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Virtual Reality-Based Behavioral Interventions for Opioid Use Disorder: A New Era in Tele-Health

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Purpose: The opioid epidemic has plagued the United States for 15 years and has created the need for quality treatment options for Opioid Use Disorder (OUD). Alabama has limited access to opioid abuse services in rural populations. Specifically, limited healthcare providers and poor transportation to treatment. People between 19-35 have the highest rates of opioid abuse and are the most likely to drop out of treatment. The use of Virtual Reality (VR) technology can lessen these challenges by allowing OUD patients to connect with their providers without travelling to treatment facilities. Additionally, VR can give this technologically inclined subpopulation a more engaging approach to effective treatment. The purpose of this literature review was to analyze the efficacy of VR as a treatment delivery option for substance use disorder (SUD) treatment.

Methods: A search was conducted using the keywords “virtual reality therapy” (VRT), “substance use disorders,” and “nicotine” in Google Scholar and PubMed. Inclusion criteria for the final articles were VR interventions for SUD published within five years.

Results: Son et al (2015) examined VRT in 12 subjects with alcohol dependency and found that it was successful in decreasing cravings. In a study that utilized VRT with 14 individuals with SUD, Smith et al (2016) found that compared to control this group had greater odds of obtaining a competitive job position by the six-month follow-up. Park et al (2014) found that virtual cue exposure was effective in increasing abstinence from nicotine use. Eibl et al (2017) examined 3733 patients who attended opioid agonist therapy, found that patients treated with telemedicine were more likely to be retained in therapy.

Conclusion: VRT is effective in treating various SUDs. However, few studies were found that specifically looked at its use with opioid use disorder. Therefore, more research is needed to ascertain its efficacy in this population. This research team is currently examining the feasibility and acceptability of delivering a newly developed behavioral intervention that combines cognitive behavioral therapy and motivational interviewing through a virtual reality platform for individuals with OUD. We will conclude this study in the spring of next year and have results to share concerning feasibility and acceptability of delivering behavioral interventions for individuals with OUD in a rural Alabama.

Title:

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Keywords:

Behavioral Interventions, Opioid Use Disorder and Virtual Reality

Abstract Summary:

VRT is effective in treating various SUDs. However, few studies were found that specifically looked at its use with opioid use disorder. Therefore, more research is needed to ascertain its efficacy in this population. We will test the feasibility and acceptability of utilizing VR-based behavioral interventions for OUDs

References:

- Eibl, J.K., Gauthier, G., Pellegrini, D., Daiter, J., Varenbut, M., Hogenbirk, J.C., & Marsh, D.C. (2017). The effectiveness of telemedicine-delivered opioid agonist therapy in a supervised clinical setting. *Drug and Alcohol Dependence*, 176, 133-138. Retrieved from: <http://dx.doi.org/10.1016/j.drugalcdep.2017.01.048>
- Park, C.B., Choi, J.S., Park, S.M., Lee, J.Y., Jung, H.Y., Seol, J.M., Hwang, J.Y., Gwak, A.R. & Kwon, J.S. (2014). Comparison of the effectiveness of virtual cue exposure therapy and cognitive behavioral therapy for nicotine dependence. *Cyberpsychology, Behavior, and Social Networking*, 17(4), 262-267. doi: 10.1089/cyber.2013.0523
- Smith, M.J., Bell, M.D., Wright, M.A., Humm, L.B., Olsen, D., and Fleming, M.F. (2016). Virtual reality job interview training and 6-month employment outcomes for individuals with substance use disorders seeking employment. *J Vocational Rehabilitation*, 44(3), 323-332. doi: 10.3233/JVR-160802
- Son, J.H., Lee, S.H., Seok, J.W., Kee, B.S., Lee, H.W., Kim, H.J., Lee, T.K., & Han, D.H. (2015). Virtual reality therapy for the treatment of alcohol dependence: a preliminary investigation with positron emission tomography/computerized tomography. *Journal of Studies on Alcohol and Drugs*, 76(4), 620-627. Retrieved from: <https://doi.org/10.15288/jsad.2015.76.620>
- Yang, Y.T., Weintraub, E., & Haffajee, R.L. (2018). Telemedicine's role in addressing the opioid epidemic. *Mayo Clin Proc.*, 93(9), 1177-1180. doi: 10.1016/j.mayocp.2018.07.001

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Author Summary: MacKenzie Robb is a Bachelor of Science nursing student. She has been working in Dr. Mumba's research lab for one year. She has presented our research at national and local conferences. She is also a published author.

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