

INPLASY PROTOCOL

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None declared.

Satisfaction with pediatric telehealth services in studies with comparison groups for non-telehealth services during the COVID-19 pandemic: A Systematic Review of the Literature

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Review question / Objective: What is the satisfaction of pediatric patients and/or their caregivers participating in telehealth compared to those participating in non-telehealth services? The PI(E)COS structure was: • **Outcome:** Satisfaction. • **Participants:** Pediatric patients and/or their caregivers. • **Intervention/Exposure:** Telehealth. • **Comparison group:** A group not receiving telehealth services i.e., a group having in-person appointments. • **Time frame:** COVID-19 pandemic.

Study designs to be included: Inclusion: All designs are included specifically RCTs, quasi-experimental studies with control group or with no control group, and qualitative studies. Not only interventions are included. Observational studies involving surveys and interviews discussing experiences with telehealth are included. Exclusion: Review protocols, studies that present no qualitative or quantitative data on experiences with telehealth.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 September 2022 and was last updated on 05 March 2023 (registration number INPLASY202290067).

INTRODUCTION

Review question / Objective: What is the satisfaction of pediatric patients and/or their caregivers participating in telehealth compared to those participating in non-telehealth services? The PI(E)COS structure was: • **Outcome:** Satisfaction. • **Participants:** Pediatric patients and/or their

caregivers. • **Intervention/Exposure:** Telehealth. • **Comparison group:** A group not receiving telehealth services i.e., a group having in-person appointments. • **Time frame:** COVID-19 pandemic.

Condition being studied: Patients can be seen through telehealth for any physical or mental health conditions in this review. No

restriction on the type of condition is placed.

METHODS

Search strategy:

Search Strings by Database**

PubMed

Steps: In <https://pubmed.ncbi.nlm.nih.gov/>, select Advanced search, type the entire search string into the Query box

```
((("Pediatrics"[Mesh]) OR ("Child"[Mesh])
OR ("Infant"[Mesh]) OR
("Adolescent"[Mesh]) OR (pediatric*[Title/
Abstract]) OR (paediatric*[Title/Abstract])
OR (child*[Title/Abstract]) OR
(infant[7yTitle/Abstract]) OR (baby[Title/
Abstract]) OR (teen*[Title/Abstract]) OR
(adolescen*[Title/Abstract]))) AND
(("Telemedicine"[Mesh]) OR ("Remote
Consultation"[Mesh]) OR
(telemedicine[Title/Abstract]) OR ("video
consultation"[Title/Abstract])OR ("remote
consultation"[Title/Abstract]) OR
(telehealth[Title/Abstract]) OR ("remote
consultation"[Title/Abstract]))) AND
("COVID-19" OR "COVID-19"[MeSH Terms]
OR "SARS-CoV-2" OR "sars-cov-2"[MeSH
Terms] OR "Severe Acute Respiratory
Syndrome Coronavirus 2" OR "NCOV" OR
"2019 NCOV" OR ("coronavirus"[MeSH
Terms] OR "coronavirus" OR "COV")) AND
((((("Patient Satisfaction"[Mesh]) OR
(satisfaction[Title/Abstract]) OR
(attitude*[Title/Abstract]) OR
(attitude*[Title/Abstract]) OR
(perception*[Title/Abstract]))
```

EMBASE

Steps: In the subscription-only database available at <https://www.embase.com/#advancedSearch/default>, select Advanced search, place the entire search string in the box, use all default settings.

```
('pediatrics'/exp OR 'pediatrics' OR 'child'/
exp OR 'child' OR 'infant'/exp OR 'infant'
OR 'adolescent'/exp OR 'adolescent' OR
pediatric*:ti,ab OR paediatric*:ti,ab OR
child*:ti,ab OR infant:ti,ab OR baby:ti,ab OR
teen*:ti,ab OR adolescen*:ti,ab) AND
('telemedicine'/exp OR 'telemedicine' OR
'remote consultation'/exp OR 'remote
consultation' OR telemedicine:ti,ab OR
'video consultation':ti,ab OR telehealth:ti,ab
```

```
OR 'remote consultation':ti,ab) AND ('covid
19'/exp OR 'covid 19' OR 'sars cov 2'/exp
OR 'sars cov 2' OR 'severe acute
respiratory syndrome coronavirus 2'/exp
OR 'severe acute respiratory syndrome
coronavirus 2' OR ncov OR '2019 ncov'/exp
OR '2019 ncov' OR 'coronavirus' OR
'coronavirus'/exp OR coronavirus OR cov)
AND ('patient satisfaction'/exp OR 'patient
satisfaction' OR satisfaction:ti,ab OR
attitude*:ti,ab OR perception*:ti,ab) AND
([article]/lim OR [article in press]/lim)
CINAHL (Housed in EBSCO)
```

Steps: In the subscription-only database, select Advanced search, add an additional search box since there are 4 strings, place each of the 4 strings separately in each search box, and use all default options without selecting specific fields.

```
(((((MH Pediatrics+)) OR ((MH Child+)) OR
((MH Infant+)) OR ((MH Adolescent+)) OR
((TI pediatric* OR AB pediatric*)) OR ((TI
paediatric* OR AB paediatric*)) OR ((TI
child* OR AB child*)) OR ((TI infant OR AB
infant)) OR ((TI baby OR AB baby)) OR ((TI
teen* OR AB teen*)) OR ((TI adolescen* OR
AB adolescen*))))
```

AND

```
(((((MH Telemedicine+)) OR ((MH "Remote
Consultation+")) OR ((TI telemedicine OR
AB telemedicine)) OR ((TI "video
consultation" OR AB "video consultation"))
OR ((TI "remote consultation" OR AB
"remote consultation")) OR ((TI telehealth
OR AB telehealth)) OR ((TI "remote
consultation" OR AB "remote
consultation"))))
```

AND

```
(COVID-19 OR (MH COVID-19+) OR SARS-
CoV-2 OR (MH sars-cov-2+) OR "Severe
Acute Respiratory Syndrome Coronavirus
2" OR NCOV OR "2019 NCOV" OR ((MH
coronavirus+) OR coronavirus OR COV ))
```

AND

```
(((((MH "Patient Satisfaction+")) OR ((TI
satisfaction OR AB satisfaction))) OR ((TI
attitude* OR AB attitude*)) OR ((TI attitude*
OR AB attitude*)) OR ((TI perception* OR
AB perception*))
```

PsycINFO (Housed in EBSCO)

Steps: In the subscription-only database, select Advanced search, add an additional search box since there are 4 strings, place each of the 4 strings separately in each

search box, and use all default options without selecting specific fields.

(DE "Pediatricians" OR DE "Pediatrics") OR (DE "Child Health")) OR TI (pediatric* OR paediatric* OR baby OR babies OR toddler* OR infant* OR child* OR teen* OR adolescent*) OR AB (pediatric* OR paediatric* baby OR babies OR toddler* OR infant* OR child* OR teen* OR adolescent*) AND

DE "Coronavirus" OR DE "COVID-19" OR TI ("COVID-19" OR "SARS-CoV-2" OR "Severe Acute Respiratory Syndrome Coronavirus 2" OR "NCOV" OR "2019 NCOV" OR "coronavirus" OR "COV") OR AB ("COVID-19" OR "SARS-CoV-2" OR "Severe Acute Respiratory Syndrome Coronavirus 2" OR "NCOV" OR "2019 NCOV" OR "coronavirus" OR "COV")

AND

(DE "Telemedicine" OR TI (telemedicine OR "remote consultation" OR "video consultation" OR telehealth) OR AB (telemedicine OR "remote consultation" OR "video consultation" OR telehealth)

AND

(DE "Satisfaction") OR (DE "Health Attitudes")) OR TI (satisfaction OR attitude* OR perception*) OR AB (satisfaction OR attitude* OR perception*)

Filter: Academic journals

**The search strings were first developed for the PubMed database and then translated so that they were identical/as similar as possible for the CINAHL and Embase databases using the Polyglot Search in the Systematic Review Accelerator developed by the Institute for Evidence-Based Health Care (<https://sr-accelerator.com/>). The Polyglot Search in Systematic Review Accelerator did not allow to translate a search string for the PsycInfo database in EBSCO from the PubMed search string; instead, the search string for the CINAHL database was translated so that it was identical/as similar as possible to the PsychInfo database search using the Polyglot Search in the Systematic Review Accelerator.

Participant or population: Inclusion criteria: Patients aged 0 to 18 and/or their caregivers (such as biological parents and other caregivers) are included. Synonyms

of the population included: children, adolescents, child, teen, paediatric, pediatric. The inclusion of the word "pediatrics" as a MeSH term was important to narrow down the search. Exclusion criteria: Medical providers and adults discussing their own satisfaction with telehealth are excluded. Studies on pregnant women are excluded.

Intervention: Inclusion: Telehealth services such as video and telephone visits and remote monitoring are included. Synonyms of telehealth included in the search will be telemedicine, remote consultation, and video consultation. Several Mesh words are included in the search; Mesh words incorporate various synonyms of the word.

Comparator: Comparison: A study must include a group not participating in telehealth as a comparison group to be included in the study. In the summary table, columns for definitions and findings by telehealth and non-telehealth groups are included.

Study designs to be included: Inclusion: All designs are included specifically RCTs, quasi-experimental studies with control group or with no control group, and qualitative studies. Not only interventions are included. Observational studies involving surveys and interviews discussing experiences with telehealth are included. Exclusion: Review protocols, studies that present no qualitative or quantitative data on experiences with telehealth.

Eligibility criteria: Not applicable.

Information sources: PubMed/MEDLINE, EMBASE, CINAHL, PsycINFO, and PsycARTICLES.

Main outcome(s): Definitions of outcome: There is no standard definition. Synonyms for satisfaction in search are attitude and perception. "Patient satisfaction" is entered as a Mesh term in the search. Measurement of outcome: There is no standard measurement. We include studies that create their own measurements as well as studies that use reliable and valid

measurements. An example of a survey found in the literature includes: the Jefferson scale of patient perceptions of physician empathy. Examples of items as part of past surveys include: “My child’s behavior and skills improved during this service” and “I am pleased with the outcome of services for me and my child.”

Quality assessment / Risk of bias analysis:

Two reviewers independently will use two methods: the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach and the JBI critical appraisal tools. Through the GRADE approach, a quality level rating to a study is assigned based on the study design. Additionally, scores will be assigned based on answering revised questions on JBI forms specifically:

- Were the criteria for inclusion in the sample clearly defined?
- Were the study subjects and setting described in detail?
- Were the comparison groups (telehealth and non-telehealth) comparable in terms of socio-demographic characteristics?
- Was the time period (such as months and years) of the study periods for each comparison group clearly defined?
- Was satisfaction measured in the same way in the comparison groups?
- Were satisfaction outcome measures valid and reliable?
- Were appropriate statistical analyses used?

A score of 1 for the above JBI form questions will indicate Yes, a score of 0.5 will mean Partially, and a score of 0 will mean No or Unclear. Disagreements in GRADE quality levels and JBI critical appraisal forms scores will be resolved through consensus.

Strategy of data synthesis: After using the search words in the attachment in each database, we will use an automated strategy to remove duplicates across the databases. We will combine all resulting titles in an Excel file. Two authors will review all titles and abstracts separately. If the title and abstract do not make it clear whether the study qualifies, the reviewer

will open the full text of the article. The authors will write in the Excel file whether they believe that the study fits the inclusion and exclusion criteria. Then, the two authors will resolve any disagreements after reviewing the full-text of the article. For records excluded, we will report the number of articles excluded due to being duplicates, non-pediatric related, and not on experiences with telehealth.

Tables will synthesize the information and will include columns for location, sample size, study purpose, methods, limitations, and findings of each study. The studies will be categorized based on the group where satisfaction was assessed. Our review tables will be divided as follows: experiences among caregivers only, experiences among patients and caregivers, experiences among providers only, and experiences among caregivers and providers. If more groups become apparent, the review tables will be further sub-divided.

Subgroup analysis: We do not plan to perform analysis of sub-groups such as males or females.

Sensitivity analysis: We do not plan to perform sensitivity analysis.

Language restriction: English.

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

Keywords: telehealth; children; caregivers; medical providers; pediatric.

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