



EDITORIAL

Rehabilitation games in a world in digital transition

Carla Sílvia Fernandes^{1,2} 

¹Higher School of Nursing of Porto

²CINTESIS_ NursID - Innovation & Development in Nursing

Published 20 Jun 2021

Is it possible to analyze the world in the same way, after this globalized and most widespread event of all time? Of course, not, the complexity of this event leads us to the need to address many changes, especially in the health area. Indeed, the pandemic course of COVID-19 has led us to a true digital revolution in such a way that the reality as we know it will be something of the "last century"¹. We live in moments of changing care practices where it is essential to discuss the advantages and potential of other health resources, abandoning a traditionalist view of care². Although the tremendous technological development of the last decades, the health sector is still structured in a historical model of mandatory personal interactions between people and health professionals, that is, in need of face-to-face interaction¹. Now, the times are of transition, in what can be called hybrid care, functioning as a bridge between the traditional provision of face-to-face care and digital health solutions³. These aspects must also be integrated when we think about rehabilitation and its wide range of interventions.

Tele-rehabilitation is revealed as a promising and timely opportunity for an intervention model to be adopted, alternatively, or along with the usual face-to-face treatment, highlighting the importance of these interactive approaches to improve the quality of care⁴. This leads us to consider a paradigm shift, which translates into allocating different resources where games can be included.

Due to the contribution of the digital age, recently, a new meaning has been given to games, promoting an area that, although with significant characteristics and potential, was dormant, and probably health professionals did not extract their great potential. This aspect may be related to the stereotypes associated with these interventions, namely, their exclusively ludic view or application only in children. This gives the games a new purpose, a new outcome, in what we can call a true *GamEvolution*, namely, in the intervention in rehabilitation, when it lacks a true digital transformation.

At this level, many resources can be used that should not be restricted to the famous Exergames. Effectively, Exergames, or active-videogames, can increase a person's volition for their rehabilitation process, as they involve the transfer of body movements to game commands^{5,6}. Exergames have been used, in the last decade, as an innovative method of rehabilitation, with the primary objective of improving motivation and exercise, and can be used as a complement to traditional forms of rehabilitation⁷. However, other game strategies can be used at a distance to enhance self-management and increase the person's knowledge and training for their active participation in their rehabilitation process, namely, serious games, virtual reality games, Apps, among many others.

Compared to traditional resources, games in rehabilitation can offer several advantages to motivate

Correspondence:

Addr.: Rua Dr. António Bernardino de Almeida. Porto, Portugal | CEP: 4200-072

Phone: 225 073 500

E-mail: carlasilviaf@gmail.com

<https://doi.org/10.21876/rcshci.v11i2.1150>

How to cite this article: Fernandes CS. Rehabilitation games in a world in digital transition. Rev Cienc Saude. 2021;11(2):3-4.

<https://doi.org/10.21876/rcshci.v11i2.1150>

2236-3785/© 2021 Revista Ciências em Saúde. This is an open-access article distributed under a CC BY-NC-SA license

(<https://creativecommons.org/licenses/by-nc-sa/4.0/deed.en>)



behavior change for health and well-being. However, note that games should be used to support and not completely replace traditional rehabilitation despite their advantages. Alternatively, resources must be added to allow, through movement software, to identify the correct exercise patterns⁵.

The resources of games, through digital technologies, can help overcome, at least, some challenges in the provision of care in rehabilitation so that, in some cases, the intervention can be complemented virtually. The use of games can support health professionals in several ways by improving the quality of rehabilitation. Although there are great opportunities to use these resources in health, their use is still limited², and their diffusion is reduced. Although there is a great need to implement these innovative

health solutions, there is a lack of time and investment for their development. Remember that these resources must be developed with professionals who will use them and their users to assess their suitability and usability.

The time has come to conduct a digital transition in rehabilitation, that is, to explore the potential of other resources, in a rapid technological expansion of care practices, thinking about new remote intervention resources, namely, games. Therefore, there is an urgent need to integrate these new solutions to meet the increase in rehabilitation needs while facing the difficulties imposed by the pandemic. This paradigm shift toward hybrid care leads us to consider new challenges for research, training, and rehabilitation care practice.

REFERENCES

1. Keesara S, Jonas A, Schulman K. Covid-19 and Health Care's Digital Revolution. *N Engl J Med.* 2020;4:382(23):e82. <https://doi.org/10.1056/NEJMp2005835> PMID:32240581
2. Kaiser FK, Wiens M, Schultmann F. Use of digital healthcare solutions for care delivery during a pandemic-chances and (cyber) risks referring to the example of the COVID-19 pandemic. *Health Technol.* 2021;1-13. <https://doi.org/10.1007/s12553-021-00541-x> PMID:33875933 PMID:PMC8046498
3. Valerio N. Application of blended care as a mechanism of action in the construction of digital therapeutics. *Einstein.* 2020;18:eMD5640. https://doi.org/10.31744/einstein_journal/2020md5640 PMID:33237249 PMID:PMC7664824
4. Turolla A, Rossettini G, Viceconti A, Palese A, Geri T. Musculoskeletal physical therapy during the COVID-19 pandemic: Is telerehabilitation the answer? *Phys Ther.* 2020;100(8):1260-4. <https://doi.org/10.1093/ptj/pzaa093> PMID:32386218 PMID:PMC7239136
5. Ambrosino P, Fuschillo S, Papa A, Di Minno MND, Maniscalco M. Exergaming as a supportive tool for home-based rehabilitation in the COVID-19 pandemic era. *Games Health J.* 2020;9(5):311-3. <https://doi.org/10.1089/g4h.2020.0095> PMID:32876489
6. Street TD, Lacey SJ, Langdon RR. Gaming Your Way to Health: A systematic review of exergaming programs to increase health and exercise behaviors in adults. *Games Health J.* 2017;6(3):136-46. <https://doi.org/10.1089/g4h.2016.0102> PMID:28448175
7. Reis E, Postolache G, Teixeira L, Arriaga P, Lima ML, Postolache O. Exergames for motor rehabilitation in older adults: an umbrella review. *Phys Ther Rev.* 2019;24(3-4):84-99. <https://doi.org/10.1080/10833196.2019.1639012>

Conflicts of interest: No conflicts of interest declared concerning the publication of this article.