

Article information: <https://dx.doi.org/10.21037/mhealth-23-47>

Reviewer A

1. Better to have more discussion from a comparative perspective

The manuscript would greatly benefit from a more comprehensive comparative analysis, not only within Latin American countries but also with other developed and developing nations. These points need to be strengthened and should be further highlighted as key contribution and advantage of the work. While the authors have touched upon ICT developmental levels, it would be better to go deeper into a comparative discussion of healthcare system features which are important institutional aspects (like also covered in section 3.6). For instance, for a general characterization, are they more like universal public insurance model, American model, or Bismarck model (social health insurance)? This information should encompass aspects such as public vs. private healthcare, insurance coverage, and the role of government agencies, among others. I expect to see more contextual information to aid readers outside Latin America in better understanding the unique challenges by Latin America.

Reply:

Thank you. According to your suggestion more information was added to the manuscript. Please see the Lines 237-249

Health services in most Latin American countries are provided under a universal public insurance model in which the public and private sectors coexist to achieve universal health coverage (e.g., Argentina, Chile, Colombia, México), with equal access to drugs, surgical procedures, and medical and dental services.⁴⁸ Health systems are financed by taxes and contributions from individuals according to their ability to pay (e.g., employed, or self-employed), so their sustainability depends on the balance between the percentage of subsidized and contributed population. The systems operate under a free/regulated competition market allowing public and private providers to compete on cost and quality, which leads to a decentralized nature in the provision of services to individuals because the same patient can be attended by several providers simultaneously in order to reduce costs. Although government regulations contain costs and set fair rates/prices, in the context of virtual care, the lack of suitable legislation has resulted in insignificant rates and reimbursement, which is an obstacle to its widespread use in the region. Furthermore, compared to developed countries, the lack of integration between virtual and face-to-face providers may end up increasing the decentralization of healthcare delivery.

2. Clarity on definitions

The terms "home care" and "remote care" could be more precisely defined or explained within the manuscript, and additional details or examples (from the reviewed papers) could be included in Table 1.

Reply:

Thank you for your comment. We added the definition of virtual care model or telemedicine to introduction section (Line 59-62). We preferred to include footnotes in Table 2 to help readers understand the terminology.

The virtual care or telemedicine model is the delivery of healthcare services at a distance via technology and the term includes a wide range of applications, such as remote consultations, telerehabilitation, remote monitoring, remote patient education or teleinterpretation (e.g., radiology exams).²

3. Incorporating COVID-19 impact

Given that the reviewed studies span from 2020 to 2023, the manuscript should incorporate a more thorough discussion of the impact of the COVID-19 pandemic on telemedicine adoption in Latin America considering the adaptation of healthcare system in general. As there was an increasing adoption of virtual healthcare since the pandemic, the adoption of telemedicine usage around this period may have special features or

limitations. For example, physicians' perception of a lack of physical examination might be involuntary outcome during the period, especially if constrained resources and pressure on healthcare system lasted during the pandemic. The points and confounders should be considered. This discussion should also include a comparison with previous studies, if available, to highlight any evolving trends or changes in the region's telemedicine landscape.

Reply:

Thank you for your comment. The impact of COVID-19 is discussed in the following lines 198-203, 212-222 and 272-278. To the best of our knowledge, no studies have been conducted to evaluate the impact of COVID-19 on physician perception of physical examination in the context of telemedicine.

4. Enhanced presentation of limitations

In section 4.2, the manuscript mentions limitations related to single-hospital studies, regional constraints, and sample size. While these limitations are acknowledged, it is advisable to include a more comprehensive presentation of these limitations in Table 1. This will enable readers to easily identify and compare the limitations across the reviewed studies, facilitating a better understanding of common patterns and issues.

Reply:

Thank you for your suggestion. Table 2 was modified.

5. Need grounded discussion on the cost-effectiveness of virtual care.

The main aim of this article is to identify the challenges and barriers but also mentioned benefits such as "safe and cost-effective alternative." (line 316), "as an optimal alternative for acute and chronic conditions" (line 68). There might be more references and discussion needed. Taking account of the discussed points in section 3.3 and 3.5, it may need to be more cautious to discuss the relevant healthcare quality despite the main research implication facilitates increasing adoption of telemedicine.

Reply:

Thank you for your suggestions. The following paragraph has been added to address the above points (Lines 223-230).

Virtual care is highly likely to be a cost-effective model for the treatment of a broad spectrum of pathologies.^{37,38} For example, the incorporation of telemedicine during screening for blinding eye diseases in rural and urban populations in China has allowed the timely identification of cases in early stages while reducing medical cost compared to traditional screening (incremental cost-effectiveness ratio of \$2567 vs. \$7251).³⁹ In cases with stroke in England, the use of telemedicine has optimized rapid access to acute care, with total healthcare cost savings of £ 482k and £ 471k with respect to traditional services.⁴⁰ Similar results have been obtained with positive patient outcomes and lower medical costs in the management of rheumatoid arthritis,⁴¹ diabetes,⁴² musculoskeletal or dermatological conditions.^{43,44}

Reviewer B

1. Why did the authors decide to do a systematic review instead of scoping review? Noted that a variety of study designs were included including previous systematic reviews done.

Reply:

We decided to conduct a systematic review rather than a scoping review because our main objective was to summarize the best available research on this specific topic. In addition, the two systematic reviews included in this study did not have the primary objective of reviewing only the barriers to telemedicine adoption in Latin America and were more focused on evaluating virtual care in various aspects.

2. Consider describing what virtual care entails in the introduction (teleconsult, remote monitoring etc.?)

Reply:

Thank you for your comment. We added the definition of virtual care model or telemedicine to introduction section (Line 59-62). We preferred to include footnotes in Table 2 to help readers understand the terminology.

The virtual care or telemedicine model is the delivery of healthcare services at a distance via technology and the term includes a wide range of applications, such as remote consultations, telerehabilitation, remote monitoring, remote patient education or teleinterpretation (e.g., radiology exams).²

3.Line 233: ‘This is the first systematic review performed with studies conducted in Latin America...’

Reply:

Thank you for your suggestion, please see Lines 193-194.

This is the first systematic review performed with studies conducted in Latin America that reports on barriers to the implementation of the virtual care or telemedicine model in the region.

4.Line 249: Authors should consider renaming heading which has a gist of the paragraph below

Reply

Thank you for your comment, but this heading was added according to the author’s instructions.

5.Seems like the barriers identified are similar to barriers already identified in current literature. Authors should consider weaving in more research done in Latin America and discuss what kind of virtual care is most suitable given its unique healthcare system and geography so that the findings are not simply repeated from previous literature.

Reply

Thank you for your comment. The specific context of healthcare system was added (Lines 237-249) and Lines (250-261).

Lines 237-249:

Health services in most Latin American countries are provided under a universal public insurance model in which the public and private sectors coexist to achieve universal health coverage (e.g., Argentina, Chile, Colombia, México), with equal access to drugs, surgical procedures, and medical and dental services.⁴⁸ Health systems are financed by taxes and contributions from individuals according to their ability to pay (e.g., employed, or self-employed), so their sustainability depends on the balance between the percentage of subsidized and contributed population. The systems operate under a free/regulated competition market allowing public and private providers to compete on cost and quality, which leads to a decentralized nature in the provision of services to individuals because the same patient can be attended by several providers simultaneously in order to reduce costs. Although government regulations contain costs and set fair rates/prices, in the context of virtual care, the lack of suitable legislation has resulted in insignificant rates and reimbursement, which is an obstacle to its widespread use in the region. Furthermore, compared to developed countries, the lack of integration between virtual and face-to-face providers may end up increasing the decentralization of healthcare delivery.

Lines 250-261:

The willingness of national governments to provide sufficient infrastructure throughout the territories is paramount to overcoming barriers related to access to the internet or electronic devices. For example, based on the World Bank report, the Latin American region has a gap in the connectivity percentage of its populations compared to the United States and Europe, with 76% coverage compared to 92% and 87%, respectively.⁴⁹ Given that in rural or remote areas it is difficult to ensure that the entire population has the necessary technology to access virtual care, equipped government and/or private healthcare centers should be available to serve as intermediaries between the virtual programs of highly complex

hospital institutions and patients. Beyond the technological aspects, national governments and Ministries of Health should also be concerned with developing and implementing standards to regulate the provision of virtual healthcare services, delimiting indications for use, operational aspects, costs, and the civil liability of institutions and medical personnel. In the region, Colombia, Panama, and Peru have been the countries with the greatest progress in the regulatory framework, including the degree of governance and protection of personal data in the context of virtual healthcare.⁵⁰