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Real time reorientation and cognitive load adjustment allow for broad application of virtual reality in a pediatric hospital

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Revision received: 15 September, 2021
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1st Editorial decision
25-Jul-2021

Ref.: Ms. No. JCTRes-D-21-00080
Real Time Reorientation and Cognitive Load Adjustment Allow for Broad Application of Virtual Reality in Pediatric Hospital
Journal of Clinical and Translational Research

Dear Dr. Caruso,

Two reviewers have now commented on your paper. One reviewer is advising that you revise your manuscript, while the other provided only a generic appraisal without specific comments and a reject verdict.
The editorial board would like to extend the opportunity to you to significantly revise your manuscript in accordance with the reviewer's suggestions, which we stand behind.
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 Aug 24, 2021.

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 #1: The manuscript describes a VR device, the Space Pups™, to reduce pain and anxiety in pediatric patients (6-18 years) in a variety of settings, including perioperative care, vascular access, wound care, and ENT clinic. The topic is certainly of great clinical interest, however there are many concerns with the manuscript in its present form that should be substantially addressed by Authors to make it suitable for publication.
Below are specific suggestions:
Introduction
The introduction would benefit from clearly presenting the results of previous research investigating the same topic, informing the readers on data already available in extant literature. Which is the state of the art about VR? Which are the clinical application of this form of treatment?
Further, it could be useful to further explain the clinical importance of the study and its contribution to the literature.
Methods
Authors should describe the process used to develop the VR program, which is reported to include five iterative revisions based on the feedback of patients, parents and pediatric psychologists. Why did the team choose to create a VR device including the used games? Was this choice based on previous clinical experiences or was it only on feedback of patients, parents and psychologists? Is there a rationale supporting the use of these games to reduce pain and anxiety by creating a cognitive load? Which are inclusion criteria to determine which patients could benefit from the use of VR?
Which is the methodology adopted to collect any side-effects? In the manuscript it is reported that no nausea, motion sickness, or dizziness was reported by patients.
Did the Authors use a questionnaire or a checklist to monitor patient's anxiety and pain?
Results
The Authors wrote that the VR device was used about 651 times in different contexts. Which were the experiences of other patients? Why did they not present these experiences in the manuscript?
Discussion
The usability of the VR device in the clinical practice and its effectiveness in diminishing pain and anxiety are not supported by data reported in the manuscript. Therefore, Authors should provide this information if they intend to draw such a conclusion.

Authors' response

Reviewers' comments:

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Introduction
The introduction would benefit from clearly presenting the results of previous research investigating the same topic, informing the readers on data already available in extant literature. Which is the state of the art about VR? Which are the clinical application of this form of treatment?
Further, it could be useful to further explain the clinical importance of the study and its contribution to the literature.

Response#1: Thank you for these suggestions, the authors have revised the introduction to further include clinical context regarding VR. VR can be used for a wide range of clinical modalities, our paper focuses on the adaptability of our headset to reorient the 3-D environment into any plane the user is in, increasing its use and efficacy in a clinical context.

Methods
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Which is the methodology adopted to collect any side-effects? In the manuscript it is reported that no nausea, motion sickness, or dizziness was reported by patients.
Did the Authors use a questionnaire or a checklist to monitor patient's anxiety and pain?

Response #2:

The final iteration of the game was based on a consensus between developers and clinical staff based on feedback from clinicians and patients who engaged with VR during various clinical experiences.

Authors have updated the methods to include more about the iterative process and exclusion criteria for VR use- significant cognitive impairment, history of severe motion sickness,

current nausea, prone to seizures, visual problems, clinically unstable or required urgent/emergent intervention.

Authors used a combination of Child Life notes and self-reported questionnaire to monitor patients for any potential AEs as well as pre/post-pain and anxiety scores with VR use- manuscript has also been updated.

Results

The Authors wrote that the VR device was used about 651 times in different contexts. Which were the experiences of other patients? Why did they not present these experiences in the manuscript?

Response #3: The authors are currently underway reviewing and analyzing aggregate data, the purpose of this manuscript is to describe the benefits of re-orientation and cognitive load modulation in a clinical context.

Discussion

The usability of the VR device in the clinical practice and its effectiveness in diminishing pain and anxiety are not supported by data reported in the manuscript. Therefore, Authors should provide this information if they intend to draw such a conclusion.

Response #4

The authors have updated introduction to introduce literature that suggests VR use is effective in reducing pain and anxiety in a wide range of clinical contexts. Our case report manuscript also includes a self-reported experience of patient who used VR and experienced a decrease in subjective pain intensity.

2nd Editorial decision
20-Aug-2021

Ref.: Ms. No. JCTRes-D-21-00080R1
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Journal of Clinical and Translational Research

Dear authors,

Reviewers' comments on your work have now been received. You will see that the reviewers are advising against publication of your work. I therefore regret to inform you that your work cannot be published in the Journal of Clinical and Translational Research.

For your guidance, the reviewers' comments are appended below. I hope that you will find these useful when submitting your manuscript elsewhere.

Thank you for giving us the opportunity to consider your work. We hope that this decision has not discouraged you from submitting your future papers to the Journal of Clinical and Translational Research.

Yours sincerely,

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

Reviewers' comments:

Reviewer #1: Even though the Authors have provided some changes to the manuscript I do not find it suitable for publication as conclusions are not supported by the data and many important information (e.g. clear methodological steps, previous data collected on feasibility and efficacy in reducing anxiety etc.) are still lacking. In its present form the manuscript does not provide a valid contribution to the scientific literature.

3rd Editorial decision
29-Sep-2021

Ref.: Ms. No. JCTRes-D-21-00162
Real Time Reorientation and Cognitive Load Adjustment Allow for Broad Application of Virtual Reality in Pediatric Hospital
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: