

INPLASY PROTOCOL

To cite: Jahromi et al.
Utilization of telehealth to
manage the Covid-19
pandemic in low and middle
income countries: a scoping
review protocol. Inplasy
protocol 202280004. doi:
10.37766/inplasy2022.8.0004

Received: 01 August 2022

Published: 01 August 2022

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Support: No financial support.

**Review Stage at time of this
submission:** Data analysis.

Conflicts of interest:
None declared.

Utilization of telehealth to manage the Covid-19 pandemic in low and middle income countries: a scoping review protocol

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Review question / Objective: How was telehealth utilized to manage the Covid-19 pandemic in low and middle income countries?

Rationale: Low- and middle-income countries (LMICs) often experienced significant challenges in providing telehealth interventions due to limited resources and technology. A review of the literature shows that a small number of LMICs changed their management strategies during the Covid-19 pandemic and moved towards using telehealth. There is a lack of evidence about the practical implementation of telehealth in LMICs. As a result, the present study aimed to review the utilization of telehealth to manage the Covid-19 pandemic in low- and middle-income countries focusing on implementations. In this study, how to implement telehealth in LMICs in response to the COVID-19 pandemic, including telehealth platforms used, the impact, pros and barriers encountered in implementation and adoption of telehealth interventions, are reviewed. The implementation of telehealth systems in different LMICs may pose both similar and different challenges. The lessons learned from this study can be useful for improving implementation of digital health interventions including LMICs in different countries.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 August 2022 and was last updated on 01 August 2022 (registration number INPLASY202280004).

INTRODUCTION

Review question / Objective: How was telehealth utilized to manage the Covid-19 pandemic in low and middle income countries?

Background: In late December 2019, a new coronavirus appeared in Wuhan, China, and spread worldwide in a short time. On 11th February, 2020, the disease was officially named Coronavirus 2019 (COVID-19) by the World Health Organization (WHO). At the

beginning of the disease, there was no standard treatment for it and it was more important to prevent infection or its spread. COVID-19 requirements for social distancing necessitated the expansion of telehealth in different countries including low and middle income ones. Moreover, the use of large-scale telecommunication technology can provide equal access to health services, especially in countries with limited primary health care coverage, and can improve health care delivery. The benefits of this technology during the Covid-19 pandemic included addressing key challenges in providing health care, improving health care delivery, preventing direct physical contact, and reducing the risk of transmitting the corona virus. In this regard, the results of a study conducted by Ali et al. showed that there was a significant increase in the use and acceptance of teleconsultation, teleconferencing and telemonitoring after the onset of the Covid-19 pandemic. However, using this type of technology may face a number of challenges, such as the lack of a legal framework and low level of technology acceptance by patients and physicians particularly in developing countries. Therefore, before integrating telehealth technology with the existing healthcare systems, these challenges must be fixed. A study by Doraiswamy et al. Also showed that there has been an increase in the use of telehealth technology, mainly in high-income countries such as the United States during the first six months of the Covid-19 pandemic.

Rationale: Low- and middle-income countries (LMICs) often experienced significant challenges in providing telehealth interventions due to limited resources and technology. A review of the literature shows that a small number of LMICs changed their management strategies during the Covid-19 pandemic and moved towards using telehealth. There is a lack of evidence about the practical implementation of telehealth in LMICs. As a result, the present study aimed to review the utilization of telehealth to manage the Covid-19 pandemic in low- and middle-income countries focusing on

implementations. In this study, how to implement telehealth in LMICs in response to the COVID-19 pandemic, including telehealth platforms used, the impact, pros and barriers encountered in implementation and adoption of telehealth interventions, are reviewed. The implementation of telehealth systems in different LMICs may pose both similar and different challenges. The lessons learned from this study can be useful for improving implementation of digital health interventions including LMICs in different countries.

METHODS

Strategy of data synthesis: To identify relevant studies, PubMed, Web of Science, Scopus, the Cochrane Library, IEEE Xplore, and ProQuest databases were searched and English papers published between 01 January 2020 and 16 April 2022 were included in the study. The search strategy included three groups of keywords related to telehealth, COVID-19, and low and middle income countries. The first group of keywords included telemedicine, ehealth, mhealth, telehealth, teleconsultation, telerehabilitation, and remote consultation. The second group of keywords included Covid-19, coronavirus, SARS-COV-2, Sever acute respiratory syndrome coronavirus, and 2019-nCoV. The third group of keywords included South Asia, Africa, Latin America, Caribbean, Latin America and Caribbean, Middle East, East Asia, Oceania, Europe, Central Asia, low income, middle income, developing country, developing countries, lower income country, lower income countries, third world country, and low resource. LMICs were identified in accordance with the World Bank country classifications. The keywords were combined using "OR" and "AND" operators, and an example of the search strategy used in PubMed is provided below: (((“Telemedicine” OR “ehealth” OR “mhealth” OR “Telehealth” OR “teleconsultation” OR “telerehabilitation” OR “Remote Consultation”) AND (“Covid-19” OR “coronavirus” OR “SARS-COV-2” OR “Sever acute respiratory syndrome

coronavirus" OR "2019-nCoV") AND ("South Asia" OR "Africa" OR "Latin America" OR "Caribbean" OR "Latin America and Caribbean" OR "Middle East" OR "East Asia" OR "Pacific" OR "Europe" OR "Central Asia" OR "low income" OR "middle income" OR "developing country" OR "developing countries" OR "lower income country" OR "lower income countries" OR "third world country" OR "low resource"))).

Eligibility criteria: To identify relevant studies, PubMed, Web of Science, Scopus, the Cochrane Library, IEEE Xplore, and ProQuest databases were searched and English papers published between 01 January 2020 and 16 April 2022 were included in the study. The search strategy included three groups of keywords related to telehealth, COVID-19, and low and middle income countries. The first group of keywords included telemedicine, ehealth, mhealth, telehealth, teleconsultation, telerehabilitation, and remote consultation. The second group of keywords included Covid-19, coronavirus, SARS-COV-2, Sever acute respiratory syndrome coronavirus, and 2019-nCoV. The third group of keywords included South Asia, Africa, Latin America, Caribbean, Latin America and Caribbean, Middle East, East Asia, Oceania, Europe, Central Asia, low income, middle income, developing country, developing countries, lower income country, lower income countries, third world country, and low resource. LMICs were identified in accordance with the World Bank country classifications. The keywords were combined using "OR" and "AND" operators, and an example of the search strategy used in PubMed is provided below: (((("Telemedicine" OR "ehealth" OR "mhealth" OR "Telehealth" OR "teleconsultation" OR "telerehabilitation" OR "Remote Consultation") AND ("Covid-19" OR "coronavirus" OR "SARS-COV-2" OR "Sever acute respiratory syndrome coronavirus" OR "2019-nCoV") AND ("South Asia" OR "Africa" OR "Latin America" OR "Caribbean" OR "Latin America and Caribbean" OR "Middle East" OR "East Asia" OR "Pacific" OR "Europe"

OR "Central Asia" OR "low income" OR "middle income" OR "developing country" OR "developing countries" OR "lower income country" OR "lower income countries" OR "third world country" OR "low resource"))).

Source of evidence screening and selection: After searching databases, the results of the searches were exported into the EndNote, and duplicates were removed. All articles were screened on title, abstract and full text by two reviewers using the PRISMA-ScR checklist. Any disagreements were resolved through discussion between the two researchers. Finally, the findings of the study were reported and synthesized narratively.

Data management: A data extraction form was used to extract necessary data including the name of the authors, year of the study, country of the study, research objective, research methodology, type of the telehealth technology, and the summary of results.

Language restriction: Only English articles were included in the study.

Country(ies) involved: Iran (Health Management Research Institute, Iran University of Medical Sciences, Tehran, Iran).

Other relevant information: Low and middle income countries were identified according to the World Bank country classifications.

Keywords: Telehealth, Low- and Middle-Income Countries (LMICs), Covid-19.

Contributions of each author:

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