# Article information:

Virtual and augmented reality in critical care medicine: the patient’s, clinician’s, and researcher’s perspective | Critical Care | Full Text  
<https://ccforum.biomedcentral.com/articles/10.1186/s13054-022-04202-x>

# Article summary:

1. Virtual reality (VR) and augmented reality (AR) have the potential to improve critical care medicine by alleviating stress, anxiety, and pain for patients, assisting in mobilization and rehabilitation, and improving communication between healthcare providers.

2. VR can be used to create a calm environment and relaxation techniques in the ICU, reducing stress for patients. However, further studies are needed to investigate the potential benefits and cost-effectiveness of VR in this context.

3. The integration of VR/AR into clinical applications in critical care medicine is challenging due to technical, human, and ethical considerations. Unwanted side effects such as "cybersickness" may limit the applicability of these technologies, and special ethical considerations are necessary when introducing them into the care of critically ill patients.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "Virtual and augmented reality in critical care medicine: the patient’s, clinician’s, and researcher’s perspective" discusses the potential benefits and challenges of using virtual reality (VR) and augmented reality (AR) in critical care medicine. While the article provides a comprehensive overview of the topic, there are several areas that require critical analysis.

One potential bias in the article is the lack of discussion on the limitations and risks associated with VR and AR in critical care medicine. The article briefly mentions "cybersickness" as a side effect of VR/AR sessions but does not provide further details or explore other potential risks. It is important to consider that VR/AR technologies may have adverse effects on certain individuals, such as exacerbating motion sickness or causing disorientation. Additionally, there may be ethical considerations when introducing new technologies into the care of critically ill patients, which are not thoroughly addressed in the article.

Furthermore, while the article highlights some potential benefits of VR/AR for patients, clinicians, and researchers in critical care medicine, it does not provide sufficient evidence to support these claims. The authors mention a few studies that have shown positive effects of VR on stress, discomfort, and pain in critically ill patients. However, they acknowledge that most studies involving VR/AR in critical care medicine provide only a low level of evidence due to their research design. This lack of high-quality evidence should be considered when evaluating the potential benefits of VR/AR in this context.

The article also focuses primarily on the positive aspects of VR/AR without adequately addressing potential drawbacks or limitations. For example, it briefly mentions that current applications have several drawbacks that need refinement but does not elaborate on what these drawbacks are or how they can be addressed. A more balanced discussion would have included a thorough examination of both the advantages and disadvantages of using VR/AR in critical care medicine.

Additionally, there is limited discussion on alternative approaches or interventions that may achieve similar outcomes as VR/AR. While the article suggests that VR can alleviate stress, pain, and anxiety in critical care patients, it does not explore other non-pharmacologic options or interventions that may have similar effects. This omission limits the scope of the discussion and prevents a comprehensive analysis of the potential benefits and drawbacks of VR/AR in comparison to other approaches.

In terms of reporting, the article provides a detailed background on VR and AR technologies but lacks clarity in its organization and structure. The inclusion of multiple sources for each author's affiliation makes it difficult to follow the flow of information. Additionally, the article could benefit from clearer headings and subheadings to guide readers through the content.

Overall, while the article provides an overview of the potential benefits and challenges of using VR/AR in critical care medicine, it lacks depth in its analysis and fails to adequately address potential biases, limitations, and alternative approaches. A more balanced discussion with a focus on high-quality evidence would strengthen the article's credibility and provide a more comprehensive understanding of this emerging field.

# Topics for further research:

* Limitations and risks of virtual reality and augmented reality in critical care medicine
* Ethical considerations of using VR/AR in the care of critically ill patients
* Adverse effects of VR/AR on certain individuals
* such as motion sickness or disorientation
* High-quality evidence on the benefits of VR/AR in critical care medicine
* Drawbacks and refinements needed in current VR/AR applications in critical care medicine
* Non-pharmacologic options or interventions for alleviating stress
* pain
* and anxiety in critical care patients

# Report location:

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