

Essential oils and the post COVID-19 mental health crisis: literature analysis based on VOSviewer

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INTRODUCTION & AIM

There is a global concern about COVID-19 long-term impact on multiple domains of life. The WHO has raised concerns regarding the pandemic's psycho-social and mental health consequences. The aromatic plant essential oils (EOs) are volatile mixtures of lipid - soluble organic compounds produced by the plants (1).

For the COVID-19 impact on the mental health, it has increased the cases of depression, anxiety, insomnia, domestic violence, self harm, and suicide (2). Many recent articles have explored the efficacy of using aromatic plant EOs as promising candidates for the management of different mental health issues.

The aim of this literature analysis is to examine the importance of EOs in relieving mental health problems in the post-COVID-19 era.

METHOD

A co-occurrence analysis of the available literature from Scopus, Web of science, and PubMed databases was conducted using network and overlay visualization created via VOSviewer software to examine the role of EOs in alleviating mental health crisis in the post-COVID-19 era.

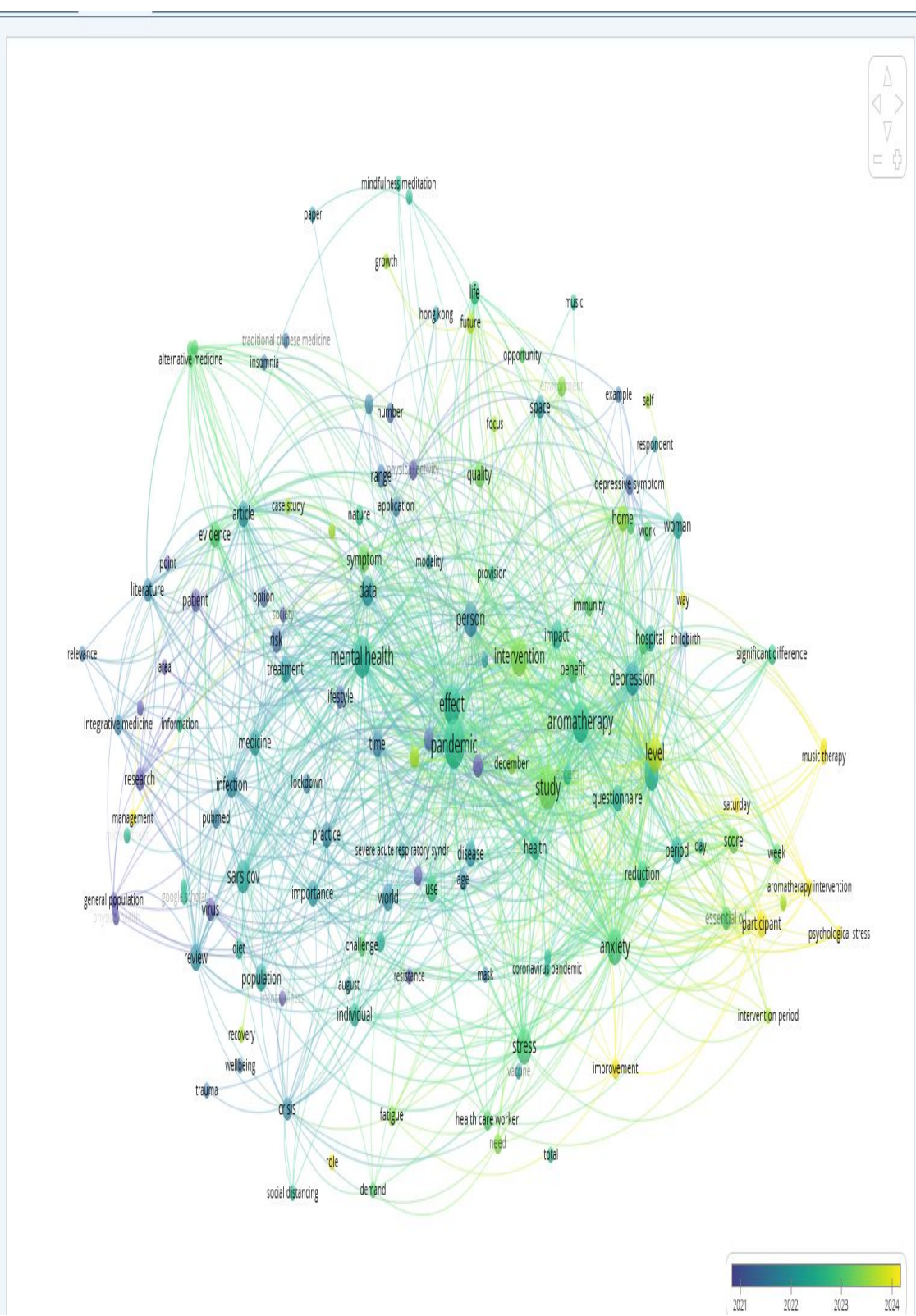


Figure. 1

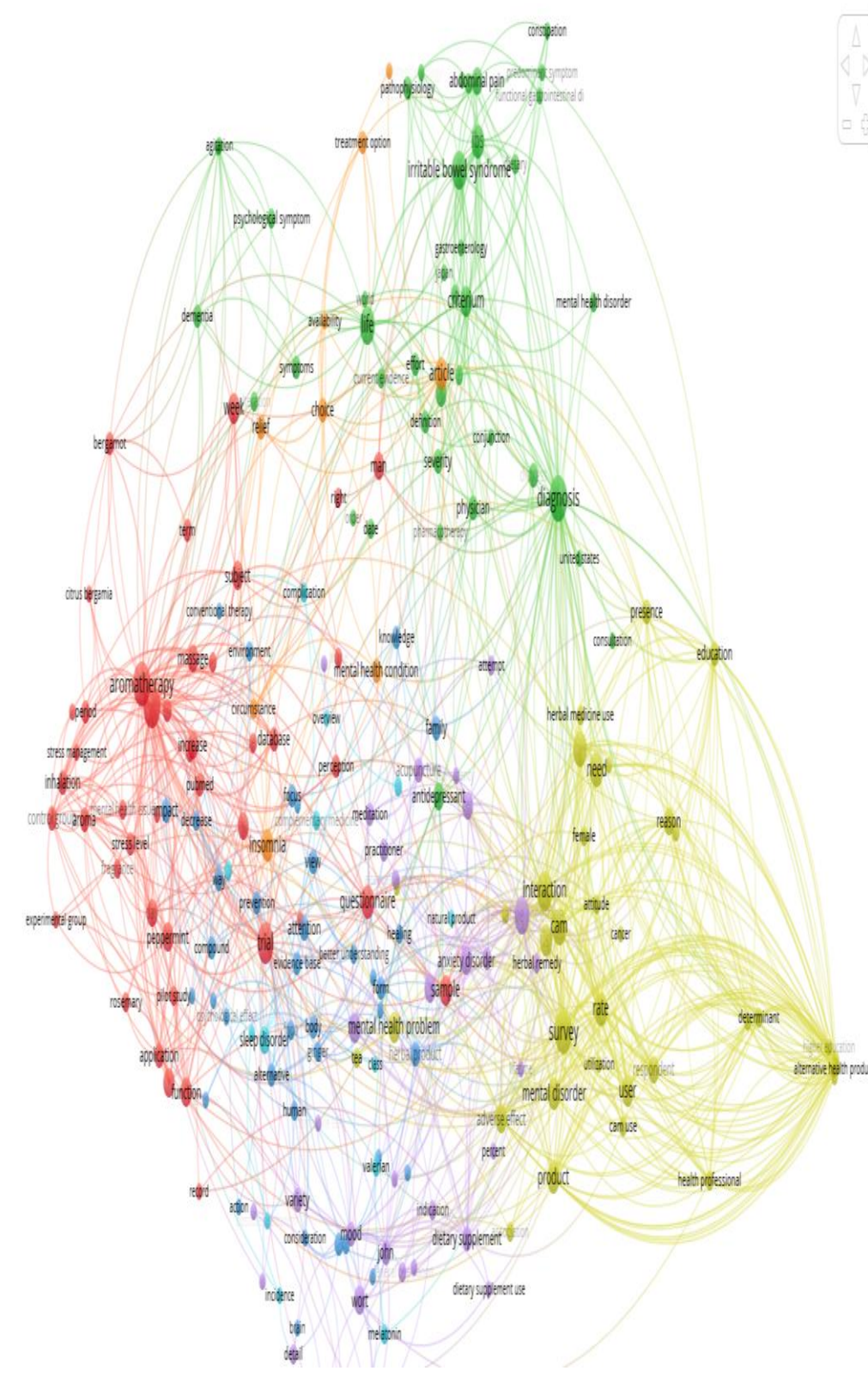


Figure. 2

Figures. 1 and 2 show Network map of keywords co-occurrences for research lavender; bergamot; antidepressant; COVID-19; psycho-social and mental health divided into clusters (plot created by VOSviewer software).

RESULTS & DISCUSSION

Based on the analysis of the literature, The United States and China emerged as the leading contributors to the literature, followed by India and Iran, while Taiwan and Brazil ranked the lowest in terms of productivity. The authors affiliated with Tehran University of Medical Sciences produced the highest volume of research in this field. The *Journal of Alternative and Complementary Medicine* stands as the most productive publisher in this research point.

The analysis showed a progressive growth in publication volume, rising from 8 documents in 2015 to 27 in 2025, with a significant spike occurring in 2019 and 2020 coinciding with the COVID-19 pandemic. Over half of these publications were original research articles, with Medicine being the leading subject area, followed by Pharmacology. The co-occurrence analysis revealed that terms such as mental health, stress, depression, insomnia, and anxiety are common search terms in the literature and exhibited strong associations with aromatherapy and SARS-CoV pandemic. In addition, the analysis showed that the most frequently used essential oils in the context of mental health improvement are lavender, bergamot, peppermint, chamomile and rosemary. These findings suggest that essential oils exert different therapeutic effects including antidepressant, anxiolytic, and anti-stress effects, which contribute to their therapeutic potential in enhancing the psychological well-being.

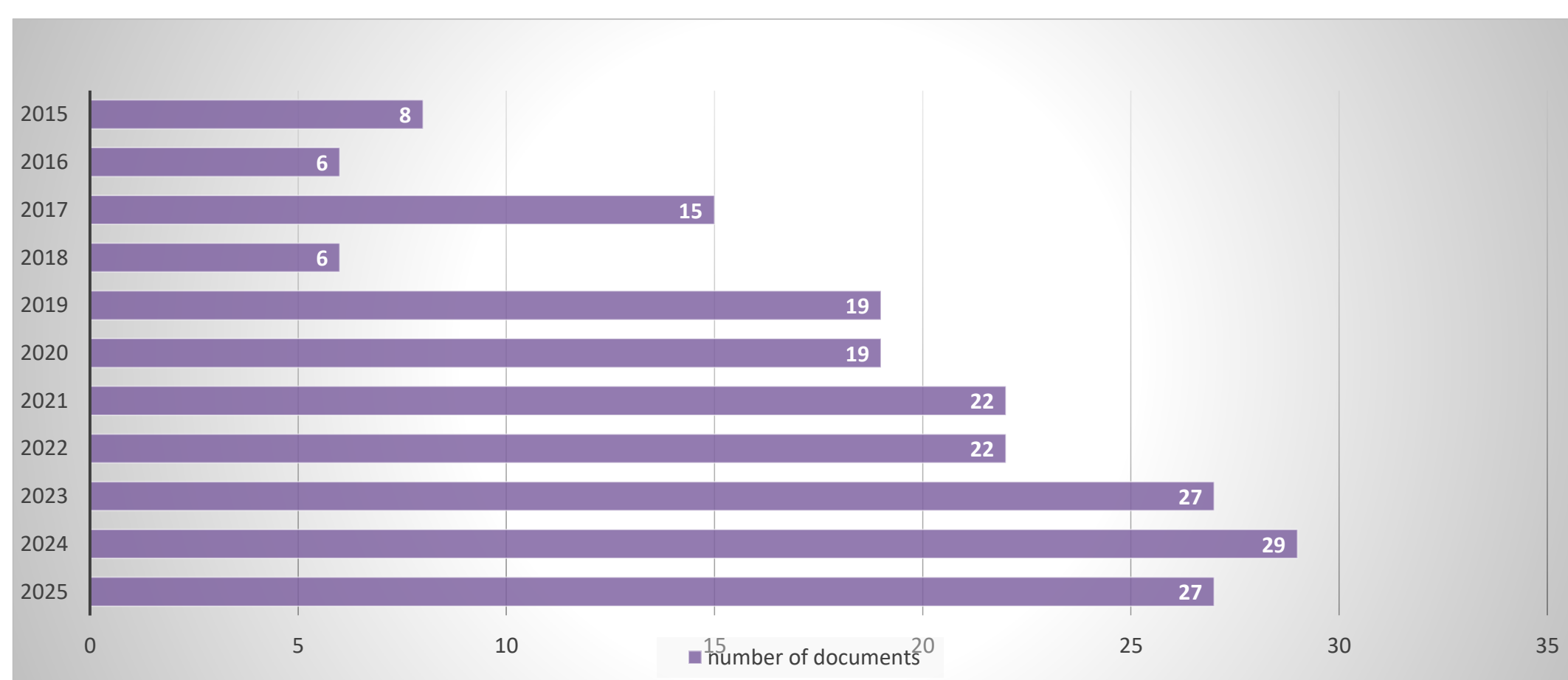


Figure. 3. Number of published articles per year.

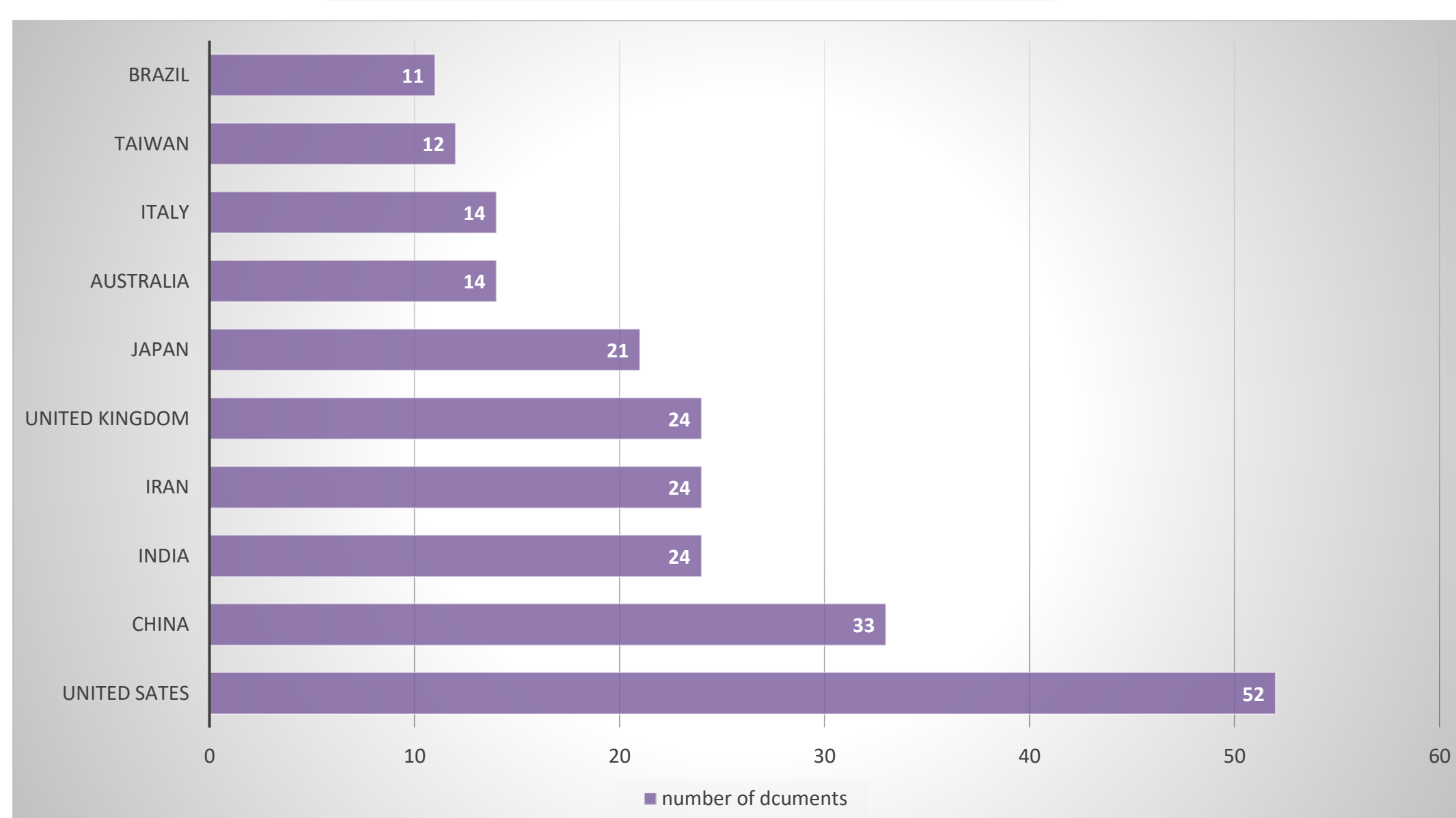


Figure. 4. Number of published articles in different countries.

CONCLUSION

These findings suggest that EOs exert different therapeutic effects including antidepressant, anxiolytic, and anti-stress effects, which contribute to their therapeutic potential in enhancing the psychological well-being.

FUTURE WORK / REFERENCES

This analysis simplifies the data, enabling researchers to trace past work and outline future directions.

(1) Linda Catani, Eleonora Grassi, Adele Coccozza di Montanara, Loretta Guidi, Roberto Sandulli, Barbara Manachini, Federica Semprucci, Essential oils and their applications in agriculture and agricultural products: A literature analysis through VOSviewer, Biocatalysis and Agricultural Biotechnology, Volume 45, 2022, 102502, ISSN 1878-8181, <https://doi.org/10.1016/j.bcab.2022.102502>.

(2) Anant Kumar & K. Rajasekharan Nayar (2021) COVID 19 and its mental health consequences, Journal of Mental Health, 30:1, 1-2, DOI: 10.1080/09638237.2020.1757052