry*. 2021;60:2–6.
32. Buono S, Zingale M, Città S, et al. Clinical management of individuals with intellectual disability: the outbreak of COVID-19 pandemic as experienced in a clinical and research center research in developmental disabilities. *Res Dev Disabil*. 2021;110: 103856.
33. Provenzi L, Grumi S, Gardani A, et al. Italian parents welcomed a telehealth family-centred rehabilitation programme for children with disability during COVID-19 lockdown. *Acta Paediatr*. 2021;110:194–196.
34. Taddei M, Bulgheroni S. Facing the real time challenges of the COVID-19 emergency for child neuropsychology service in Milan. *Res Dev Disabil*. 2020;107:103786.
35. Trivisano M, Specchio N, Pietrafusa N, et al. Impact of COVID-19 pandemic on pediatric patients with epilepsy – the caregiver perspective. *Epilepsy Behav*. 2020;113:107527.
36. Brambilla I, Aibar JÁ, Hallet AS, et al. Impact of the COVID-19 lockdown on patients and families with Dravet syndrome. *Epilepsia Open*. 2021;6:216–224.
37. Pritchard AE, Sweeney K, Salorio CF, et al. Pediatric neuropsychological evaluation via telehealth: novel models of care. *Clin Neuropsychol*. 2020;34:1367–1379.
38. Koterba CH, Baum KT, Hamner T, et al. COVID-19 issues related to pediatric neuropsychology and inpatient rehabilitation – challenges to usual care and solutions during the pandemic. *Clin Neuropsychol*. 2020;34:1380–1394.
39. Ransom DM, Butt SM, DiVirgilio EK, et al. Pediatric teleneuropsychology: feasibility and recommendations. *Arch Clin Neuropsychol*. 2020;35:1204–1214.
40. Wallis KE, Mulé C, Mittal S, et al. Use of telehealth in fellowship-affiliated developmental behavioral pediatric practices during the COVID-19 pandemic. *J Dev Behav Pediatr*. 2020;42:314–321.
41. Hammers DB, Stolwyk R, Harder L, et al. A survey of international clinical teleneuropsychology service provision prior to and in the context of COVID-19. *Clin Neuropsychol*. 2020;34:1267–1283.
42. Revet A, Hebebrand J, Anagnostopoulos D, et al. ESCAP covcap survey of heads of academic departments to assess the perceived initial (April/May 2020) impact of the COVID-19 pandemic on child and adolescent psychiatry services. *Eur Child Adolesc Psychiatry*. 2021:1–10. <https://doi.org/10.1007/s00787-020-01699-x>.
43. FAIR Health. *The impact of COVID-19 on pediatric mental health: a study of private healthcare claims. A FAIR Health White Paper*. 2021. Available at: <https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/The%20Impact%20of%20COVID-19%20on%20Pediatric%20Mental%20Health%20-%20A%20Study%20of%20Private%20Healthcare%20Claims%20-%20A%20FAIR%20Health%20White%20Paper.pdf>. Accessed July 14, 2021.
44. Crockett JL, Becraft JL, Phillips ST, et al. Rapid conversion from clinic to telehealth behavioral services during the COVID-19 pandemic. *Behav Anal Pract*. 2020;13:1–11.
45. Hoffnung G, Feigenbaum E, Schechter A, et al. Children and telehealth in mental healthcare: what we have learned from COVID-19 and 40,000+ sessions. *Psychiatr Res Clin Pract*. 2021. <https://doi.org/10.1176/appi.prep.20200035>.
46. Childs AW, Klingensmith K, Bacon SM, et al. Emergency conversion to telehealth in hospital-based psychiatric outpatient services: strategy and early observations. *Psychiatry Res*. 2020;293: 113425.
47. Childs AW, Unger A, Li L. Rapid design and deployment of intensive outpatient, group-based psychiatric care using telehealth during Coronavirus Disease 2019 (COVID-19). *J Am Med Inform Assoc*. 2020;27:1420–1424.
48. Renjan V, Fung DSS. Debate: COVID-19 to the under 19 – a Singapore school mental health response. *Child Adolesc Ment Health*. 2020;25:260–262.
49. Hames JL, Bell DJ, Perez-Lima LM, et al. Navigating uncharted waters: considerations for training clinics in the rapid transition to telepsychology and telesupervision during COVID-19. *J Psychother Integr*. 2020;30:348–365.
50. Cantor JH, McBain RK, Kofner A, et al. Availability of outpatient telemental health services in the United States at the outset of the COVID-19 pandemic. *Med Care*. 2021;59:319–323.
51. Mulay KV, Aishworiya R, Lim TSH, et al. Innovations in practice: adaptation of developmental and behavioral pediatric service in a tertiary center in Singapore during the COVID-19 pandemic. *Pediatr Neonatol*. 2021;62:70–79.

52. Sharma A, Sasser T, Schoenfelder Gonzalez E, et al. Implementation of home-based telemental health in a large child psychiatry department during the COVID-19 crisis. *J Child Adolesc Psychopharmacol*. 2020;30:404–413.
53. Ramtekkar U, Bridge JA, Thomas G, et al. Pediatric telebehavioral health: a transformational shift in care delivery in the era of COVID-19. *JMIR Ment Health*. 2020;7:e20157.
54. Lim ST, Yap F, Chin X. Bridging the needs of adolescent diabetes care during COVID-19: a nurse-led telehealth initiative. *J Adolesc Health*. 2020;67:615–617.
55. Endale T, St Jean N, Birman D. COVID-19 and refugee and immigrant youth: a community-based mental health perspective. *Psychol Trauma*. 2020;12(S1):S225–S227.
56. Falicov C, Niño A, D’Urso S. Expanding possibilities: flexibility and solidarity with under-resourced immigrant families during the COVID-19 pandemic. *Fam Process*. 2020;59:865–882.
57. Li TMH, Leung CSY. Exploring student mental health and intention to use online counseling in Hong Kong during the COVID-19 pandemic. *Psychiatry Clin Neurosci*. 2020;74:564–565.
58. Shah R, Raju VV, Sharma A, et al. Impact of COVID-19 and lockdown on children with ADHD and their families—an online survey and a continuity care model. *J Neurosci Rural Pract*. 2021;12:71–79.
59. Sezgin E, Huang Y, Lin D, et al. Documented reasons of cancellation and rescheduling of telehealth appointments during the pandemic. *Telemed J E Health*. 2020. <https://doi.org/10.1089/tmj.2020.0454>. [e-pub ahead of print].
60. Simms S, Mehta P, Jones CW, et al. A supervisory approach to implementing a pandemic-induced, practice-based change to telehealth. *J Fam Psychother*. 2020;31:141–156.
61. Sklar M, Reeder K, Carandang K, et al. An observational study of the impact of COVID-19 and the transition to telehealth on community mental health center providers. *Implement Sci Commun*. 2021;2:29.
62. Dhonju G, Kunwar AR, Karki U, et al. Identification and management of COVID-19 related child and adolescent mental health problems: a multi-tier intervention model. *Front Public Health*. 2020;8:590002.
63. Gurwitsch RH, Salem H, Nelson MM, et al. Leveraging parent-child interaction therapy and telehealth capacities to address the unique needs of young children during the COVID-19 public health crisis. *Psychol Trauma*. 2020;12(S1):S82–S84.
64. Batchelor R, Catanzano M, Kerry E, et al. Debate: lessons learned in lockdown – a one-day remotely delivered training on low-intensity psychological interventions for common mental health conditions. *Child Adolesc Ment Health*. 2020;25:175–177.
65. Kazak AE, Alderfer M, Enlow PT, et al. COVID-19 exposure and family impact scales: factor structure and initial psychometrics. *J Pediatr Psychol*. 2021;46:504–513.
66. Whiteside SPH, Biggs BK, Tiede MS, et al. An online- and mobile-based application to facilitate exposure for childhood anxiety disorders. *Cogn Behav Pract*. 2019;26:478–491.
67. Weekly T, Walker N, Beck J, et al. A review of apps for calming, relaxation, and mindfulness interventions for pediatric palliative care patients. *Children (Basel)*. 2018;5:16.
68. Cunningham NR, Kalomiris A, Peugh J, et al. Cognitive behavior therapy tailored to anxiety symptoms improves pediatric functional abdominal pain outcomes: a randomized clinical trial. *J Pediatr*. 2021;230:62–70. e63.
69. Palermo TM, de la Vega R, Murray C, et al. A digital health psychological intervention (WEBMap mobile) for children and adolescents with chronic pain: results of a hybrid effectiveness-implementation stepped-wedge cluster randomized trial. *Pain*. 2020;161:2763–2774.
70. OCEBM Levels of Evidence Working Group. *The Oxford 2011 Levels of Evidence*. Oxford Centre for Evidence-Based Medicine; 2011. Available at: <https://www.cebm.ox.ac.uk/resources/levels-of-evidence/ocebml-levels-of-evidence>. Accessed date July 14, 2021.