Patient satisfaction with telemedicine in acute care setting: a systematic review

Abdullah S. Eldaly, Michael J. Maniaci, Margaret R. Paulson, Francisco R. Avila, Ricardo A. Torres-Guzman, Karla Maita, John P. Garcia, Antonio J. Forte*

*Corresponding author
Antonio J. Forte
Division of Plastic Surgery, Mayo Clinic, 4500 San Pablo Rd, Jacksonville, FL 32224, United States of America

Handling editor:
Michal Heger
Department of Pharmaceutics, Utrecht University, the Netherlands
Department of Pharmaceutics, Jiaxing University Medical College, Zhejiang, China

Review timeline:

Received: 31 July, 2022
Editorial decision: 6 October, 2022
Revision received: 15 October, 2022
Editorial decision: 15 October, 2022
Published online: 15 November, 2022

Ref.: Ms. No. JCTRes-D-22-00110
Patient Satisfaction with Telemedicine in Acute Care Setting: A Systematic Review.
Journal of Clinical and Translational Research

Dear Dr Forte,

Reviewers have now commented on your paper. You will see that they are advising that you revise your manuscript. If you are prepared to undertake the work required, I would be pleased to reconsider my decision.

For your guidance, reviewers' comments are appended below.

If you decide to revise the work, please submit a list of changes or a rebuttal against each point which is being raised when you submit the revised manuscript. Also, please ensure that the track changes function is switched on when implementing the revisions. This enables the reviewers to rapidly verify all changes made.

Your revision is due by Nov 05, 2022.

To submit a revision, go to https://www.editorialmanager.com/jctres/ and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely

Michal Heger
Editor-in-Chief
Journal of Clinical and Translational Research

Reviewers' comments:

Reviewer #3: This review takes on an important topic of understanding satisfaction with using telemedicine for acute care delivery. Unfortunately, the review provides little insight besides enumerating the number of papers that used different modalities, platforms, communication approaches, etc. The authors should re-think how they are presenting their review of the literature to provide more value to the reader and the field. For example, the authors could present clear insights on how acute care telemedicine is provided and why for different settings; the different approaches to measuring patient satisfaction including specific tools and measures; patient satisfaction with the logistical aspects of telemedicine care delivery; patient satisfaction with the quality of their care; impacts of acute telemedicine delivery on patient outcomes, utilization and costs; and provider perspectives on delivering telemedicine care in an acute setting. Again, the author should not just report the number of papers or general statements but provide clear themes and insights from the literature. The discussion can then be used to connect to other work and provide insights on key areas for further development and study.

Introduction
* Talk more about the shift to increased telehealth use in the acute care setting? Why the shift? Are there specific concerns about delivering telehealth in an acute care setting versus a outpatient care?
* How is satisfaction generally measured?
* What is meant by quality? Is it solely based on patient satisfaction? What about other measures of quality such as 7 day hospital readmissions?
* What is known about telehealth in primary care (vs. chronic illness care referred to in the introduction - which I assume is a reference to specialty care specifically).

Methods
* What about search terms for "acute care"?
* Eligibility criteria as listed is confusing. Just make #5 come after the full text available (don't start a new sentence).
* Provide examples of measures of patient satisfaction used in the studies
* Risk of bias assessment - what does the last statement mean - two papers used the appropriate tools?

RESULTS
* include overview of study participants included in the analysis - was there demographic, socioeconomic, or geographic diversity?
* the bulk of the content just lists the number of papers that treated different disease, used different telemedicine modalities, etc. It would be more insightful for the authors to use their review to explain more about why different telehealth approaches were used for different types of acute care - what is in common, what is different and why?
* self-completed questionnaires were the most common way of measuring patient satisfaction, but what measures were actually used? Any validated tools? Net promotor scores? Please provide more detail in the review and add to table 2. Also, combine tables 2 and 3
* The authors state that technology and communication were most frequently evaluated

attributes - how were they measured?
* provide more detail on the results of these studies instead of using terms
like "highly positive"
* the point about healthcare providers responding positively about willingness to participate
in telemedicine service is more about healthcare delivery than patient satisfaction. This is an
important angle and could be explored more in this paper. If the authors do not want to
consider the role of the provider, then they should remove this sentence
* the paragraph starting with "convenience was also tested" is a mix of a different measures
and results. It is a confusing paragraph that needs to be re-written. The authors should
consider the points being made by each sentence in this paragraph and expand on the topics.
Discussion
* First four paragraphs: The dimensions of satisfaction and the ways in which telehealth could
impact satisfaction are not actually explored in this paper. It is confusing to have the first four
paragraphs dig into these domains when they are not connected to how the results are
presented in this review.
* Paragraph five: The survey paragraph is valid - but is too general and should include
insights from the review on how to survey patients about their satisfaction with their acute
telemedicine care. Some of this comes later in the discussion, but more insight should be
added such as benefits of different types of measures of satisfaction or approaches (and the
more general statements should be removed).
* Paragraph six: There are good points made in this paragraph, but the main topic of this
paper - use telemedicine in delivering acute care - is still unexplored. What is different about
providing telehealth care in this setting? What can we learn from the papers that were
reviewed?
* The provider satisfaction paragraph presents new information. These results are interesting
and should be included in the results section as a way to discuss the provider perspective on
acute telemedicine care.
* Some of the main points in the conclusion are just briefly mentioned in the results. Should
re-structure the paper to emphasize what you can learn from these reviews instead of just
listing attributed of each study.
* The discussion should provide insight on what research is needed to further understand this
growing shift in healthcare delivery. What are the gaps? What are key areas for further study?

General Comments
* Some incorrect punctuation and grammar - please update and correct
* Don't use unnecessary gendered language

Authors' response

Abdullah S. Eldaly, MD
Division of Plastic Surgery
4500 San Pablo Rd, Jacksonville, FL 32224
United States of America
904-597-4771
abdullaheldali@gmail.com

Jacksonville, 20 April 2022

Re: Ms. No. JCTRes-D-22-00110

Dear Dr. Heger,

Thank you for allowing us to resubmit a revised version of our manuscript entitled "Patient Satisfaction with Telemedicine in Acute Care Setting: A Systematic Review."

We have addressed all comments of the reviewer using the track changes function in Word. Moreover, every modification or rebuttal of the reviewer's comments is detailed per comment below in red italics. We are grateful for the useful comments of the reviewer, as a result of which the paper has been considerably improved.

On behalf of the authors, kindest regards,

Abdullah S. Eldaly, MD.

Reviewer's Comments

Reviewer #3

Introduction

* Talk more about the shift to increased telehealth use in the acute care setting? Why the shift? Are there specific concerns about delivering telehealth in an acute care setting versus outpatient care?

We want to thank the reviewer for this important comment. We agree with the reviewer on the importance of clarifying the motives behind this shift. Therefore, we have expanded the introduction to comment on the ED overcrowding phenomenon as well as the expenses of inpatient care. We believe these are the major motivations behind this trend.

* How is satisfaction generally measured?

We thank the reviewer for this essential comment. We prefer to look to satisfaction as a combination of expectations and actual experiences. Therefore, the authors believe that the best method to measure it is by conducting surveys. We have detailed this issue in the first three paragraphs of our discussion.

* What is meant by quality? Is it solely based on patient satisfaction? What about other measures of quality, such as 7 day hospital readmissions?

We thank the reviewer for this critical comment. We believe the quality of healthcare has many attributes, some of which were first described by Mahon et al.(1) as she decribed eight attributes that included the art of care, technical competency, accessibility, finances, physical environment, provider availability, continuity of care, and efficacy. Seven-day readmissions are a major contributor to the quality of care provided since it is an indicator of many of the aforementioned attributes, such as the art of care and efficacy. We have expanded our introduction to clarify these attributes.

(1) *P.Y.Mahon, An analysis of the concept 'patient satisfaction as it relates to contemporary nursing care, J. Adv. Nurs. 24 (1996) 1241–1248. doi:doi:10.1111/j.1365-2648.1996.tb01031.x.*

(2) * What is known about telehealth in primary care (vs. chronic illness care referred to in the introduction - which I assume is a reference to specialty care specifically).

We thank the reviewer for this critical comment. We agree with the reviewer on the existence of fundamental differences between both types. However, we believe that highlighting and discussing such differences would be beyond the focus of this review and could be a topic for a separate review.

Methods

* What about search terms for "acute care"?

We thank the reviewer for this important comment. In order to broaden our search, we decided to use only "Telemedicine OR homecare service" AND "Patient Satisfaction ."Using only two search terms allowed us to retrieve the most results from our search. After retrieving the results from the databases, we screened them and applied our eligibility criteria.

* Eligibility criteria as listed is confusing. Just make #5 come after the full text available (don't start a new sentence).

We thank the reviewer for this important comment. We have modified the eligibility criteria as recommended.

* Provide examples of measures of patient satisfaction used in the studies

We thank the reviewer for this comment. We have provided examples of the measures as recommended.

* Risk of bias assessment - what does the last statement mean - two papers used the appropriate tools?

We thank the reviewer for highlighting this issue. The statement is "Two authors used the appropriate tool….."

RESULTS

* include an overview of study participants included in the analysis - was there demographic, socioeconomic, or geographic diversity?

We thank the reviewer for this important comment. The included studies did indeed cover a broad spectrum of patients from diverse socioeconomic and demographic backgrounds. We have included an overview of this as recommended.

* the bulk of the content just lists the number of papers that treated different disease, used different telemedicine modalities, etc. It would be more insightful for the authors to use their review to explain more about why different telehealth approaches were used for different types of acute care - what is in common, what is different, and why?

We thank the reviewer for this important comment. The synthesis of the results section is usually concerned with the statistics from the included studies. However, we agree with the reviewer on the importance of commenting on these numbers while detailing them. Therefore, we have expanded the results section to comment briefly on the results without interrupting the flow of the section.

* self-completed questionnaires were the most common way of measuring patient satisfaction, but what measures were actually used? Are any validated tools? Net promotor scores? Please provide more detail in the review and add to table 2. Also, combine tables 2 and 3

We thank the reviewer for this important comment. We strongly agree with the reviewer on the importance of reporting whether the tools used were validated or not. Therefore, we have included this information in Table 2. We have also combined Table 2 and 3 as recommended.

* The authors state that technology and communication were most frequently evaluated attributes - how were they measured?

We thank the reviewer for this critical comment. Although we agree with the reviewer on detailing on how each domain was assessed, we opted out from detailing on the exact questions used since this would add significant word count to the manuscript. We believe if the reader is interested in a specific set of questions, it would be more convenient to read the questionnaire in the original manuscript.

* provide more detail on the results of these studies instead of using terms like "highly positive"

We thank the reviewer for this important comment. We preferred not to mention the exact percentages of each domain for each study because in the first draft, we reported the exact percentages and the sentences were hard to follow.This is true particularly for the studies where the responses were not reported as simple percentages. For example, this is how the overall satisfaction results were reported in one study: "The use of AVC did not lead to a higher satisfaction rate compared to the use of phone consultation during trips, neither for patients (U = 13256, Z = 1.66; P= .09, r = 0.004) nor for paramedics (U =

16695, Z = 1.60; P = .11; r = 0.004)" However, in response to the reviewer's comment, we added some percentages that we felt were most relevant.

* The point about healthcare providers responding positively about willingness to participate in telemedicine service is more about healthcare delivery than patient satisfaction. This is an important angle and could be explored more in this paper. If the authors do not want to consider the role of the provider, then they should remove this sentence

We thank the reviewer for this important comment. We have removed the sentence as recommended.

* the paragraph starting with "convenience was also tested" is a mix of a different measures and results. It is a confusing paragraph that needs to be re-written. The authors should consider the points being made by each sentence in this paragraph and expand on the topics.

We thank the reviewer for this important comment. We agree with the reviewer. Therefore, we discussed convenience in a separate paragraph.

Discussion

* First four paragraphs: The dimensions of satisfaction and the ways in which telehealth could impact satisfaction are not actually explored in this paper. It is confusing to have the first four paragraphs dig into these domains when they are not connected to how the results are presented in this review.

We thank the reviewer for this essential comment. The authors believe these paragraphs serve as an introduction to the concept of satisfaction, particulary for readers who may not be knowledgeable regarding this concept.

* Paragraph five: The survey paragraph is valid - but is too general and should include insights from the review on how to survey patients about their satisfaction with their acute telemedicine care. Some of this comes later in the discussion, but more insight should be added, such as the benefits of different types of measures of satisfaction or approaches (and the more general statements should be removed).

We thank the reviewer for this important comment. We expanded this paragraph to make it more relevant to this review as recommended.

* Paragraph six: There are good points made in this paragraph, but the main topic of this paper - use telemedicine in delivering acute care - is still unexplored. What is different about providing telehealth care in this setting? What can we learn from the papers that were reviewed?

* The provider satisfaction paragraph presents new information. These results are interesting and should be included in the results section as a way to discuss the provider perspective on acute telemedicine care.

We thank the reviewer for this important comment. We agree with the reviewer on the importance of provider's satisfaction. However, we believe that discussing this in detail

would be beyond the scope of this review. We believe this should be a topic of another review.

* Some of the main points in the conclusion are just briefly mentioned in the results. You should re-structure the paper to emphasize what you can learn from these reviews instead of just listing attributes of each study.

* The discussion should provide insight on what research is needed to further understand this growing shift in healthcare delivery. What are the gaps? What are key areas for further study?

General Comments

* Some incorrect punctuation and grammar - please update and correct

Thank you very much for raising this concer. In response to this comment, a native English speaker revised the manuscript. In addition, we used Grammarly to revise and edit the manuscript again.

* Don't use unnecessary gendered language

We thank the reviewer for this comment. We have revised and edited the manuscript accordingly.

2nd Editorial decision
15-Oct-2022

Ref.: Ms. No. JCTRes-D-22-00110R1
Patient Satisfaction with Telemedicine in Acute Care Setting: A Systematic Review.
Journal of Clinical and Translational Research

Dear authors,

I am pleased to inform you that your manuscript has been accepted for publication in the Journal of Clinical and Translational Research.

You will receive the proofs of your article shortly, which we kindly ask you to thoroughly review for any errors.

Thank you for submitting your work to JCTR.

Kindest regards,

Michal Heger
Editor-in-Chief
Journal of Clinical and Translational Research

Comments from the editors and reviewers: