A Bibliometric Review of Online Counseling for Mental Health: A Scopus Database Study

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Abstract. This study presents a bibliometric review of online counseling and mental health, utilizing the Scopus database to analyze publication trends from 2019 to 2024. The research aims to identify key trends, influential authors, and emerging topics in the field. By analyzing 298 documents with advanced bibliometric methods, including author collaboration analysis, descriptive statistics, keyword co-occurrence analysis, and citation analysis, the study highlights a significant rise in publications after 2023, emphasizing the growing relevance of online counseling in mental health. The findings also reveal notable research surges driven by global events and technological advancements, showcasing the field's dynamic evolution. This study underscores the importance of interdisciplinary collaboration and advocates for further exploration of the effectiveness and scalability of online counseling. The insights gained offer valuable guidance for educators, policymakers, and researchers, promoting the integration of online platforms into educational and mental health frameworks.

Keywords: Bibliometric Analysis, Mental Health, Online Counseling

1 Introduction

Advances in science and communication technology have driven the development of counseling services to face the 4.0 era. Online counseling first appeared in 1960-1970 through software programs such as Eliza and Parry [1]. Counseling is a series of main activities in guidance that aims to help clients directly, so that clients are able to take responsibility for various problems or specific difficulties they face [2]. Counseling is defined as a process in which a person called a counselor helps individuals (clients) to better understand themselves, overcome emotional or situational problems, and improve skills in managing their lives. It is emphasized that the main goal of counseling is to help clients achieve psychological well-being and make good decisions [3].

Counseling is an interactive process between the counselor and the client, where the counselor helps the client to understand themselves better, explore their feelings, and develop new ways to cope with problems and achieve personal goals. Counseling focuses on improving the client's psychological well-being through behavior change, skill development, and increased self awareness[4]. Counseling can also be defined as a structured process in which counselors help individuals or groups to deal with emotional, social, or behavioral problems that impede their well-being. It can be described

as a collaborative interaction that helps clients recognize and change their patterns of thinking, feeling, and behavior [5]. With the internet, people have immediate access to a plethora of information and service resources, and even professional service providers from anywhere at any time. More and more mental health service providers and consumers by utilizing the internet can easily consult with professionals[6]. This is reinforced [7] online counseling from the perspective of metal health services, has the potential to provide more cost-effective care, and trained professionals. This is in line with the opinion [8] that online counseling can be interpreted as a counseling process carried out with network tools as a link between the counselor and the client. Online counseling is one of the innovations in counseling services. Online counseling services are one of the breakthroughs in the implementation of counseling that utilizes communication tools and networks [9]. The purpose of online counseling is to relieve pressure, anxiety, and worries that may be experienced by clients by utilizing chat, email, video conferencing, and internet programs [7]. For example in a study on the comparison between face-to-face, and online counseling using email and chat, found that the level of working alliance showed that participants felt a collaborative relationship [10]. The study, titled "A Bibliometric Review of Online Counseling for Mental Health: A Scopus Database Study," conducted a thorough bibliometric analysis of journals indexed in Scopus. The research aimed to shed light on past, current, and emerging trends in online counseling within the context of mental health.

The counseling landscape, as highlighted by Anthony and Jamieson [7] has evolved significantly with the advent of new technologies and communication tools. These advancements have shifted traditional counseling toward online modalities, enabling support that is accessible anytime and from anywhere. Online counseling leverages platforms like chat, email, video conferencing, and internet-based programs [10]. enhancing connections between counselors and clients even when they are not physically present in the same location [11].

While there is an expanding body of literature on online counseling across various educational and disciplinary contexts, significant gaps remain, particularly regarding its implementation in Indonesia, where its use for mental health purposes is still underdeveloped. Research has explored online counseling in fields such as higher education [12], Health Education [11], psychology [13], and social sciences [14], illustrating its diverse applications. However, there is a noticeable lack of comprehensive bibliometric reviews specifically focusing on online counseling models for mental health. This study aims to fill that gap, providing critical insights for policymakers, educators, and researchers in mental health fields.

In conclusion, this proposed research on online counseling models for mental health, conducted through a bibliometric review, aims to systematically analyze current trends, research areas, and emerging patterns in the field. The study seeks to provide a comprehensive understanding of the current landscape of online counseling for mental health, identify existing gaps in the research, and highlight opportunities for further exploration in this critical domain of education.

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2   Method

This study employs a structured and comprehensive methodology to examine online counseling in mental health using the Scopus database. The research focuses on publications from 2019 to 2024, employing an extensive search strategy with keywords such as "online counseling" and "mental health" to retrieve relevant literature. The inclusion criteria encompass peer-reviewed journal articles and review papers published in English within the specified timeframe, targeting relevant subject areas. Studies that were non-peer-reviewed, irrelevant, or duplicates were excluded.

The extracted data underwent cleaning and standardization, incorporating metadata like titles, abstracts, authors, affiliations, keywords, publication sources, and citation counts. Several bibliometric methods were applied, including descriptive analysis, inter-author collaboration analysis, keyword occurrence analysis, and citation analysis. Data processing and visualization were facilitated by tools like VOSviewer and RStudio.

Descriptive statistics offered a quantitative overview of the dataset, while network analysis highlighted relationships among bibliometric elements. Time-series analysis tracked publication trends, citation behaviors, and emerging research areas over time. To present the complex bibliometric data effectively, visualization techniques such as line graphs, network diagrams, bar charts, and word maps were utilized, ensuring clarity and accessibility.

Ethical considerations were integral to this research, ensuring the protection of data privacy and intellectual property rights. Only publicly available bibliometric data were utilized, with proper attribution provided for all sources. The analysis and presentation of data were conducted transparently and objectively to minimize bias. This robust methodology and comprehensive analysis offer a strong foundation for understanding online counseling models in mental health, providing valuable insights for researchers, educators, and policymakers to design and implement more effective online counseling strategies.

3   Results and Discussion

3.1   Publication Growth

Figure 1 illustrates a line graph of annual scientific production, tracking the number of articles published from 2019 to 2024 and shedding light on research activity trends over this period. In 2019, publication volume was relatively low at around 14 documents, indicating the early stages of interest in this field. A marked increase occurred between 2020 and 2022, with annual publications ranging from 56 to 60 documents, likely driven by global events and growing awareness of the topic. This upward trajectory continued with a notable surge in 2023 to 69 documents, potentially linked to advancements in technology and heightened research interest. However, 2024 saw a decline, suggesting a dynamic research landscape influenced by shifts in scientific, technological, and societal priorities.

These trends reveal several important insights. The initial low output in 2019 reflects the nascent stage of this research area, while the spikes in 2021 and 2023 suggest increased funding, global awareness, and technological progress as driving factors. The

fluctuations, particularly the decline in 2024, underscore the field's responsiveness to external influences. This dynamic environment calls for adaptive strategies from stakeholders, including funding bodies and researchers, to align with evolving trends and challenges. Such adjustments are crucial for fostering innovation and addressing the demands of a rapidly changing scientific and societal context.
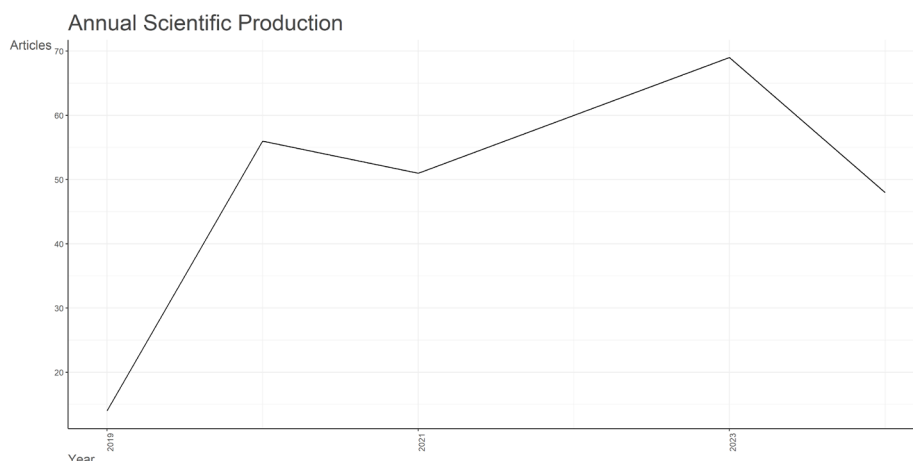

Fig 1 Annual Scientific Production

Trends in annual scientific production from 2019 to 2024 show dynamics that reflect the complex interactions between technological developments, societal needs and the global context. In 2019, the volume of publications was low (14 documents), reflecting the early stages of attention to this topic. However, there was a significant spike in 2020 to 2022, with annual output reaching 56 to 60 documents, likely influenced by global events and increased funding. The year 2023 saw peak production with 69 documents, reflecting the positive impact of technological advances or research priorities. However, 2024 saw a sharp decline to 21 documents, highlighting the dynamic nature of the research environment that is heavily influenced by changing social and scientific factors. These fluctuations underscore the importance of adaptive strategies from stakeholders, including researchers and funding agencies, to respond to evolving needs and ensure the sustainability and relevance of research in the future.

3.2   Most Influential Author

Figure 2 below shows that the ten most influential studies are occupied by Lubman in 4 articles. Next, followed by Carter A, Cheung F, Manning V, Navarro P, Pordelan N, Savic M, Sefi A, Xu Y, and Yip Psf with 3 articles.
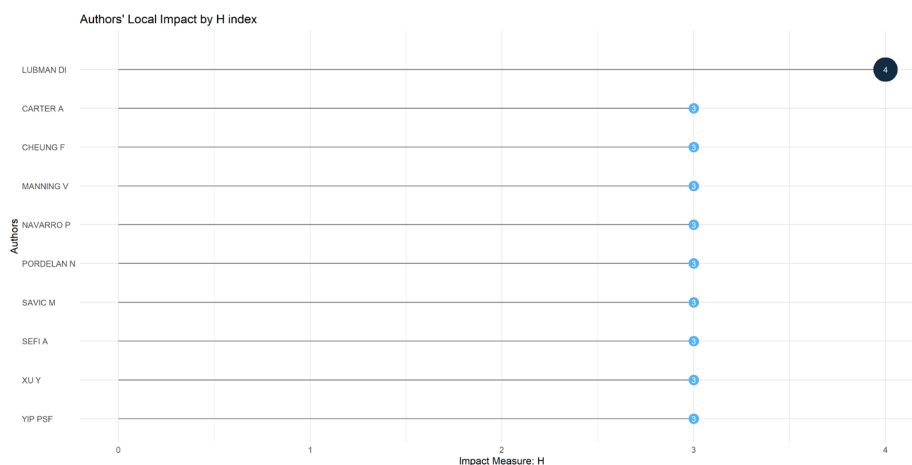
Fig 2 3.2 Most Influential Author

Based on the analysis, Lubman took the top spot as the most influential researcher with 4 articles contributed, demonstrating his significant role in this field. The next positions were filled by Carter A, Cheung F, Manning V, Navarro P, Pordelan N, Savic M, Sefi A, Xu Y, and Yip Psf, each with 3 articles. This reflects a fairly even distribution of research contributions among other researchers, although Lubman's dominance shows his greater influence in shaping the development of research in this area. In conclusion, these results underscore the importance of leading researchers' contributions in driving research progress, while also demonstrating the existence of extensive collaboration among other researchers.

Table 1 presents the key indicators of the ten most influential researchers in the field, based on metrics such as their h-index, g-index, m-index, total citations (TC), number of publications (NP), and their starting year of publication (PY_start). These indicators provide a multifaceted view of each researcher's academic impact, productivity, and consistency over time, highlighting their contributions to the field.

The bibliometric analysis highlights significant contributions from various researchers in the field. Lumban, with an h-index of 4, g-index of 6, and m-index of 0.667, achieved 77 citations from 6 publications in 2019, reflecting strong influence and stable outcomes. Carter A, with an h-index of 3, g-index of 5, and m-index of 0.500, garnered 63 citations from 5 publications in the same year, indicating impactful research. Cheung F, achieving an h-index of 3, g-index of 3, and m-index of 0.750, accumulated 34 citations from 3 publications in 2021, demonstrating steady contributions within a short timeframe. Similarly, Manning V and Navarro P, both with an h-index of 3, g-index of 4, and m-index of 0.500, collected 54 and 52 citations respectively from their 2019 publications, showing stable research outcomes. Pordelan N, with an h-index of 3, g-index of 4, and m-index of 0.600, earned 59 citations from 4 publications since 2020, highlighting a solid impact over a shorter period. Savic M recorded an h-index of 3, g-index of 5, and m-index of 0.500, with 63 citations from 5 publications since 2019, reflecting notable influence. Sefia A, with an h-index of 3, g-index of 4, and m-index of 0.750, contributed steadily with 19 citations from 6 publications since 2021. Xu Y

and Yip PSF both achieved an h-index and g-index of 3, and an m-index of 0.750, each receiving 34 citations from 3 publications in 2021, indicating consistent but modest scientific impact. Collectively, these researchers demonstrate impactful and stable contributions within their respective domains.

The ten researchers reviewed in the text demonstrated significant contributions in a relatively short period of time based on indicators such as the h-index, g-index, and m-index. In general, they have produced work that is valued in the academic community, although there are variations in their level of impact and productivity. Lumban, for example, stands out with an h-index of 4 and a total of 77 citations from just 6 publications since 2019, indicating a high research impact. Other researchers, such as Carter A and Savic M, also show a similar pattern with prolific publications and considerable citation accumulation.

Consistency in producing quality work is demonstrated by some researchers who have relatively high m-indices, such as Cheung F and Xu Y with a value of 0.750. This figure reflects the stable and measurable impact of their research every year since they started publishing their work. On the other hand, researchers such as Sefia A who have more publications but lower citation counts, show a high level of productivity but with a still growing citation impact.

Overall, these researchers illustrate a positive trend in scientific contributions in their respective fields. With publications starting from 2019 to 2021, they have managed to achieve relevance and recognition in the academic community. Although there are variations in the impact indicators, their achievements reflect great potential to continue increasing scientific contributions in the future.

Table 1 Top Ten Most Influential Research

Author	index-h	index-g	Index-m	TC	NP	PY_start
Lubman ID	4	6	0.667	77	6	2019
Carter A	3	5	0.500	63	5	2019
Cheung F	3	3	0.750	45	3	2021
Manning V	3	4	0.500	52	4	2019
Navarro P	3	3	0.500	35	3	2019
Nordelan	3	4	0.600	120	4	2020
Savic M	3	5	0.500	53	5	2019
Sefi A	3	4	0.750	120	6	2021
Xu Y	3	3	0.750	120	3	2021
Yip PSF	3	3	0.750	53	3	2021

3.3 Most Cited Countries

Table 2 provides information on countries' contribution to scientific citations through two main indicators: total citations (TC) and average citations per article. These data reflect the level of global recognition of each country's research as well as the average quality of its scientific publications. The TC indicator measures the number of citations received by all articles from a country, while the average citations per article indicates the extent to which each publication has impact or influence.

The dataset reveals several key insights into global research contributions. China leads with a total of 1,001 citations and an impressive average of 52.7 citations per article, highlighting its high productivity and influence in the field. The United States follows with 267 citations and an average of 15.7 citations per article, while India recorded 216 citations with a strong average of 21.6 citations per article. The United Kingdom also made a notable impact, contributing 210 citations with an average of 8.8 citations per article. These figures underscore the varying levels of research activity and influence among leading countries in this domain.

Overall, this dataset provides a clear picture of the global distribution of research influence based on the number and quality of scientific citations. Further analysis can be done to understand deeper trends, such as the relationship between the number of publications, international collaboration, and other factors that influence citation rates. This data is also very useful for mapping research power between countries in the global sphere.

Table 2 The Four with most citations

Country	TC	Average Article Citations
China	1001	52.70
USA	267	15.70
India	216	21.60
United Kingdom	210	8.80

3.4 Keyword Co-occurrences Analysis

Figure 3 offers an in-depth analysis of the most frequently occurring keywords and their total link strength, shedding light on the primary areas of focus in current research and the interconnections between various topics in the field. This data provides a comprehensive overview of the research landscape, highlighting emerging trends, key insights, and potential implications. It also offers valuable recommendations for future research directions, based on the identified patterns and connections within the data.

The keyword "online counseling" stands out as the most frequent, with 57 occurrences and a total link strength of 545, emphasizing its central role in the field. This prominence reflects significant academic interest and a high degree of interconnected research on online counseling. Similarly, the keywords "client" (54 occurrences, total link strength of 456), "counselor" (56 occurrences, total link strength of 442), and "mental health" (40 occurrences, total link strength of 394) further highlight the ongoing focus on enhancing mental health support and leveraging digital platforms for educational and therapeutic purposes. These keywords underscore the field's emphasis on improving mental health through online counseling and the roles of both clients and counselors in this context.

Fig 3 Keyword Co- occurrences Analysis

Keyword analysis showed that "online counseling" was the main topic with 57 occurrences and a total link strength of 545, signifying its important role in current research trends. Other keywords such as "client" (54 occurrences, link strength 456), "counselor" (56 occurrences, link strength 442), and "mental health" (40 occurrences, link strength 394) also reflected a heavy focus on mental health issues and the utilization of digital platforms for counseling and education services. These findings illustrate a research direction centered on developing technology-based solutions to improve mental well-being and the quality of counseling services.

4   Conclusion

This study offers a comprehensive bibliometric review of online counseling in mental health, analyzing publication trends from 2019 to 2024 using the Scopus database. The findings reveal a notable surge in publications after 2023, highlighting the increasing significance of online counseling in mental health support. Through detailed bibliometric analysis, including author collaboration and keyword analysis, the study emphasizes the growing relevance of online counseling, especially in the context of technological advancements and global events that foster digital interaction.

The research also identifies the leading authors in the field, underscoring the value of interdisciplinary collaboration to enhance the effectiveness and scalability of online counseling. Emerging researchers have demonstrated rapid growth in citations and academic influence, while established scholars continue to make significant contributions. In conclusion, online counseling has become a dynamic and expanding area of research with the potential to shape future educational strategies.

The study's findings underscore the necessity of robust digital infrastructure to support online counseling and other digital services. Trends such as the digitization of services and the pandemic's impact on remote service delivery suggest that online

counseling is not only crucial in specific contexts but also plays a key role in mental health services across multiple sectors. This research provides valuable insights for educators, policymakers, and researchers, advocating for the continued development of online counseling as a critical tool for enhancing service quality and promoting career development.

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