

Analysis of Trend for Online Counseling Using Systematic Mapping

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Abstract—Online counseling was the strategy of choice for counselors to communicate with counsees who have limited distance and space. Online counseling develops along with the increase in digital-based applications and technology. This study analyzes the literature that discusses the topic of online counseling to describe its development trend in previous studies. The systematic mapping method was used to provide an overview and identify the topics that have been studied. Mapping of online counseling research is needed to get recommendations for online counseling studies based on mapped research trends. A total of 1215 articles were collected and analyzed using a systematic mapping method with VOSviewer software. The research produces scientific study findings in the form of research development trends related to online counseling. The implementation of the findings of this research can be a reference for the development of online counseling.

Keywords—online counseling, systematic mapping, VOSviewer

I. INTRODUCTION

Online counseling is currently the right strategy for counselors to communicate with counsees when physical interaction is limited in the era of the covid 19 pandemics. The face-to-face restriction policy makes all fields switch to digital technology. This strategy is closely related to the use of technology, especially in the field of counseling. Technology plays an important role in the development of online counseling. The growth in the use of technology provides opportunities for counselors to provide counseling to counsees without being limited by distance [1]. In addition, online counseling can be a new problem, especially for Counselors who are not open to technological developments due to the digital divide. Concerns related to communication ethics are currently a separate problem for counselors and counsees [2]. The advantages and disadvantages of using online

counseling need to be identified to maximize the benefits of online counseling and reduce the risks.

The development of online counseling is certainly an interesting thing to discuss, namely by analyzing online counseling trends. Many previous studies have stated that online counseling is considered as the implementation of counseling that enters new fields and investigations and develops in various formats [3]. However, online counseling has not been widely implemented, so it is necessary to know how the online counseling trend is developing. Based on these questions, we try to analyze online counseling trends based on research documents that have been published in several literature databases. Online counseling trend analysis is expected to provide a clear picture of what topics are related and research gaps that can be done in the future.

II. LITERATURE REVIEW

Online counseling is now a necessity when everyone depends on digital services. However, this need is often not supported by the number of counselors who implement online counseling in their practice activities. Counseling uses the online web to support people who experience mental health problems, stress, and anxiety [4]. The development of online counseling signals that the consultation process between the counselee and the counselor does not always occur in the same space and at the same time but can be carried out separately in different spaces and times. [5]. The interaction between counselor and counselee develops in asynchronous and synchronous modes. The counseling process becomes effective if the counselee follows all stages of counseling with the counselor from beginning to end, but sometimes time and place factors become obstacles. Online counseling benefits counsees who live in remote areas and have physical limitations because they can express

themselves more easily without having to leave their place of residence [6]. Counselee uses synchronous video conferencing and asynchronous e-mail to communicate with counselors, although currently, very few counselors provide online counseling applications as a whole [7]. In another study, counselors prefer to combine synchronous and asynchronous interactions such as online counseling in real-time using video calls and chat and psychological interventions via email [8].

Counselor intervention in online counseling aims to build mutual experience with counselees and change it to a better experience [9], although currently there are still concerns that online interactions can hinder the development of meaningful relationships between counselors and counselees. Often obstacles occur because the counselor does not fully share the online counseling implementation procedure with the counselee. However, online counseling is believed to be able to bridge the gap between counselees and counselors by reducing shyness and fear during in-person counseling [10]. The comparison between online and offline modalities is often debated when the counselor discusses the effectiveness of the two modalities. Several studies have shown that online counseling has the same level of effectiveness as face-to-face counseling approaches to overcome problems such as anxiety, stress, and addiction [11].

The literature on online counseling shows that online counseling is developing rapidly in line with the need for digital services and technological developments. However, online counseling has various obstacles such as technology limitations, digital gaps, and work procedures that are poorly understood by counselees. Thus, this study aims to analyze the development trend of online counseling and its relation to other topics. Specifically, this research has the following hypothesis: There is an increase in research on online counseling.

III. METHOD

A. Data Source

This research comes from bibliographic data taken in July 2021 from four indexing databases, namely Google Scholar, Pubmed, Crossref, and Scopus. The reason for choosing the four indexing databases is that the four indexing databases have a very large database, as is known as Crossref has a database of more than 120 million in 2021[12]. Likewise with the Database Distribution from Pubmed, in 2016, it recorded more than 24 million data, containing 122.3 billion bytes [13], which of course, in 2021 has a larger number of databases. While on Google Scholar indexing, the researchers could not confirm how large the database covered by Google Scholar was because Google Scholar released no official data. However, an article written by You (2014) tries to estimate the number of

databases on Google Scholar and notes that more than 160 million documents have been included in the Google Scholar database [14].

Referring to the development of digital literacy, in 2019, the use of digital media and the publication of digital documents will increase [15]. Independent research states that about 300 million documents have been recorded on the Google Scholar database [16]. Other studies assume that at least 386 million documents have been recorded by Google Scholar indexing [17]. The Scopus indexing database states that around 76 million records have been recorded, at least 2020 [18].

For this reason, this study uses the four indexing databases as the data for this study. The indexing database period used in this study is the period 2010 – 2021. Based on the period 2010 – 2021, 1215 articles discuss cyber counseling with details as described in Figure 1.

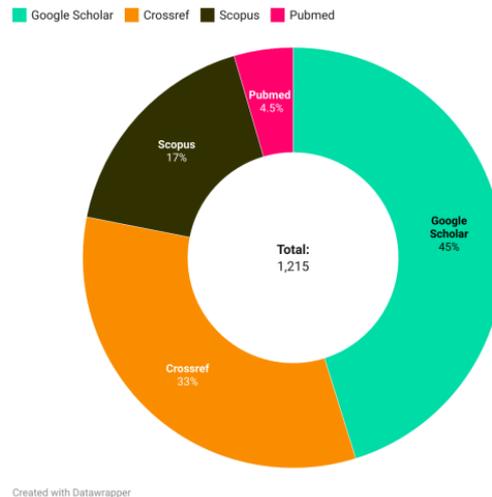


Fig. 1 Distribution of articles at indexing database

Figure 1 presents most of the articles discussing cyber counseling from the Google Scholar indexing database, which is 45%, as the largest document indexer. Meanwhile, other indexing databases such as Crossref and Scopus recorded 400 documents and 211 documents. The number of articles in each indexing database can be seen in Table 1.

TABLE 1. ARTICLE AT LITERATURE DATABASES

Literature Databases	Article (n)
Crossref	400
Google Scholar	549
Pubmed	55
Scopus	211

This study uses bibliometric analysis as a statistical method that analyzes the literature by describing the trend of information development. Researchers use the

keywords 'cyber counseling' or 'online counseling'. The use of these two keywords is due to the growing trend in Indonesia in the 12 months shown in Figure 2.

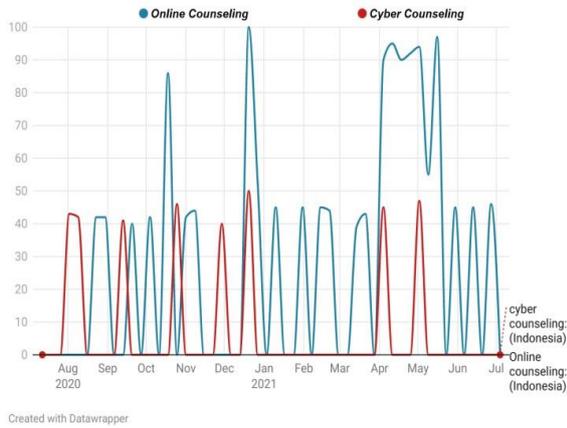


Fig.2 Use of keywords 'cyber counseling' Vs 'online counseling' at Indonesia

Similarly, the results of the comparison between the use of the keyword 'cyber counseling' vs. 'online counseling' worldwide, the use of the keyword online counseling dominate in the 12 months to July 2021 rather than the use of the keyword 'cyber counseling' as shown in Figure 3.

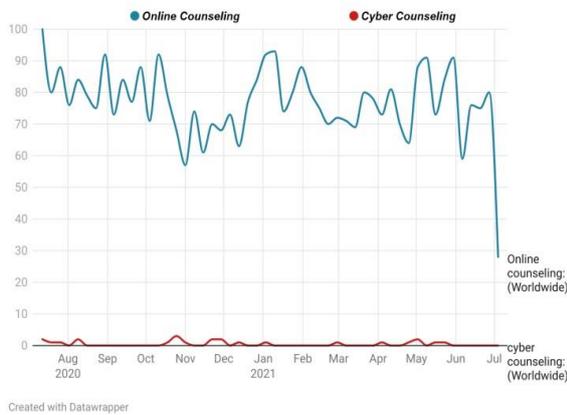


Fig.3 Use of keywords 'cyber counseling' Vs 'online counseling' at worldwide

The use of two keywords to enrich the literature review in this study and the similarity of understanding between the two. The previous article stated that there is a common understanding between the use of the words 'cyber' and 'online' because the use of the transitional prefix 'cyber' and 'online' does not change the meaning of words and phrases [19]. Therefore, because the two words have the same meaning and method, this study uses these two keywords to search for relevant literature.

B. Data analysis

Data from the four literature databases were downloaded in RIS format, which was then processed into excel. Data with excel format is processed using Datawrapper, while RIS format files are processed using VOSviewer. This study uses a network analysis approach to visualize cyber and online counseling trends in the 2010-2021 period. By using this method, the relationships and flows between entities can be mapped and measured. The bibliometric analysis graph shows nodes and edges, where nodes act as visuals of the entity and edges show collaboration or relationships between nodes. Subsequent analysis using VOSviewer shows research trends related to cyber counseling, online counseling, and the extent of its coverage on other topics. The analysis used in this research is topic analysis and abstract analysis. This study uses a systematic mapping method to analyze cyber counseling and online counseling research development trends. The documents used include documents that have been published in various journals and have been indexed by Google Scholar, Pubmed, Crossref, and Scopus, as shown in Figure 4.

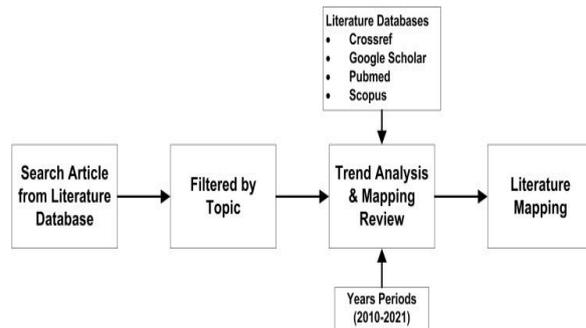


Fig. 4. Trend analysis Review

Figure 4 shows the steps for analyzing trends in documents that are relevant to the research topic. The research phase begins by searching for articles in the four indexing databases (Google Scholar, Pubmed, Crossref, and Scopus), and then selecting them based on relevant topics. The articles selected as analyzed documents are relevant to the topic of 'cyber counseling' and 'online counseling' in the 2010-2021 period. The researcher chose the keyword 'online counseling' (OC) to generalize the keywords in this study. The terms 'online counseling' and 'cyber counseling' are included in the counseling literature. In the Encyclopedia of Cyber Behavior, these two terms are defined as online counseling as a face-to-face method that intervenes in online settings and therapeutic communication in a digital environment. [20]. Based on previous studies, online counseling can be considered for analysis based on trends and research developments.

IV. RESULT AND DISCUSSION

CrossRef indexing database storing documents 400 articles, Google Scholar store 549 articles, Pubmed store 55 articles, while Scopus store 211 articles (see Figure 1). Period documents collected in the period 2010 - 2011 can be seen in Table 2.

TABLE 2. ARTICLE FILTERED BY TOPIC

Year	Article per Year	Cite sPer Year
2010	68	66
2011	133	71.5
2012	94	81.62
2013	81	133.35
2014	70	46.56
2015	79	100.35
2016	83	74.8
2017	114	93.25
2018	125	167.99
2019	106	135.5
2020	178	227
2021	84	23

Table 2 shows that most of the articles that discuss OC are in 2020, as many as 178 articles. Discussions related to OC are very likely to occur because during the first semester of 2020, the global region was hit by the Covid 19 pandemic, so the counseling process that was originally carried out face-to-face turned into online-based counseling. The need for online counseling (OC) increases with the high levels of stress, depression, and anxiety in most people [21]. The OC trend demands the need for involvement between students and faculty in support of solving problems related to student anxiety [22]. From the research trends on OC, it can be seen that this research trend is not only influenced by the demands for online interaction during the Covid 19 pandemic but also by technological development factors. Technological developments have a big impact on the development of OC, specifically on internet technology, where the internet provides a more intimate access relationship between counselors and counsees in communicating [23]. The development of the internet affects the discipline of counseling, where the use of internet applications encourages an increase in online counseling (OC). OC practice develops with synchronous and asynchronous interaction, where remote interaction between counselor and counselee uses chat, video call, and email features. [24], [25]. The development of research on OC is of course, influenced by these two factors, as shown in Figure 5.

Article per Year

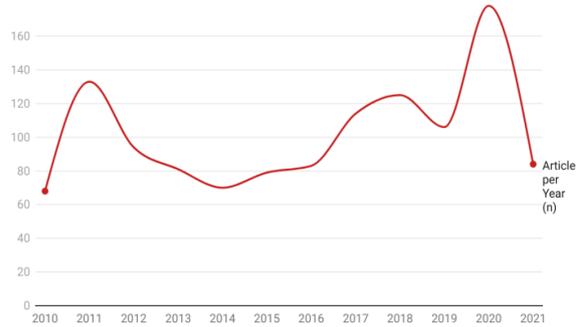


Fig.5 Online counseling articles in the period 2010-2021

Figure 5 shows the development of OC trends in the 2010-2021 period, where research discussing OC is growing rapidly. The development of OC research trends is also followed by the number of articles cited each year, as shown in Figure 6. The development of the number of citations shows how research related to online counseling (OC) is currently a concern. OC services offer opportunities to resolve problems in delivering information from the counselor to the counselee (Dinçyürek & Uygarer, 2012). The development of OC provides an opportunity for the counselor and counselee to choose a stable relationship, share commitments, and have responsibility for problem-solving [26]. However, the use of technology in OC sometimes has problems, namely the imbalance between the synchronous method and the asynchronous method where there is a delay in feedback from the counselor to the counselee. [27].

Cites per Year

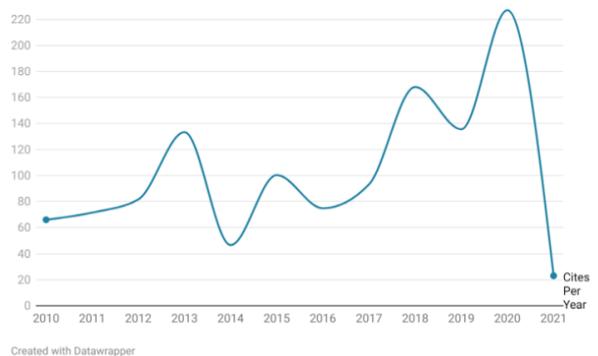


Fig.6 Cites per year in the period 2010-2021

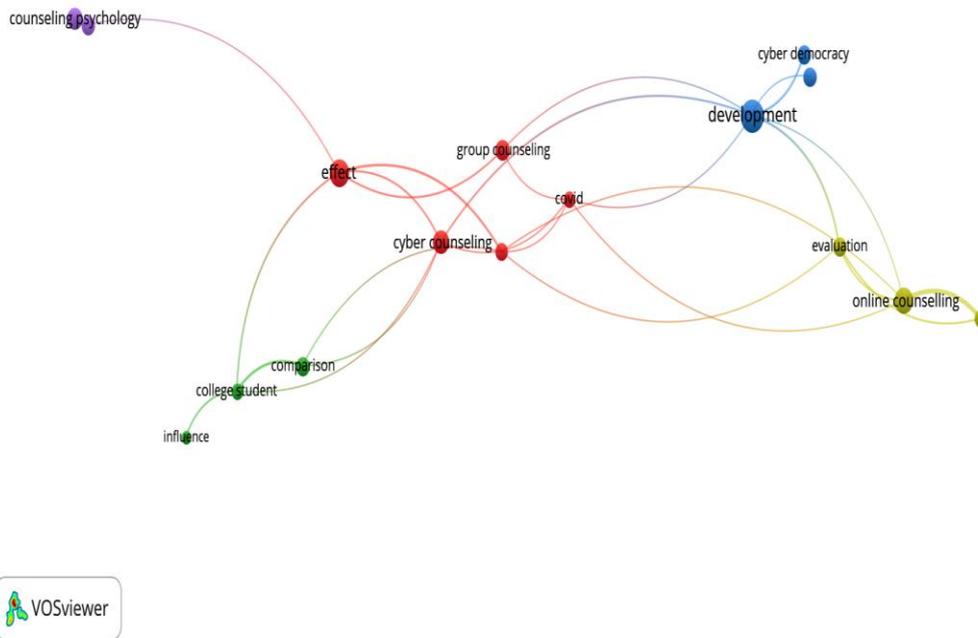


Fig. 7 Visualization of Online Counseling network and cyber counseling

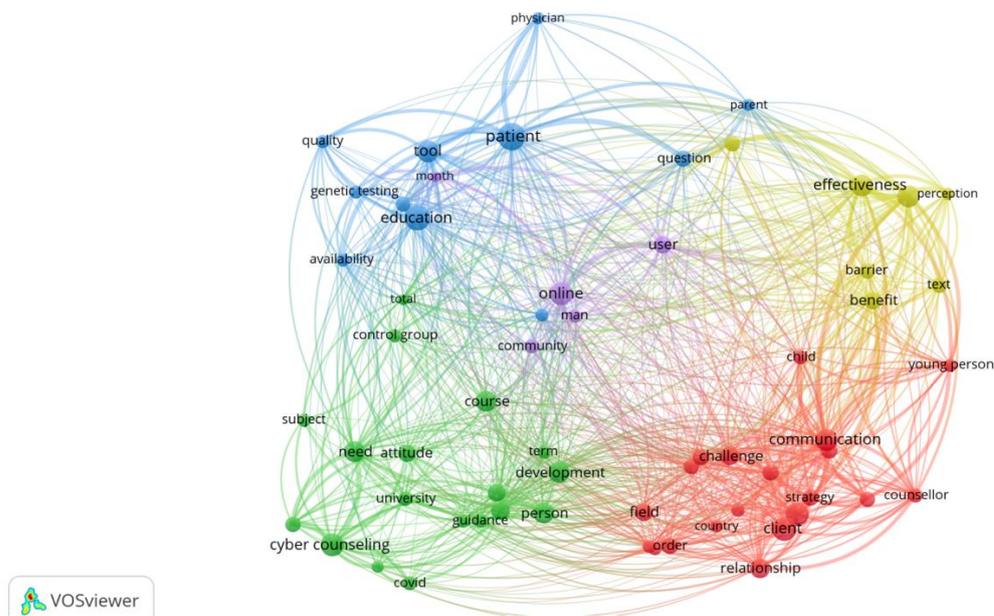


Fig. 8 visualization of topics related to online counseling

Figure 7 shows the visualization of online counseling, which consists of five clusters, namely: (1) Cluster 1 consists of effect cyber counseling, group counseling, and the covid 19 effects; (2) Cluster 2 consists of online counseling and evaluation of online counseling; (3) Cluster 3 consists of the development of online counseling, cyber, and demography; (4) Cluster 4 consists of counseling and psychology; (5)

Cluster 5 consists of comparison, college student, influence. Based on the five clusters, it can be seen that research trends related to OC are related to the impact of the COVID-19 pandemic, evaluation, group counseling, and the involvement of college students as counsees. The research trend approach is also carried out by analyzing the abstracts of the documents that have been collected, as shown in Figure 8.

Figure 8 shows the research trends based on keywords that are often used in the abstract. Words often related to OC are communication, relationship, online, effectiveness, patient, education, and tools. The existence of tools such as the web can support online counseling performance because of its ability to handle multiple files quickly and support simultaneous access [28].

V. CONCLUSION

This study reached several findings from the results of documents that had been collected from four literature databases (Google Scholar, Pubmed, Crossref, and Scopus). The research identifies research trends on online counseling (OC) that are developing worldwide. The literature database that stores the most online counseling documents is Google Scholar, followed by Crossref and Scopus indexing. The online counseling trend is closely related to other topics because the implementation of online counseling is currently being used in various fields. Implementation of online counseling involves technology using both synchronous and asynchronous modes. This study has limitations in the document search process, which is limited to a few literature databases. This study found that the trend of research on online counseling has increased along with the increasing need and use of large digital technology. A more in-depth study is needed, analysis based on titles and abstracts and a study of the metadata of the documents collected. Document collection needs to be developed by involving literature databases such as Web of Science (WoS) and Microsoft Academic. Systematic mapping describes a reference map that can visualize the influence of research on other studies.

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