

The Advancement of Psychedelic Drugs as a Treatment for Neuropsychiatric and Neurodegenerative Diseases

Ashley Wright, Adhiti Chakkerla*, Arnav Kewalram, Chaebin Jung, Madhura Rajesh Kumar, Sophia Weiss, Amara Ajon, Sreeja Reddy, Michael Yan

Virginia Commonwealth University, UC Berkeley, and Think Neuro

Introduction

Neuropsychiatric and neurodegenerative diseases affect individuals every single day by causing attentional, motivational, cognitive, emotional, behavioral, and social dysfunctions. Treating neuropsychiatric and neurodegenerative diseases was known as difficult and complicated, but the use of psychedelic drugs as a treatment has shown tremendous potential. Psychedelic drugs range from illicit or licit substances. When clinically tested, these drugs have proven to be incredibly fast acting, providing a calming sensation.

Objective

Our objective was to explore an alternative treatment, rather than traditional medicine, for neuropsychiatric and neurodegenerative diseases.

Methods

The preliminary search of articles on the keywords “psychedelics” and “diseases” was led by the Web of Science database. Picking out the number of citations, there were 165 studies that were conducted initially, however, there were only 100 articles that were significant and relevant to the current studies. The Web of Science data was extracted based on the articles’ title, the date, author(s) name, and number of citations. Then, many graphs were created using Excel, such as senior author institution distribution and the topics in the top 100 cited articles. In order to provide a stronger supplement to the current study, further studies were needed on neurodegenerative and neuropsychiatric diseases.

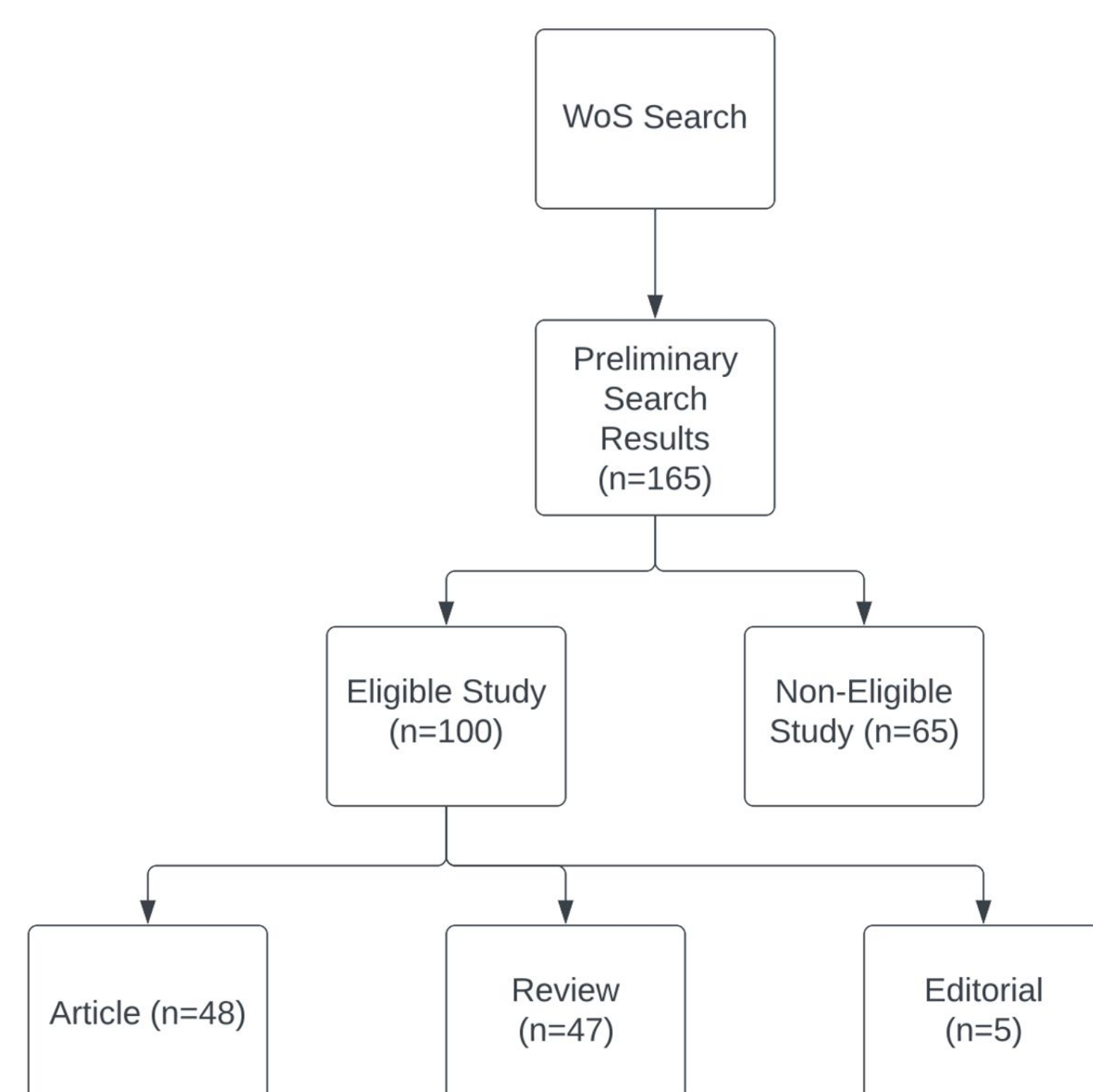
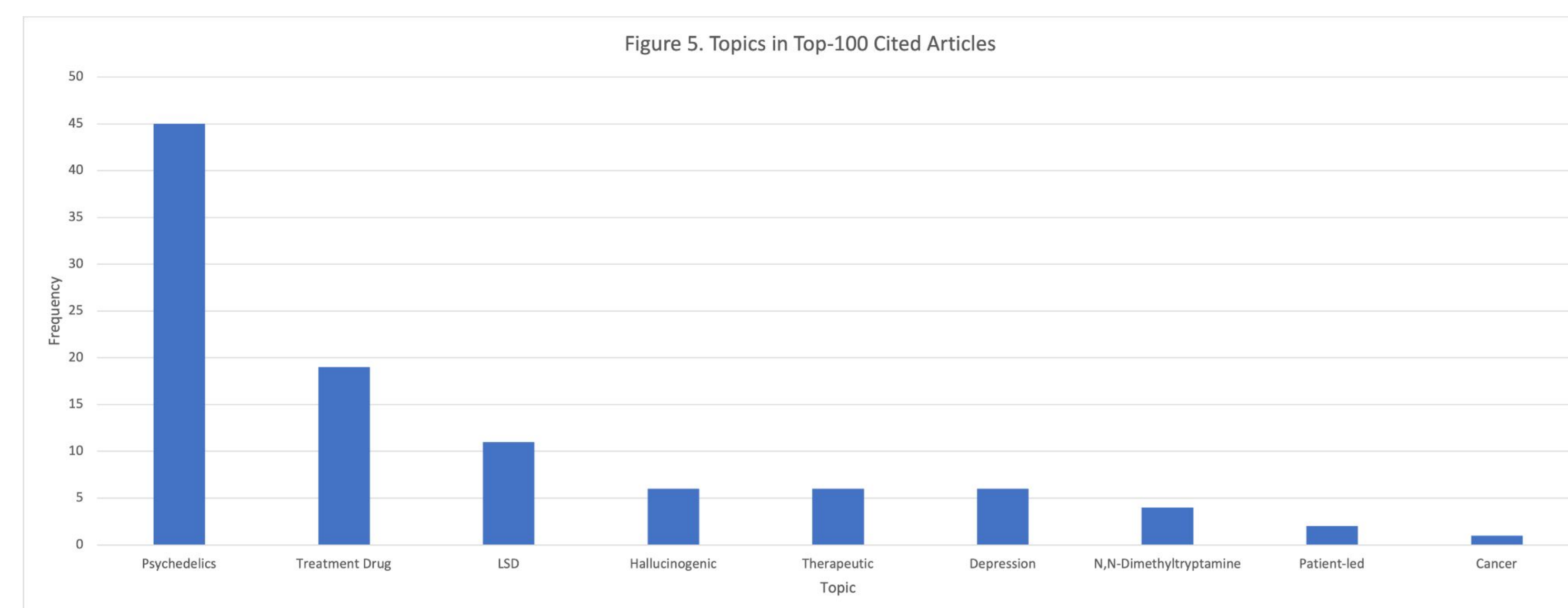
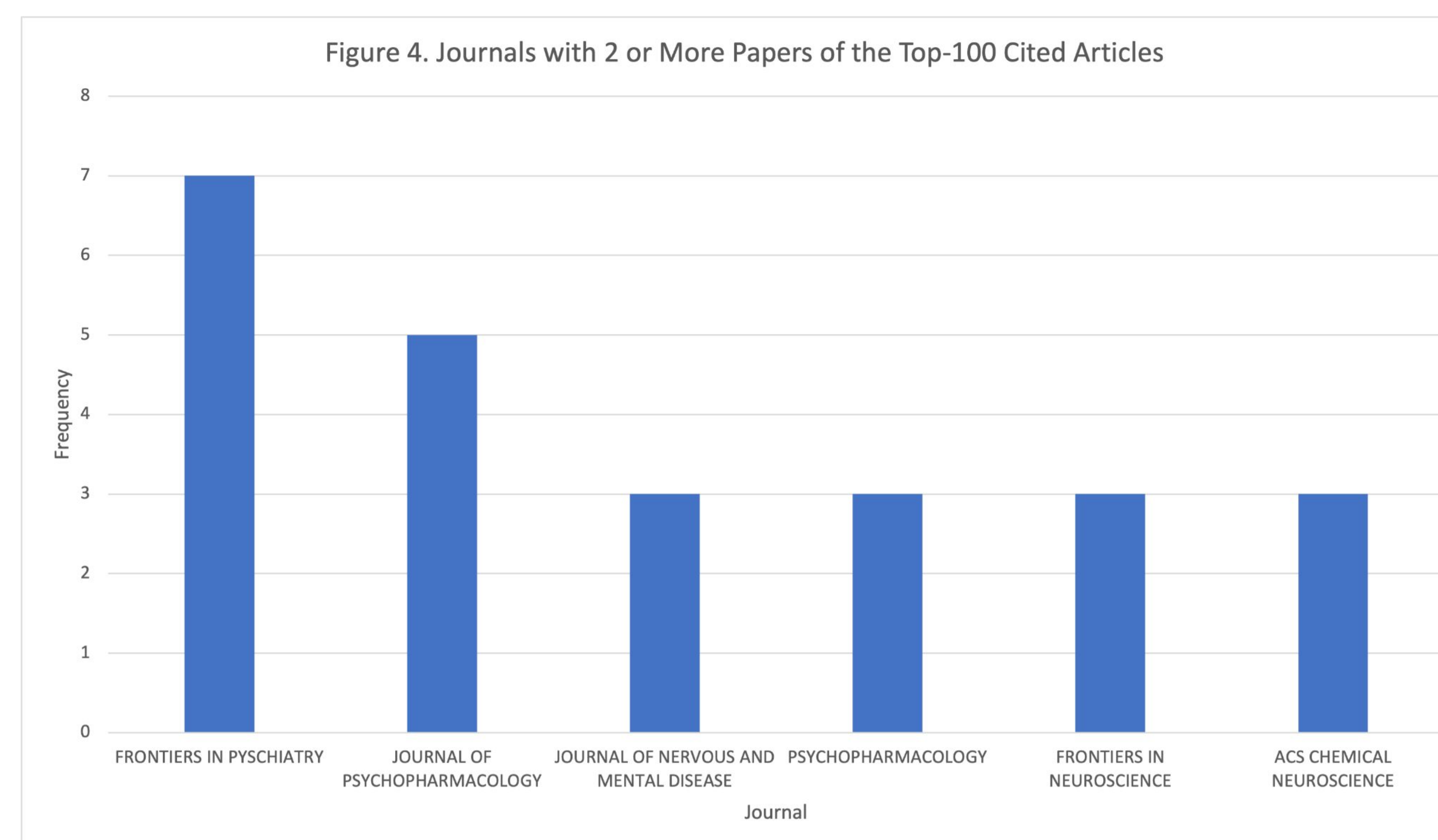


Figure 1. Flow diagram of the literature search showing studies that were included, excluded, and sorted at each stage.

Results

After doing our bibliometric analysis and narrowing our papers down to 100, 48 of those were articles, 47 were reviews, and 5 were editorials. We found that the most frequent topic in the top-100 cited articles was, unsurprisingly, psychedelics with 45 mentions and cancer was the least, only with 2 mentions, as highlighted in Figure 5. Figure 4 shows that the *Journal of Psychiatry* was the most frequent one in our study, with 7 papers and 4 were tied for the least: *Journal of Nervous and Mental Disease*, *Psychopharmacology*, *Frontiers in Neuroscience*, and *ACS Chemical Neuroscience*.



Discussion

Based on these results, psychedelics may function in healthcare as a relief for mental health conditions such as anxiety and depression. These conditions could be standalone issues or results of neuropsychiatric disorders. Because of the widespread struggle with mental health, psychedelics could be an effective baseline to kickstart new treatments. This could positively impact community health due to the large audience of people who could be relieved of these stressors. While psychedelics may not have the properties to cure serious diseases, they ease mental side effects that come with those illnesses. However, psychedelics carry a stigma which has possibly inhibited their use in healthcare, but with further research and expanding access, their effects may be extremely useful for community health.

Conclusion

Using psychedelic drugs to treat the mental health affecting side effects of these neuro diseases have shown to have potential benefits. However, there are still many gaps in how psychedelics can treat these diseases themselves. Also, this is still a new topic in healthcare so to ensure the safety of patients undergoing this treatment, there should be continuous monitoring and testing.

References

1. Web of Science Database
2. John Hopkins Medicine

