INPLASY

Telehealth services offered to pediatric clients during a period within the COVID-19 pandemic: Registration of a scoping review

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Other - The review was completed.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 March 2024 and was last updated on 04 March 2024.

INTRODUCTION

Review question / Objective The objective was to conduct a scoping review of interventions with comparison groups where at least one group was receiving telehealth services among pediatric populations with a variety of health conditions during a period within the COVID-19 pandemic. We were particularly interested to understand whether health outcomes were similar, superior, or worse in the telehealth compared to the comparison groups following the intervention.

Background Telehealth is regarded as the use of technology (such as video and telephones) to provide health care and education. Its use increased significantly as a result of the COVID-19 pandemic and is expected to continue being used in the future. Benefits of pediatric telehealth as reported by parents and caregivers included saved time, reduced transportation barriers, reduced exposure to the COVID-19 virus, and convenience of appointments. Challenges of telehealth included reduced patient-centeredness, lack of in-person interaction, slow Internet connections, and fear of compromised confidentiality. Such challenges in the use of telehealth may prevent the enhancement of health outcomes in pediatric care.

Rationale To the best of our knowledge, no scoping review investigated health outcomes among children of different health conditions using telehealth in interventions with at least two groups during the COVID-19 pandemic. A systematic literature review focused on satisfaction and health outcomes following telehealth services in randomized-controlled trials prior to the COVID-19 pandemic. Scoping reviews investigate broader research questions than systematic reviews. With the current scoping review, we sought to "map" literature that was not commonly reviewed. We reviewed outcomes in interventions without conducting quantitative analyses. We then identified gaps in the literature as the foundation for future systematic literature reviews and qualitative and quantitative investigations. A previous version of this review was registered as a

systematic literature review following the literature search stage (doi number: 10.37766/inplasy2023.8.0032 and registration number: INPLASY202380032). It was registered in its current form as a scoping review in this separate manuscript based on suggestions by anonymous reviewers as well as a change in the focus to broadly review interventions and identify gaps in the research.

METHODS

Strategy of data synthesis The search terms for the 4 electronic databases included in the review are below. The PubMed database search strong was the base one. Using the Polyglot Search in the Systematic Review Accelerator developed by the Institute for Evidence-Based Health Care (https://sr-accelerator.com/#/polyglot), the base string was translated in order for the strings for the CINAHL and Embase databases to be similar. The Polyglot Search in Systematic Review Accelerator did not allow the search string for the PsycInfo database in EBSCO to be translated from the PubMed search string. The search string for the CINAHL database was therefore translated to be similar to the PsychInfo database one by utilizing the Polyglot Search.

PubMed

(("telehealth s"[All Fields] OR "telemedicine"[MeSH Terms] OR "telemedicine"[All Fields] OR "telehealth"[All Fields] OR ("telemedicine"[MeSH Terms] OR "telemedicine"[All Fields] OR "telemedicine s"[All Fields]) OR "telemonitor*"[All Fields] OR "telepsych*"[All Fields]) AND ("children*"[All Fields] OR "adolesc*"[All Fields] OR "youth*"[All Fields] OR "child*"[All Fields] OR "teen*"[All Fields] OR "kids*"[All Fields] OR "paediatric patient*"[All Fields] OR "pediatric patient*"[All Fields] OR ("paediatrics"[All Fields] OR "pediatrics"[MeSH Terms] OR "pediatrics"[All Fields] OR "paediatric"[All Fields] OR "pediatric"[All Fields]) OR ("paediatrics"[All Fields] OR "pediatrics"[MeSH Terms] OR "pediatrics"[All Fields] OR "paediatric"[All Fields] OR "pediatric"[All Fields]))

AND

("covid 19"[All Fields] OR "covid 19"[MeSH Terms] OR "covid 19 vaccines"[All Fields] OR "covid 19 vaccines"[MeSH Terms] OR "covid 19 serotherapy"[All Fields] OR "covid 19 serotherapy"[Supplementary Concept] OR "covid 19 nucleic acid testing"[All Fields] OR "covid 19 nucleic acid testing"[MeSH Terms] OR "covid 19 serological testing"[All Fields] OR "covid 19 serological testing"[MeSH Terms] OR "covid 19 testing"[All Fields] OR "covid 19 testing"[MeSH Terms] OR "sars cov 2"[All Fields] OR "sars cov 2"[MeSH Terms] OR "severe acute respiratory syndrome coronavirus 2"[All Fields] OR "ncov"[All Fields] OR "2019 ncov"[All Fields] OR (("coronavirus"[MeSH Terms] OR "coronavirus"[All Fields] OR "cov"[All Fields]) AND 2019/11/01:3000/12/31[Date - Publication]) OR ("coronavirus"[MeSH Terms] OR "coronavirus"[All Fields] OR "coronaviruses"[All Fields]) OR ("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "2019 ncov"[All Fields]) OR ("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "sars cov 2"[All Fields]) OR "cov-19"[All Fields] OR ("pandemic s"[All Fields] OR "pandemically"[All Fields] OR "pandemicity"[All Fields] OR "pandemics"[MeSH Terms] OR "pandemics"[All Fields] OR "pandemic"[All Fields]) OR "2019 novel coronavirus"[All Fields] OR "coronavirus disease"[All Fields])

AND

("intervention s"[All Fields] OR "interventions"[All Fields] OR "interventive"[All Fields] OR "methods"[MeSH Terms] OR "methods"[All Fields] OR "intervention"[All Fields] OR "interventional"[All Fields] OR "randomized-controlled trial"[All Fields] OR ("random allocation"[MeSH Terms] OR ("random"[All Fields] AND "allocation"[All Fields]) OR "random allocation"[All Fields] OR "random"[All Fields] OR "randomization"[All Fields] OR "randomized"[All Fields] OR "randomisation"[All Fields] OR "randomisations"[All Fields] OR "randomise"[All Fields] OR "randomised"[All Fields] OR "randomising"[All Fields] OR "randomizations"[All Fields] OR "randomize"[All Fields] OR "randomizes"[All Fields] OR "randomizing"[All Fields] OR "randomness"[All Fields] OR "randoms"[All Fields]) OR "quasi-experimental"[All Fields] OR "qualitative intervention"[All Fields] OR "mixed-methods intervention"[All Fields]))

AND

((clinicalstudy[Filter] OR clinicaltrial[Filter] OR comparativestudy[Filter] OR controlledclinicaltrial[Filter] OR evaluationstudy[Filter] OR multicenterstudy[Filter] OR observationalstudy[Filter] OR pragmaticclinicaltrial[Filter] OR randomizedcontrolledtrial[Filter]) AND (english[Filter]) AND (allchild[Filter] OR allinfant[Filter] OR newborn[Filter] OR infant[Filter]

OR preschoolchild[Filter] OR child[Filter] OR adolescent[Filter]))

AND THE FOLLOWING FILTERS APPLIED

Clinical Study, Clinical Trial, Comparative Study, Controlled Clinical Trial, Evaluation Study, Multicenter Study, Observational Study, Pragmatic Clinical Trial, Randomized Controlled Trial, English, Child: birth-18 years, Infant: birth-23 months, Newborn: birth-1 month, Infant: 1-23 months, Preschool Child: 2-5 years, Child: 6-12 years, Adolescent: 13-18 years.

EMBASE

('telehealth'/exp OR telehealth OR 'telemedicine'/exp OR telemedicine OR telemonitor* OR telepsych*)

AND

(children* OR adolesc* OR youth* OR child* OR teen* OR kids* OR 'paediatric patient*' OR 'pediatric patient*' OR 'paediatric'/exp OR paediatric OR 'pediatric'/exp OR pediatric)

AND

('covid 19'/exp OR 'covid 19' OR 'coronavirus'/exp OR coronavirus OR '2019 ncov'/exp OR '2019 ncov' OR 'sars cov 2'/exp OR 'sars cov 2' OR 'cov 19' OR 'pandemic'/exp OR pandemic OR '2019 novel coronavirus'/exp OR '2019 novel coronavirus' OR 'coronavirus disease')

AND

('intervention'/exp OR intervention OR 'randomized-controlled trial'/exp OR 'randomized-controlled trial' OR randomized OR 'quasi experimental' OR 'qualitative intervention' OR 'mixed-methods intervention')

AND THE FOLLOWING FILTERS

[english]/lim AND ([article]/lim OR [article in press]/lim) AND ([newborn]/lim OR [infant]/lim OR [child]/lim OR [preschool]/lim OR [school]/lim OR [adolescent]/lim)

CINAHL in EBSCO

((Telehealth or telemedicine or telemonitor* or telepsych*))

AND

((children* or adolesc* or youth* or child* or teen* or kids* or “paediatric patient*” or “pediatric patient*” or paediatric or pediatric))

AND

((covid-19 or coronavirus or 2019-ncov or sars-cov-2 or cov-19 or pandemic or “2019 novel coronavirus” or “coronavirus disease”))

AND

((Intervention or “randomized-controlled trial” or randomized or quasi-experimental or “qualitative intervention” or “mixed-methods intervention”))

AND THE FOLLOWING FILTERS

English Language; Peer Reviewed; Age Groups: Infant, Newborn: birth-1 month, Infant: 1-23 months, Child, Preschool: 2-5 years, Child: 6-12 years, Adolescent: 13-18 years, All Infant, All Child

PsychINFO in EBSCO

((Telehealth or telemedicine or telemonitor* or telepsych*))

AND

((children* or adolesc* or youth* or child* or teen* or kids* or “paediatric patient*” or “pediatric patient*” or paediatric or pediatric))

AND

((covid-19 or coronavirus or 2019-ncov or sars-cov-2 or cov-19 or pandemic or “2019 novel coronavirus” or “coronavirus disease”))

AND

((Intervention or “randomized-controlled trial” or randomized or quasi-experimental or “qualitative intervention” or “mixed-methods intervention”))

AND THE FOLLOWING FILTERS

Peer Reviewed; Language: English; Age Groups: Childhood (birth-12 yrs), Neonatal (birth-1 mo), Infancy (2-23 mo), Preschool Age (2-5 yrs), School Age (6-12 yrs), Adolescence (13-17 yrs).

Eligibility criteria Inclusion criteria were developed by using the Participant, intervention, comparator, outcomes (PICO) framework which is appropriate for scoping reviews:

Participants: Infants, children and adolescents (birth-age 17) as well as pediatric patients whose results were combined with those of young adults (birth-age 30) were included. Studies that combined those from birth to age 17 with young adults were included since children with some conditions receive care by pediatric healthcare providers when transitioning from infancy to childhood to adulthood.
Intervention: Both synchronous and asynchronous telehealth services were included. There were no restrictions related to the technology and modality of telehealth.
Comparison Group: At least one comparison group should be receiving services different than those in the telehealth group. The comparison group could be receiving no services to be included. In-person visits, mixed-mode (i.e. a combination of in-person and telehealth services) services, different types of telehealth services, or wait-list groups not receiving telehealth or any services were eligible for inclusion.
Outcome: There was no restriction of the mental or physical health outcomes. Any chronic and non-chronic health outcomes could be included.
Included studies had to specify that the investigation concentrated on or occurred during a period within the COVID-19 pandemic. The search took place on December 5, 2022. Thus, investigations were conducted during a period within the COVID-19 pandemic and were published until December 5, 2022.

Source of evidence screening and selection To complete deduplication, articles were downloaded into EndNote (Clarivate). Three authors (TC, BK, SA) independently reviewed the titles and abstracts. At the stage of title and abstract review, exclusion took place if the title and/or abstract showed that the study concentrated on a non-pediatric population, was a literature review, was not an intervention, had no comparison group, or was conducted outside of the selected time period. Disagreements were resolved though consensus among all four authors. If lack of clarity existed on whether a study qualified during the title/abstract review stage, the study was reviewed again during the steps below.
During the full-text article review, exclusion took place if the study concentrated on a non-pediatric population, was a literature review, was not an intervention, had no comparison group, or was conducted outside of the selected time period. Consensus was reached among the four authors when there were disagreements during the full-text article review.

Data management To accomplish data charting, two authors (TC and SA) extracted data in tables where TC completed the first draft of the table and SA made changes and additions to the first draft. The columns with information included country, health condition, number of participants (total and by comparison group), mean age of participants by comparison group, types of services by comparison group (including telehealth modality), intervention strategies, outcomes, and findings on outcomes between the comparison groups. Two authors (GK and BK) recommended revisions to the table by reviewing the full-text articles. Consensus among the four authors was reached related to any disagreements. There were no instances when obtaining and confirming data from investigators occured.

Reporting results / Analysis of the evidence Results related to outcomes between the comparison groups stated if telehealth was associated with similar, superior, or worse health outcomes compared to the comparison group(s). Differences in health outcomes (both statistically and non-statistically significant) between comparison groups at post-test were extracted, if any. Results were presented for the primary outcomes in the intervention. Due to the range of outcomes and health conditions, there were no specific variables sought in advance. At least one representative finding that showed similar, worse, or superior outcome between the groups were to be summarized.

Language restriction The language of full-text articles was restricted to English.

Country(ies) involved United States (University of Michigan - Flint).

Keywords health outcomes, pediatric, telehealth, telemedicine.

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