

Cyber Counseling (2014-2023): A Bibliometric Study

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ABSTRACT

The use of cyber counseling currently plays a significant part in the execution of education. This study intends to locate and evaluate cyber counseling publications that have appeared in reputable national and international journals between 2014 and 2023. This study employs a bibliometric methodology with four stages of systematic mapping: 1) finding articles using the Publish or Perish application in the Scopus and Google Scholar databases; 2) classifying articles for bibliometric analysis; 3) ensuring that article metadata is accurate and complete and 4) bibliometric analysis using the VOSviewer application. The results of the bibliometric analysis show four main findings, namely: 1) the trend of publications about cyber counseling continues to increase from 2014 to 2023, especially during the COVID-19 pandemic; 2) the ten most cited articles get a high number of citations; 3) the three author keywords most often used in articles about cyber counseling are COVID-19, counseling, cyber counseling service and development; and 4) author collaboration with strong connectedness only occurs between several authors through one document. Overall, the research results show that cyber counseling is a popular model among researchers.

Keywords: Cyber Counseling, Bibliometrik, International Journals.



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INTRODUCTION

This article reviews cyber counseling with a bibliometric approach. Along with the development of technology in counseling practice, the use of cyber counseling is also growing. Cyber counseling is considered an innovative solution in providing counseling services through online platforms, utilizing communication technologies such as chat, video calls, email Zoom, and others. This method provides clients with greater accessibility, time flexibility, and anonymity, enabling them to get counseling assistance more comfortably and easily, especially in situations that limit face-to-face interactions such as the COVID-19 pandemic. In addition, cyber counseling also offers various benefits such as cost savings and increased efficiency, which makes it an attractive alternative in modern counseling practice.

Several recent studies have been conducted by researchers to examine cyber counseling. These studies aim to examine the use of cyber counseling. All of this research focuses on investigating the use of cyber counseling. The latest research that specifically examines cyber counseling has been conducted by Wang (2022). This research explores the attitude of Generation Z to cyber counseling and the factors that influence it among 1216 Chinese youth using an independent questionnaire. Data analysis methods included descriptive analysis and structural equation modeling. With attitudes toward psychological support being the most significant factor, followed by attitudes toward the internet and perceived

behavioral control, this model explained 27.7% of the total variation. This model emphasizes the impact of attitudes about psychological treatment and is useful for explaining attitudes toward online counseling (Wang et al., 2022).

Situmorang will conduct another trial in 2020. The goal of this study was to look into the use of online/cyber counseling in dealing with psychological concerns during the COVID-19 pandemic. During the COVID-19 pandemic, the author discusses the history and notion of online/cybertherapy, as well as its benefits and drawbacks, considerations, ramifications, and curricula. Understanding the history and evolution of online/cybertherapy can provide modern information to counselors. In-depth discussion and research on the issues and potential of online/cyber counseling services are required to improve understanding of modern medicine and to give a historical context for the growing usage of online/cyber counseling (Situmorang, 2020).

Research conducted by Budiando (2019) aims to make it easier for teachers to explain the counseling service model by utilizing Information and Communication Technology (ICT). Teachers need to provide the best service through counseling guidance, and ICT can be used in the form of cyber counseling to save time and costs. Cyber counseling allows students to get guidance without feeling embarrassed or awkward, anytime and anywhere. The use of ICT in guidance and counseling activities is relevant in the contemporary era, and improving the skills and competencies of researchers is expected to have a positive impact (Budiando et al., 2019).

Despite the abundance of extant research, no thorough cyber counseling bibliometric study has been conducted in the recent ten years, particularly those employing Scopus and Google Scholar as databases. Bibliometric studies, according to researchers, are particularly significant in mapping bibliographic material in a certain field (Batanero et al., 2019a; Otchie et al., 2020). As a result, the purpose of this article is to supplement other significant components of cyber counseling research mapping to obtain a more comprehensive mapping. In contrast to previous research, this study focuses on bibliometric analysis of the cyber counseling model by focusing on seven aspects: publication trends, journals that contribute the most, citation patterns, author keywords, author collaboration, institutional collaboration, and author country statistics. Therefore, this research was conducted based on the following research questions.

- Q1: What are the trends in publishing cyber counseling articles in 2014-2023?
- Q2: What is the citation pattern for cyber counseling articles 2014-2023?
- Q3: What are the author's keyword trends in cyber counseling articles 2014-2023?
- Q4: What is the collaboration of the authors in cyber counseling articles 2014-2023?.

LITERATURE REVIEWS

Cyber counseling or online counseling is the provision of counseling services carried out through digital or online media, utilizing communication technology such as telephone, video conferencing, text chat, or e-mail. Through this technology, counselors and clients can interact and work remotely to provide support and treatment in the context of mental well-being (Mishna et al., 2015; Lan, 2016; Budiando et al., 2019; Situmorang, 2020).

Online counseling began in the 1980s with computer networks and online services such as Bulletin Board Systems (BBS), which limited the exchange of text messages between counselor and client. In the 1990s, counseling via e-mail became common, with clients sending questions or concerns via e-mail and getting replies from the counselor. With the development of chat and video applications, online counseling has become more interactive, enabling real-time communication via chat or video calls which is similar to face-to-face counseling. Later, the emergence of online counseling platforms made the connection between clients and counselors easier and safer, such as BetterHelp, Talkspace, and 7 Cups (King, 1998; Mallen, 2005; Barak, 2011).

The usage of online services is expanding, and student pastoral/spiritual counselors or psychologists must be prepared to operate in this medium by paying attention to societal developments such as this (Mishna et al., 2013). The usage of online/cyber technologies for counseling sessions has risen over time (Allerman, 2002; Pollock, 2006; Baker & Ray, 2011). Some people are skeptical of these innovations (Prado & Meyer, 2004; Kettunen et al., 2013; Hennigan & Goss, 2014). According to Glasheen & Campbell (2009); King et al (2006), online/cyber counseling has become a viable tool for assisting young people with mental health issues. Counselee/client demand for such services is predicted to skyrocket in the long run (McKenna & Bargh, 2000; Norcross et al., 2002; Stamm, 2003). In the context of an evolving cyber world, counseling offices need to develop critical suggestions for enhancing support, such as in education, mental welfare, and social work (Kessler et al., 2009; Kettunen et al., 2013; Situmorang, 2020).

Cyber counseling, online or internet therapy, e-counseling, e-therapy, e-mail therapy, internet counseling, and web counseling, to name a few terms, have been supported by research (Allerman, 2002; Cook & Doyle, 2002; McCrickard & Butler, 2005; Pollock, 2006; Jones, 2013; Lau et al., 2013). In addition, online/cyber counseling can be delivered through a variety of different media, such as the telephone (Mallen & Vogel, 2005; Mohr et al., 2008), asynchronous letters, text conversations, or messages posted on discussion board chat rooms (Joinson et al., 2008; Jones, 2013), as well as real-time synchronous conversations via web-based and face-to-face webcam sessions (Cook & Doyle, 2002; Bambling et al., 2008). Richards (2009); Rohland (2001) concluded that professionals should not ignore the influence of these innovations, and Lau et al (2013); Wagner et al (2014) suggested that whenever a counselee/client communicates in the virtual world, the problems they face must always be considered as real problems.

Based on empirical evidence, researchers have established that there are several significant benefits to online/cybertherapy. First, by implementing online/cyber counseling, the accessibility of counseling services increases significantly. Second, online/cyber counseling can also provide counselees/clients with greater anonymity and confidentiality (Bambling et al., 2008; Mallen & Vogel, 2005). Third, online/cyber counseling can also increase the availability of counseling services in various emergencies (Centore & Milacci, 2008; Kessler et al., 2009). Fourth, with online/cyber counseling, flexibility is created in the counseling session schedule (Holmes & Foster, 2012; Pollock, 2006). Fifth, online/cyber counseling can also help in increasing inclusion and equity in counseling services (France et al., 1995; Mishna et al., 2013).

So implementing online/cyber counseling has been shown to provide significant benefits, including increased accessibility, anonymity, emergency availability, schedule flexibility, and inclusion. Therefore, the use of online/cyber counseling is an effective

alternative for providing effective counseling services to individuals who need them. However, keep in mind that even though online/cyber counseling has significant benefits, not all mental well-being conditions and problems can be handled effectively through this medium (Lan, 2016; Budianto et al., 2019; Mishna et al., 2015; Situmorang, 2020).

Counseling professionals need to consider individual needs and circumstances holistically in determining whether online/cyber counseling is an appropriate choice. In addition, it is also important to implement proper guidelines and ethics in carrying out online/cyber counseling, including maintaining data confidentiality, ensuring technology security, and building strong therapeutic relationships through virtual media (Cook & Doyle, 2002; Kettunen et al., 2013).

In conclusion, online/cyber counseling has significant benefits in increasing accessibility, anonymity, emergency availability, schedule flexibility, and inclusion in counseling services. However, their use should be based on careful consideration of individual circumstances and needs, and in compliance with appropriate ethical and confidentiality guidelines. With the continuous developments in the cyber world, further developments in this field will continue to strengthen the role of online/cyber counseling as an effective alternative in providing mental well-being support to individuals who need it.

METHODS

This study employs a bibliographic research strategy with systematic and explicit mapping methodologies, referencing multiple previous studies (Garza-Reyes, 2015; Batanero et al., 2019; Hudha et al., 2020). The literature review was conducted in four stages, as previously described by (Julia et al., 2020). Search procedures, bibliographic filters, comprehensive bibliographies, and bibliometric analysis are examples of these stages.

2.1 Search procedure

The search process was carried out using Publish or Perish (PoP) software as a tool to search bibliographic databases. The database sources used in the bibliographic search are Scopus and Google Scholar, which are the largest databases that provide literature that has gone through a process of review by experts (Ballew, 2009). Scopus and Google Scholar were chosen because Scopus has a wider variety of products than other repositories (Salisbury, 2009; Shareefa et al., 2020) and accounts for approximately 70% more publications than Web of Science (WoS) (Lopez-Illescas et al., 2008; Shareefa et al., 2020; Julia et al., 2020). In this analysis, criteria have been defined for all bibliographies to be included, including the type of bibliography consisting only of journals, the title of the article that includes "cyber counseling", and the year limit of the search between 2014 to 2023 (last 10 years). Fig 1 illustrates the bibliographic search process using the PoP application.

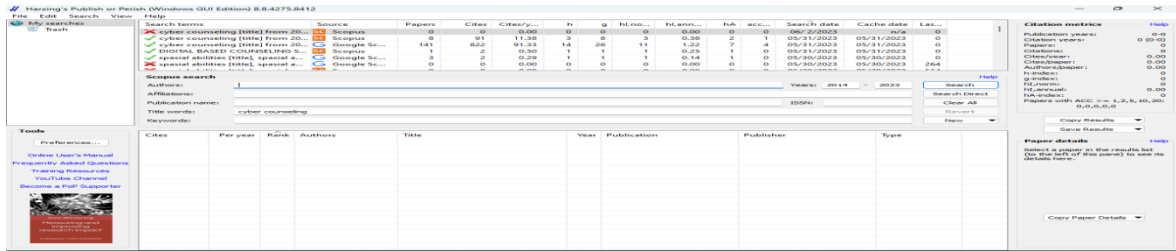


Figure 1. PoP Application Bibliography Search

The results of the bibliographic search are stored in the Mendeley application and exported which are then opened using the Excel application. After the file is saved, check and fill in the appropriate metadata.

2.2 Filter bibliography

In the process of sorting the bibliography, several criteria are used as filters, namely: 1) containing information about cyber counseling; 2) written in English or Indonesian; and 3) published by a leading bibliographic database publisher. Each bibliography that was to be included or excluded from the bibliometric study was re-searched using data collected from the PoP application in the Scopus and Google Scholar databases. Only bibliographies with journal and conference types are selected, and several types of bibliographies such as Erratum, Notes, Editorial, Review, Cloning, or articles without abstracts are not included.

The initial search results produced 149 bibliographies, which were then sorted into 108 selected bibliographies based on the required criteria. 41 bibliographies did not fulfill the requirements and were therefore excluded. The total number of bibliographies from each year of search results utilizing the PoP program is shown in Table 1 below.

Table 1. Bibliographic selection results

Year of Publication	Inclusion	%	Exclusion	%	Total
2014	0	0.00	2	100.00	2
2015	4	50.00	4	50.00	8
2016	10	90.91	1	9.09	11
2017	2	66.67	1	33.33	3
2018	8	57.14	6	42.86	14
2019	15	78.95	4	21.05	19
2020	11	68.75	5	31.25	16
2021	14	58.33	10	41.67	24
2022	37	88.10	5	11.90	42
2023	7	70.00	3	30.00	10
Total	108		41		149

Table 1 above shows that in 2014 there were no published papers. However, two published papers were not included in the analysis because they did not meet the specified requirements.

2.3 Bibliography completeness

To ensure the completeness of the filtered bibliography, the metadata of each article is checked and completed. This examination includes various aspects that will be analyzed,

such as article title, author name, affiliation and country of origin, abstract, author keywords, article link, publisher, and year of publication. After the metadata has been verified, a bibliometric analysis is performed.

2.4 Bibliometric analysis

The bibliometric analysis was based on seven factors: 1) publishing trends; 2) the most referenced publications; 3) the author's keywords that are most frequently used in the works; and 4) author collaboration. The VOSviewer tool, which has been utilized in previous studies (Martinez-Lopez et al., 2019; Shukla et al., 2019; Hudha et al., 2020), was used to perform a bibliometric analysis and visualize the results. VOSviewer is meant to be efficient when working with huge volumes of data, and it offers a variety of visualizations, analyses, and observations (Van Eck et al., 2010; Rafols et al., 2012; Van Eck et al., 2014). Furthermore, based on co-citation patterns, VOSviewer can build maps of publications, authors, or journals, as well as keyword maps that focus on distributed topic structure (Hudha et al., 2020). Bibliography files are one of the file kinds that can be analyzed with the VOSviewer tool.

RESULTS

3.1 Publication Trend-Based Analysis

Fig 2 illustrates the trend of publication of journal articles discussing cyber counseling from 2014 to 2023. These trends show two distinct patterns. First, there is a flat pattern indicating no publications in 2010-2012. Second, there is an increasing pattern that occurred from 2013 to 2019. The most significant increase in publications occurred in 2014-2015 and 2017-2018. 2019 was the year with the highest number of publications. This shows that interest and popularity in the publication of journal articles on cyber counseling increased among researchers from 2013 to 2019.

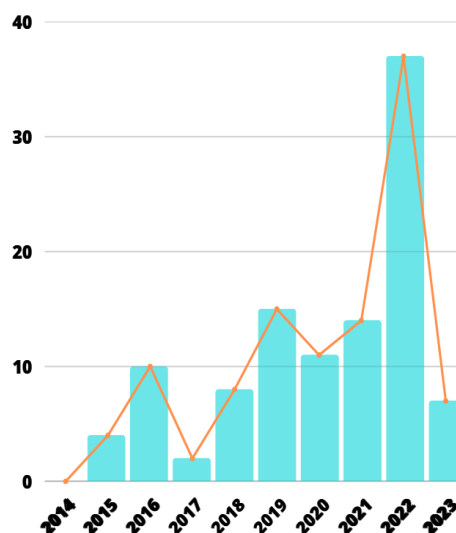


Figure 2. Publication Trends each year

Fig 2 shows the gradual increase in the number of published articles. In 2014, no articles were published. In 2015 there were 4 published articles, and the highest in 2022 were 37 articles. In 2023 there are only 7 articles because the data was taken as of May 2023.

3.2 Analysis based on number of citations (citations each year)

In the analysis based on the number of citations (quote rates each year), Figure 3 illustrates the number of citations to articles in the field of cyber counseling. The quote pattern shows an up-down-up pattern. The increase occurred in 2012-2013 and 2014-2015. While the decline occurred in 2013-2014 and 2015-2019. In 2015, there was the highest number of citations with a total of 770 citations from 31 articles, while in 2019 there was the lowest number of citations with a total of 103 citations from 96 articles. There was no increase in the number of citations from 2015 to 2019.

Table 2. Number of citations each year

Year of Publication	Number of citations	Number of articles
2014	0	0
2015	149	4
2016	133	10
2017	3	2
2018	112	8
2019	144	15
2020	205	11
2021	95	14
2022	28	37
2023	0	7
Total	869	108

Table 2 illustrates that although there were only 4 published papers in 2015, there have been 149 citations. Something similar happened in 2016 when 10 published papers received 133 citations. In 2020 there are 205 citations from 11 articles. This suggests that papers published in 2015-2016 and 2020 have had a significant impact on other research.

3.3 Top ten most cited articles

In Table 3, there is a list of the ten most cited articles on cyber counseling. Articles with the most citations are ranked first, namely articles published in 2015 by [author's name] with 238 citations, followed by [author's name] in second place with 224 citations. The third and fourth rankings also show a high number of citations, above 100 and below 200. Meanwhile, the fifth to tenth ranks also have a fairly high number of citations, above 50 and below 100.

Table 3. Most cited articles

No	Writer	Article title	Publication Year	Number of citations	Journal Name
1	F Mishna, M Bogo, JL Sawyer	Cyber counseling: Illuminating benefits and challenges	2015	107	Clinical Social Work Journal
2	DDB Situmorang	Online/cyber counseling	2020	96	Journal of

No	Writer	Article title	Publication Year	Number of citations	Journal Name
3	H Prasetiawan	services in the COVID-19 outbreak: are they really new? Cyber Counseling Assisted With Facebook To Reduce Online Game Addiction	2016	50	Pastoral Care & Counseling Guidena: Journal of Guidance and Counseling Education
4	D.D.B. Situmorang	Online/Cyber Counseling Services in the COVID-19 Outbreak: Are They Really New?	2020	43	The journal of pastoral care & counseling : JPCC
5	ZN Zainudin, YM Yusop	Client's satisfaction in face-to-face counselling and cyber counseling approaches: A comparison	2018	42	International Journal of Academic Research in Business & Social Sciences
6	DL Kirana	Cyber counseling as a model for the development of counseling for the millennial generation	2019	39	Al-Tazkiah: Guidance and Counseling Journal
7	H Pasmawati	Cyber Counseling as a Counseling Service Development Method in the Global Era	2016	39	Syi'ar Scientific Journal
8	F. Mishna	Cyber Counseling: Illuminating Benefits and Challenges	2015	37	Clinical Social Work Journal
9	S Sutijono, DAM Farid	Cyber counseling in the era of the millennial generation	2018	33	Sociohumanics
10	MP Sari, H Herdi	Cyber Counseling: Counseling Solutions during a Pandemic	2021	25	Jurnal Pedagogy

Table 3 shows that ten papers with significant impact were published in the period 2015-2021. In 2015 there were two papers, in 2016 there were two papers, in 2018 there were two papers, in 2019 there was one paper, in 2020 there were two papers and in 2021 there was one paper.

3.4 Keyword analysis by author

The VOSviewer application was used to do author keyword analysis. Figure 3 illustrates the results of the analysis of the 704 authors' keywords. To obtain a more significant measure, only the author's keywords that appear at least three times are analyzed. The results yield 26 strongly linked author keywords. The author's 26 keywords are then divided into 5 groups (clusters), each of which is given a different color. Cluster 1 (red) has eight items, Cluster 2 (green) contains seven items, Cluster 3 (blue) contains five items, Cluster 4 (yellow) contains five items, and Cluster 5 (purple) contains one item.

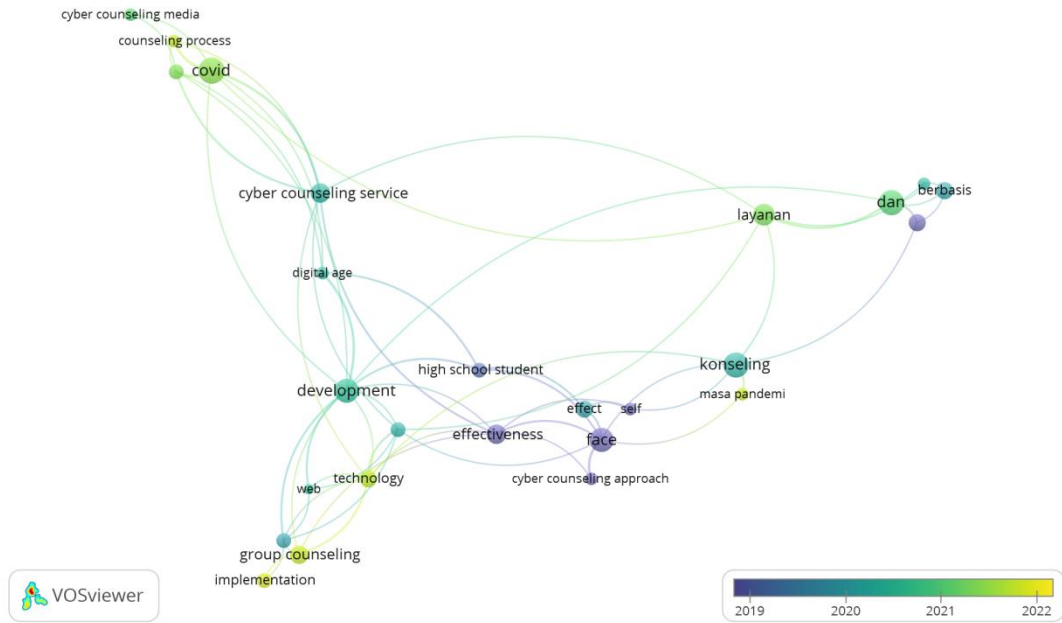


Figure 3. Keyword network visualization

Figure 3 shows that keywords using the terms COVID-19, counseling, cyber counseling service, and development produce the most results.

3.5 Analysis based on author collaboration

The analysis of author cooperation using VOSViewer with a minimal number of appearances of one document produces two highly related authors out of 210 authors. Each author has one document and one link. Author collaborations are only organized into one cluster (blue) of two entries. Fig 4 depicts the pattern of author collaboration.

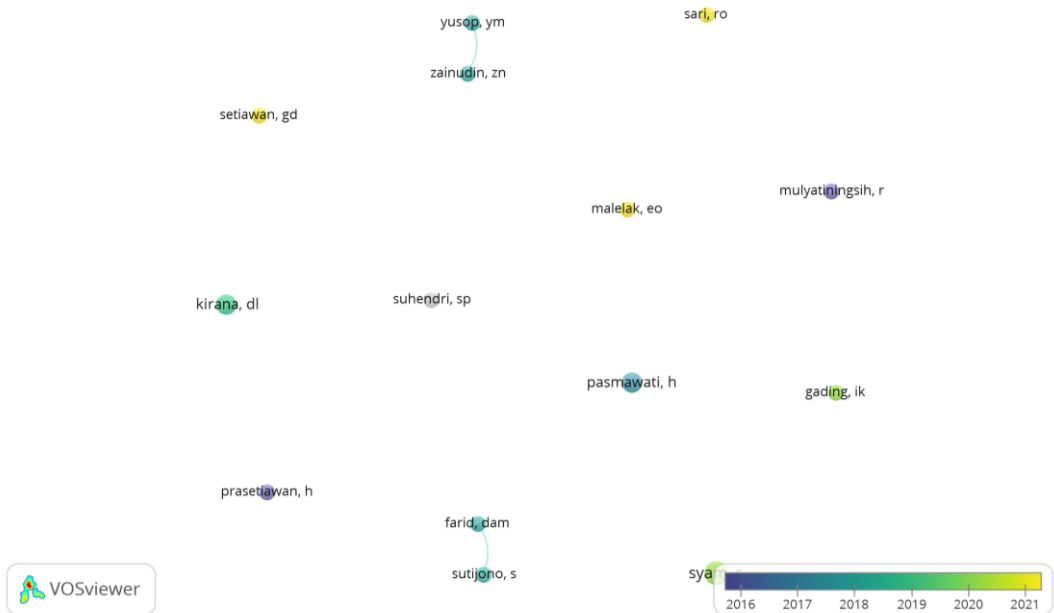


Figure 4. Visualization of the author collaboration network

Fig 4 above shows that 2 authors collaborate through the same document, resulting in 1 strong link. This shows a lack of collaboration in cyber counseling studies, because the number of authors analyzed was 210 authors.

3.6 Discussions

Over the last ten years, the publication of research findings on the issue of cyber counseling in Scopus and Google Scholar-indexed journals only began in 2015. In 2016, research in the field of cyber increased but decreased in 2017. In 2022 the number of publications has increased to 37 articles. This shows that cyber counseling has been popular, especially during the COVID-19 pandemic.

In the given data, some interesting trends can be seen:

- Growth Trends: The number of citations each year in published articles tends to grow from 2015 to 2020. In 2015, there were 149 citations, then increased to 133 in 2016, and reached its peak in 2020 with 205 citations.
- Decrease in 2021: After reaching its peak in 2020, the number of citations has decreased significantly in 2021. This year, there were only 95 citations, representing a decrease of 54.6% compared to the previous year.
- Fluctuations in 2014 and 2023: 2014 and 2023 have the same thing, that is, there are no recorded citations. This may be due to a lack of publication of articles or there may not have been sufficient time for articles published in those years to obtain citations.
- Total Citations: During the given period (2014-2023), the total number of citations received across all published articles was 869. This indicates how many of the articles were recognized and cited by other researchers in the field.

The contribution of many journals that consistently map cyber counseling research fields cannot be isolated from the great number of articles. The ten journals presented in Table 3 are Scopus-indexed journals and accredited national journals that have contributed the most to publishing articles on cyber counseling in the last ten years. The journal in which the researcher chooses to publish reflects the journal's credibility and reputation, as well as the publisher's credibility.

It is possible to determine which studies have the most impact on other research by reviewing all published articles. Quotations are one way to assess a scientist's greatness. According to the findings of Qi et al (2017), excellent scientists are measured by the number of citations they receive. Table 3 shows that articles about cyber counseling with the highest impact come from articles published in 2015 by Mishna, M Bogo, JL Sawyer entitled Cyber counseling: Illuminating benefits and challenges with 107 citations from the Clinical Social Work Journal. This article also shows that research on cyber counseling is well-developed in the field of health studies. According to the journal titles in Table 3, cyber counseling research is also well-developed in the disciplines of information technology and education.

When publishing study findings on cyber counseling, authors frequently employ numerous keywords that convey the content and spirit of the entire text (Hao et al., 2014). Author keywords in a research article are intended to capture the essence of the overall issue being examined. As shown in Fig 2, the author's keywords that are most often used in research on cyber counseling are COVID-19, counseling, cyber counseling services, and development. By using the author's keywords, it can be concluded that research on cyber counseling is closely related to Information Technology practices, education, and health.

CONCLUSIONS

Finally, here are the answers to the four questions posed before. First, the number of publications on cyber counseling in Scopus-indexed journals and certified national journals has increased over the previous ten years. Second, with a total of 205 citations, papers published in 2020 received the most citations. The most cited article is the work of F Mishna, M Bogo, JL Sawyer entitled Cyber counseling: Illuminating benefits and challenges in 2015 with 107 citations from the journal *Clinical Social Work Journal*. Third, the author's most commonly used keywords are COVID-19, counseling, cyber counseling service, and development. Fourth, author collaboration with strong ties occurs only with 21 writers via one document.

SUGGESTION: This research can yet be expanded by using additional applications to do a more extensive bibliometric analysis and broaden the scope of the data used. In addition, other bibliographic databases can be used to supplement bibliometric mapping in the field of cyber counseling research. Opportunities that can be exploited by collaboration between institutions in this research are to increase cross-disciplinary collaboration in cyber counseling studies. Collaboration between psychologists, information technology experts, and other researchers can produce a more holistic and innovative understanding of the development and implementation of cyber counseling services. In addition, collaboration with government agencies, non-governmental organizations, and clinical practitioners can also strengthen the influence of research in influencing policy and practice in the field of cyber counseling. By expanding this research and digging deeper into the potential and implications of cyber counseling, it is hoped that it can make a more significant contribution to the development and implementation of online counseling services.

LIMITATIONS: This study is constrained by the use of only one application for bibliometric analysis, even though alternative programs are available. Bibliographic databases that employ databases from Scopus and authorized national journals are likewise restricted.

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