Review

Bibliometric analysis of Türkiye-origin randomized controlled studies indexed in the Web of Science core collection database in psychiatric nursing

Mustafa Sabri Kovancı, **Duygu Hiçdurmaz**

Department of Psychiatric Nursing, Hacettepe University Faculty of Nursing, Ankara, Türkiye

Abstract

This study aimed to conduct a bibliometric analysis of prominent study areas, changes, and developments in randomized controlled studies from Türkiye, indexed in the Web of Science (WOS) Core Collection database within the field of psychiatric nursing. Research data comprised 82 randomized controlled studies between January 1, 1945, and December 31, 2021, retrieved from the WOS Core Collection database using the keywords "psychiatric" AND "nursing" AND "randomized controlled" OR "randomized controlled trial" OR "intervention." Data were identified and analyzed using citation analysis, bibliographic matching, co-occurrence analysis, and co-author analysis through the VOSviewer 1.6.18 software program. Out of the 82 published studies, 72 (87.8%) were published in journals in the Q2 and Q3 quartiles. A significant increase in both the number of studies and citations received was observed after 2016. The average number of citations per article is 4.4. The prominent subjects in the studies were schizophrenia, psychiatric nursing, nursing, and nursing students; the most current topics were schizophrenia, nursing students, resilience/resilience, disability, hope and hopelessness, and psychodrama. It was seen that the institution with the highest number of publications was Istanbul University, and the institution with the highest number of citations was Akdeniz University. Despite the increasing number of randomized controlled studies in Türkiye, an uneven distribution was observed among universities and the overall number of publications and citations remained relatively low compared to the total number of universities. There is a pressing need to identify and address obstacles hindering the production of randomized controlled studies in the field of psychiatric nursing in Türkiye and to provide support for conducting more studies in this area.

Keywords: Bibliometric analysis; evidence-based nursing; evidence-based practice; psychiatric nursing; randomized controlled research.

Evidence-based nursing is a decision-making process in which nurses' clinical expertise, patient preferences, and information obtained from scientific research are used to provide the best care to individuals.[1] In this process, randomized controlled trials (RCTs), which provide results with a high level of evidence and establish a cause-effect relationship, have an essential place.[2,3] At present, RCTs make important contributions by providing generalizable results in evaluating the effectiveness of the intervention and guiding nursing practices. However, due to the limited number of studies with high levels of evidence in the field of nursing, there is a need for more such studies.[3,4]

RCTs are among the most difficult studies to conduct because they impose significant responsibilities on researchers, take time, have high budgets, and require follow-up.[5] When RCTs conducted in the field of health are considered, it is re-

Address for correspondence: Mustafa Sabri Kovancı, Department of Psychiatric Nursing, Hacettepe University Faculty of Nursing, Ankara, Türkiye
Phone: +90 507 478 21 77 **E-mail:** sabri.kovanci@hotmail.com **ORCID:** 0000-0002-9656-7858

vealed that there are too many RCTs conducted in the field of medicine, and the number of RCTs is scarce in the field of nursing although there has been a recent increase.[6] When evaluated within the scope of nursing specialties, the situation is similar, and psychiatric nursing is one of these specialties. When the existing psychiatric nursing studies are examined, it is seen that the studies are mainly descriptive and correlational.[6] In a study conducted by Zauszniewski and Suresky examining the articles published in the five most widely read "Psychiatric Nursing Journals" on the international platform, it was found that RCTs constituted approximately 11% of the articles.[7] Although RCTs in the field of psychiatric nursing included in international indexes by being published on international platforms are increasing day by day, it is stated that this increase is weak. It is suggested that changing health-care approaches is missed because the production of information with a high level of evidence in the field cannot be done at a sufficient speed, number, and quality.[6,8] Identification of the current trends in science is significant regarding to revealing the developing and neglected aspects of scientific fields, investigating the dynamics that lead to these trends, and taking the necessary steps in line with them. Nowadays, scientific publications, which are becoming increasingly international, deal with topics that are common and popular at the global level. This may lead to overlooking and neglecting country-specific cultural and political factors. For this reason, studies are needed to reveal the status of the publications of scientific fields specific to each country. Examining the characteristics of Türkiye-origin RCT publications in international indexes in psychiatric nursing as a field of science can provide substantial information to psychiatric nursing researchers and policymakers in Türkiye about the current trends in RCTs and areas that need to be developed. With this information, neglected areas can be prioritized, and activities can be put through to ensure improvement in these areas. On the other hand, there is no study on the characteristics of RCTs in international indexes in the field of psychiatric nursing originating from Türkiye. Therefore, this study aimed to conduct a bibliometric analysis of the quantitative and categorical characteristics, prominent study areas, changes, and developments of RCTs in psychiatric nursing indexed in the Web of Science (WOS) Core Collection database.

Theoretical Background

Bibliometrics is a quantitative analysis used to examine the contributions made in a particular field of science. This analysis method is used to determine quantitative changes in research published in a field of study, to create a profile of publications, to reveal the productivity of research results, to show new developments and trends in the research field, and to obtain information about the impact area of research from a geographical perspective.[9] In this respect, publications can be classified according to

> **What is presently known on this subject?**
> - Randomized controlled trials provide generalizable results for evaluating the effectiveness of nursing practices and offer crucial guidance. Country-based evaluations of randomized controlled trials are important in showing the areas of intense interest and neglected aspects simultaneously. However, there is currently no available data on the status of randomized controlled trials in the field of psychiatric nursing indexed in the Web of Science (WOS) Core Collection database originating from Türkiye.
>
> **What does this article add to the existing knowledge?**
> - The prominent study areas of randomized controlled trials in the field of psychiatric nursing indexed in the Web of Science (WOS) Core Collection database in Türkiye, the changes in the study areas over time, the authors and institutions working in this field, the relationships between these institutions, and the most common journals and authors were revealed.
>
> **What are the implications for practice?**
> - Although the number of randomized controlled trials in Türkiye is gradually increasing, it has been determined that there is an uneven distribution across universities, and the number of publications and citations is quite low compared to the total number of universities. For this reason, the barriers to producing randomized controlled trials in psychiatric nursing should be identified, and support should be provided to conduct more such studies. The most studied topics were schizophrenia, psychiatric nursing, nursing, and nursing students. It may be recommended to increase the number of studies on topics that are important for psychiatric nursing, such as depression, suicide, bipolar disorder, dementia, anxiety disorders, and obsessive-compulsive disorder.

countries, universities, research groups, or authors and analyzed with various citation and performance-based techniques.[10]

Bibliometric analysis techniques can be divided into two categories: (1) performance analysis and (2) scientific mapping.[11] Performance analysis examines the contributions of components in the field of research. Although many criteria are considered when analyzing performance, the most prominent criteria are the number of publications and citations per field of research. In addition, index metrics and average citation counts are also used to measure the performance of the research area.[12] Scientific mapping analyzes the relationships between the components of a research area. This analysis reveals the interactions and structural connections between the components. Citation analysis, co-citation analysis, bibliographic matching, co-occurrence analysis, and co-authorship analysis techniques are used in the analysis of the components in the researched field.[11]

Citation analysis is used to identify the most frequently cited articles in a research field. In this analysis, the impact of a publication is determined by the number of citations it receives. *Citation analysis* enables the identification of the most influential publications in a research field.[13] *Co-citation analysis* is based on the assumption that two documents are more likely to be related to each other when they cite the same author, publication, or journal together.[14] When co-citation analysis is examined over long periods, it can be used to identify trends in the relevant field of science and detect changes that have occurred.[15] *Bibliographic matching*, another technique used in scientific mapping, is based on the assumption that two publications that share common references have similar content.[16]

Bibliographic matching focuses on dividing publications into

Table 1. Journals, quartiles, and impact factors of randomized controlled trials

Journal name	Number of publications	Quarter	Impact factor*
Perspectives in Psychiatric Care	39	Q2	2.186
Archives of Psychiatric Nursing	27	Q2	2.218
Issues in Mental Health Nursing	6	Q3	1.835
Journal of Psychiatric and Mental Health Nursing	6	Q1	2.952
International Journal of Mental Health Nursing	2	Q1	3.503
Journal of The American Psychiatric Nurses Association	2	Q1	2.335

*: Web of Science 2020 data.

thematic clusters based on shared references. Unlike co-citation or citation analysis, bibliographic matching analysis is based on the references of the documents being compared, so it more clearly reveals relationships between relatively recent documents in a longitudinal study. In contrast to the other three techniques, *co-occurrence analysis* focuses on words, not publications. Accordingly, it analyzes publications based on their abstracts, titles, or keywords and identifies multiple words or phrases that appear together. The relationship between publications is determined by the number of documents in which the words or phrases occur together.[11,17] The last technique, *co-authorship analysis*, focuses on the interactions between academics in a research field. In addition to revealing the interactions and collaborations between academics, the analysis helps to present the prominent authors, institutions, and countries in the field of research.[13]

Materials and Method

In this study, the four-stage approach developed by Donthu et al.[11] (2021) to provide a methodological framework for bibliometric analysis studies was used. According to this approach, in the first stage, the objectives and scope of the bibliometric study are defined. The second stage involves the selection of techniques for bibliometric analysis. The third stage involves data collection for bibliometric analysis. The fourth stage consists of performing the bibliometric analysis and reporting the findings.

Stage 1: Defining the Aims and Scope of the Bibliometric Study

At this stage, the purpose of the study, inclusion and exclusion criteria were explained. Within the scope of the study, it was aimed to examine the RCTs addressed in Türkiye in the field of psychiatric nursing through bibliometric analysis method using the WOS Core Collection database, which is accepted as a significant international quality platform by the science world. RCTs conducted by psychiatric nurses, included in the WOS Core Collection database, in English, and addressed in Türkiye were included in the study. Studies not conducted by psychiatric nurses and not in Turkish were not included.

Stage 2: Selection of Techniques for Bibliometric Analysis

The research design and analysis techniques were considered at this stage. The data obtained in the study were analyzed by performance analysis and scientific mapping techniques.[11]

Stage 3: Data Collection for Bibliometric Analysis

In this stage, the data collection steps of the study were described. The research data were obtained by searching the WOS Core Collection database with the keywords "psychiatric" AND "nursing" AND "randomized controlled" OR "RCTs" OR "intervention" between January 1, 1945, and December 31, 2021. In the study, filtering was performed to include English-language publications. Accordingly, the identified keywords were searched in the "topic" search field. Of the 83,835 publications obtained, the number of publications decreased to 1,926 when "nursing and psychiatry" filtering was applied in the category field, and then, the number of publications decreased to 130 when Türkiye filtering was applied in the country field. Then, the 130 publications were examined, and 48 of them that were outside the field of psychiatric nursing (in fields such as essentials of nursing, pediatrics, public health, obstetrics, and gynecology) were excluded. As a result, 82 publications were included in the study.

Stage 4: Performing the Bibliometric Analysis and Reporting the Findings

The data analysis methods used in the research were included at this stage. Bibliometric analysis data were analyzed through the VOSviewer 1.6.18 software program. In the "performance analysis" conducted to examine the contributions of the research components to the field of psychiatric nursing, the number of publications, index criteria, and number of citations were used. In the "scientific mapping" technique performed to reveal interactions and structural links, citation analysis, bibliographic matching, co-citation analysis, co-occurrence analysis, co-author, and bibliometric mapping analyses were employed.[18] A full calculation method[17] was utilized in the analyses. The study was conducted in accordance with the Declaration of Helsinki.
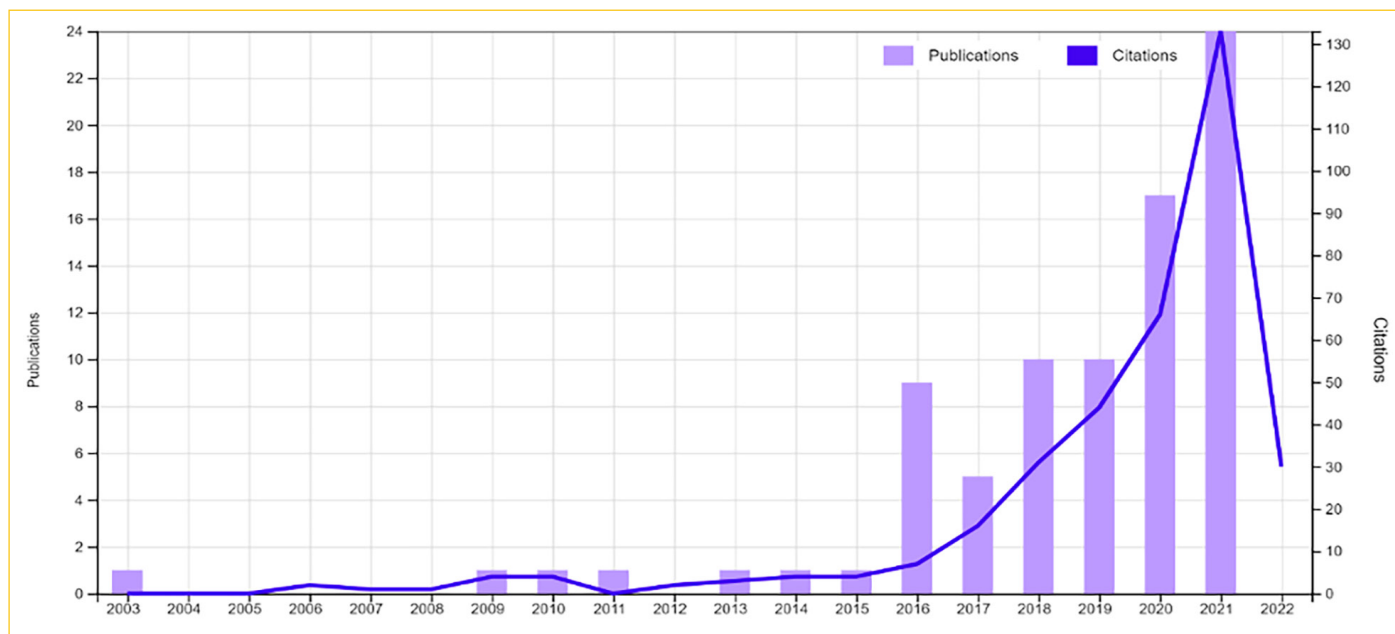
Figure 1. Number of publications and citations by years.

Results

The RCTs originated from Türkiye in the WOS Core Collection database were mostly published in Perspectives in Psychiatric Care and Archives of Psychiatric Nursing. Of the 82 published studies, 72 (87.8%) were published in journals in the Q2 and Q3 quartiles, and the remaining 10 (13.2%) were published in the Q1 quartile. The impact factors of the journals in which the studies were published varied between 3.503 and 1.835 (Table 1).

When the number of publications and citations by year were analyzed, it was seen that there was a significant increase in both the number of studies and the number of citations received after 2016. The year which included the most number of publications and citations was 2021. While the number of citations of RCTs included in this study was 351 (including 2021), this number decreased to 334 when self-citations were removed. While the most cited study received 34 citations, 26 studies received no citations. The average number of citations per article was calculated as 4.4 (Fig. 1).

Co-occurrence analysis was run based on abstracts, titles, or keywords of publications. As a result of the co-occurrence analysis conducted in this direction, the most prominent topics in the RCTs included in the WOS Core Collection in the field of psychiatric nursing from Türkiye were psychiatric nursing, nursing, schizophrenia, anxiety, nursing student, depression, psychoeducation, resilience/survival, quality of life, and other topics (hope, hopelessness, self-esteem, burnout, etc.) (Fig. 2).

The prominent topics formed relational clusters with other topics. One of these clusters was the cluster around schizophrenia, which included the topics of "resilience, art therapy, hope, and hopelessness." Another cluster was around psychiatric nursing

which involved the topics of "barriers, attitude, and social functioning". The cluster encircling anxiety comprised "nursing students, depression, group psychoeducation, progressive muscle relaxation, and psychodrama." The cluster surrounding nursing involved "self-esteem and adaptation programs." The last cluster was around nursing and psychoeducation and contained "cognitive behavioral approach, quality of life, physical activity, and alcohol use disorder" (Fig. 3).

When the intensity of the prominent topics according to time as a result of the common asset analysis was examined, the topics of current interest were schizophrenia, nursing students, resilience/survival, disability, hope and hopelessness, and psychodrama (Fig. 4).

Within the scope of the co-author analysis of the RCTs included in the study based on institutions, the institutions with the highest number of publications were Istanbul University, Dokuz Eylül University, Akdeniz University, Atatürk University, İnönü University, and Selçuk University, respectively. When the co-authorship networks were analyzed, it was seen that Atatürk University, İnönü University, Dokuz Eylül University, Akdeniz University, and Selçuk University conducted partnership in studies (Fig. 5).

When the citations by institution were analyzed, Akdeniz University was the institution with the highest number of citations. It was followed by Dokuz Eylül University, Atatürk University, Istanbul University-Cerrahpaşa, İnönü University, and Selçuk University (Fig. 6).

According to the bibliographic matching (relationship network) analysis, the strongest collaboration was between Akdeniz University and Selçuk University. This collaboration was followed by the collaboration between Akdeniz University and
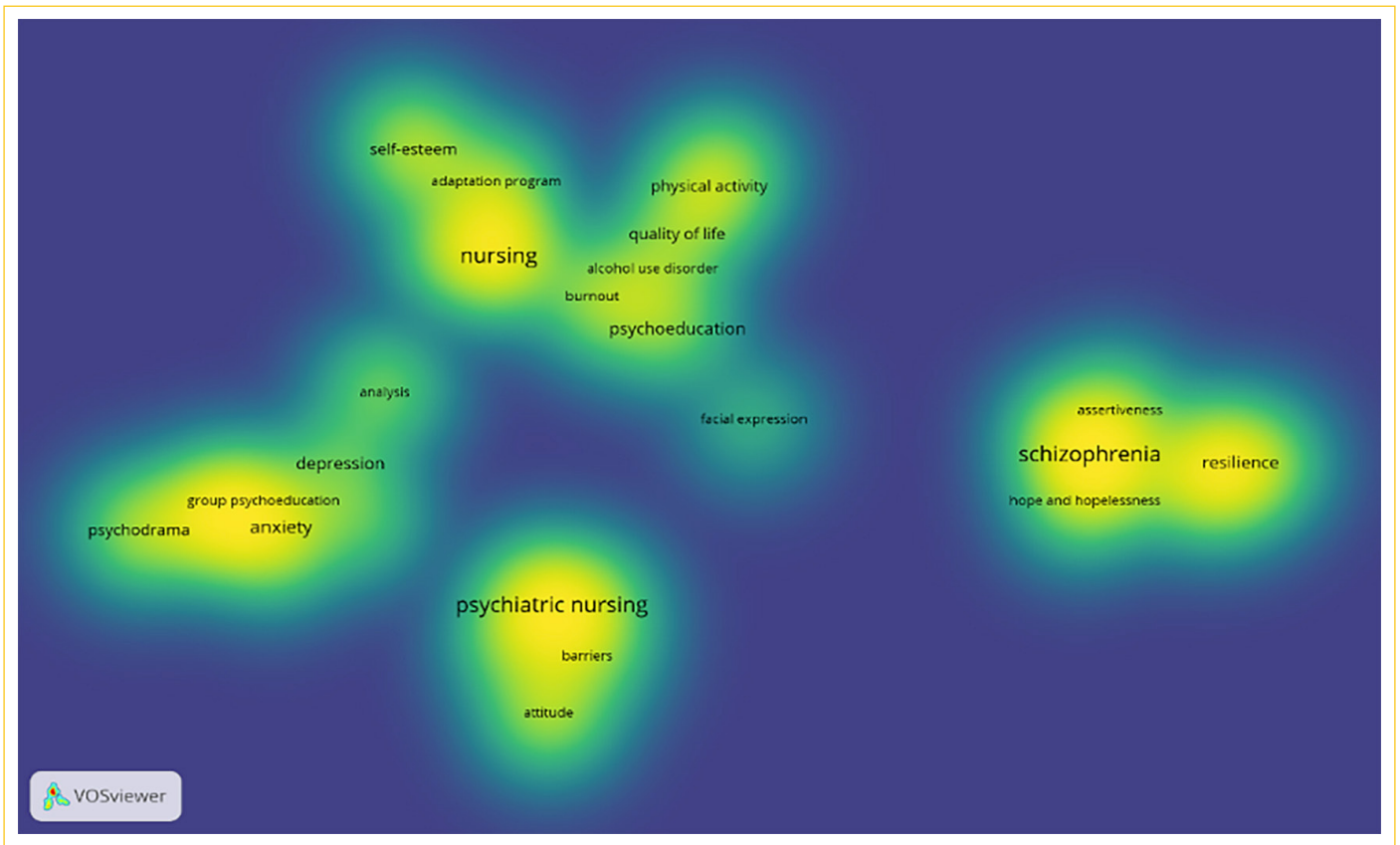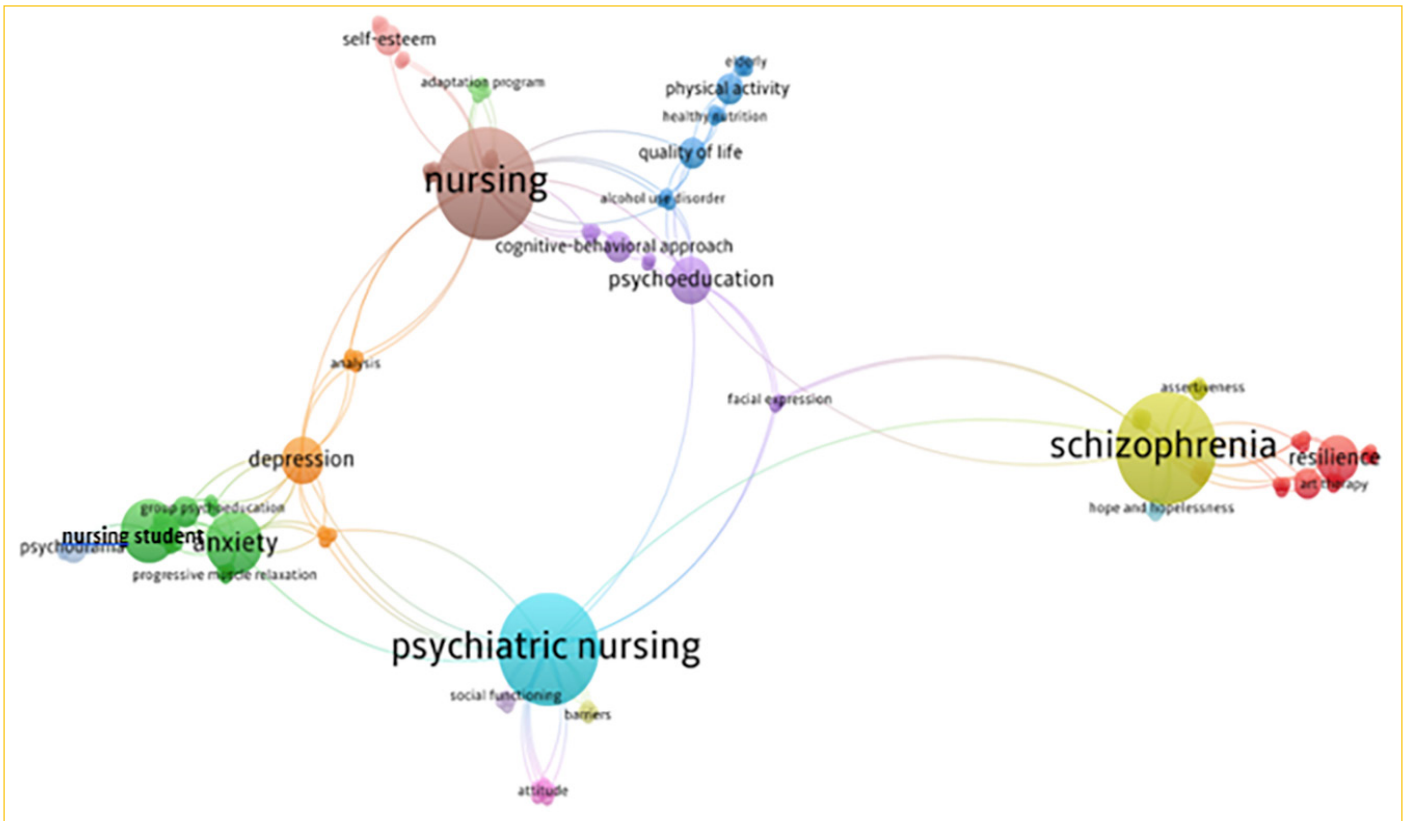
Figure 2. Co-occurrence analysis density map.

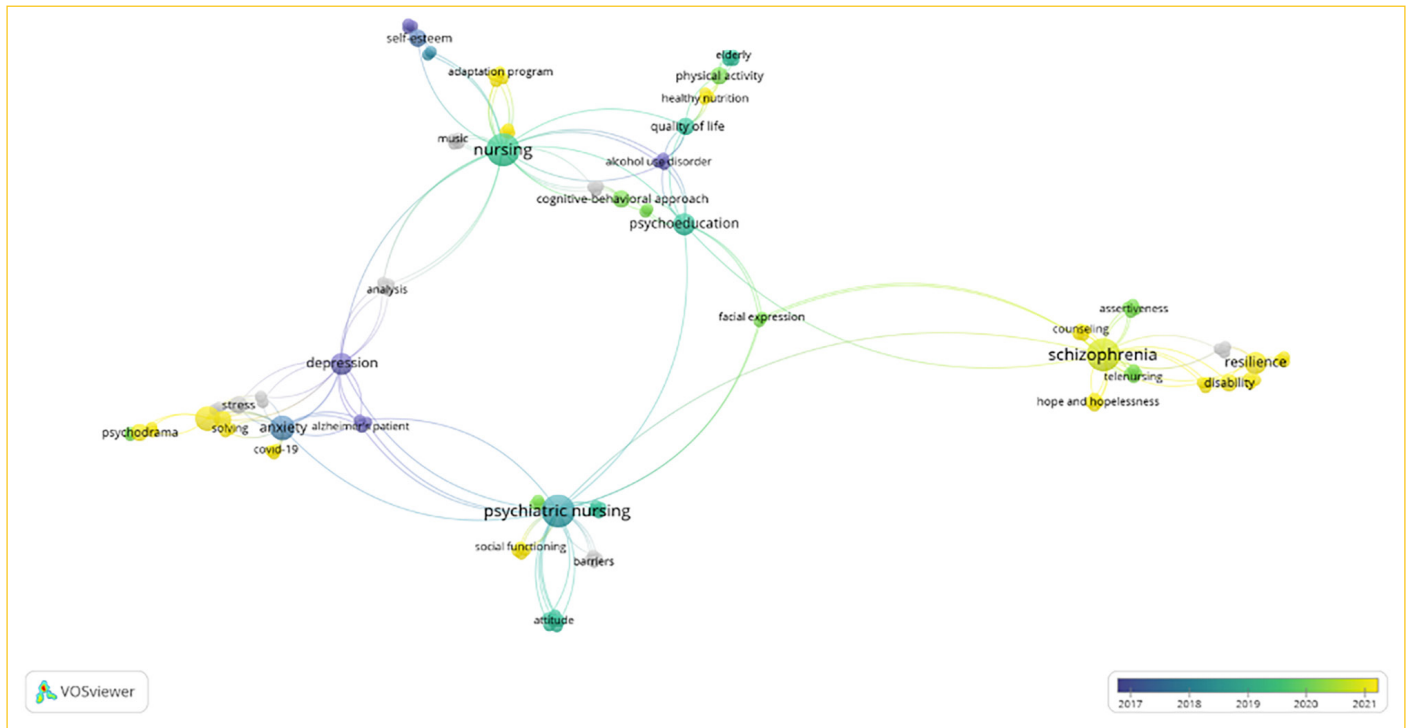**Figure 3.** Co-occurrence analysis relationship map.

Figure 4. Co-occurrence time map.

Dokuz Eylül University, Dokuz Eylül University and Istanbul University, and Atatürk University and İnönü University. Istanbul University had the highest number of collaborations (Fig. 7).

As a result of the co-citation analysis, when the journals with at least 10 citations in RCTs in the field of psychiatric nursing were ranked, it was seen that *Schizophrenia Research, The British Journal of Psychiatry*, and *Schizophrenia Bulletin* were the first three journals from the field of psychiatry. The most cited journals from the field of psychiatric nursing were *Archives of Psychiatric Nursing and Perspectives in Psychiatric Care* (Fig. 8).

When the author-based co-citation analyses of RCTs in psychiatric nursing were examined, it was seen that the most cited author was Chien, followed by World Health Organization, Sanders, and Barker, respectively (Fig. 9).

Discussion

In this study, which was planned to reveal the prominent study areas, changes, and developments of RCTs in the field of psychiatric nursing indexed in the WOS Core Collection database in Türkiye, a picture of the publications originated from Türkiye was created with the help of bibliometric analysis techniques. The results of the study provide seminal information on the prominent study areas of RCTs conducted in the field of psychiatric nursing in Türkiye, the changes in the study areas over time, the authors and institutions working in this field, the relationships between these institutions, the most common journals, and authors.
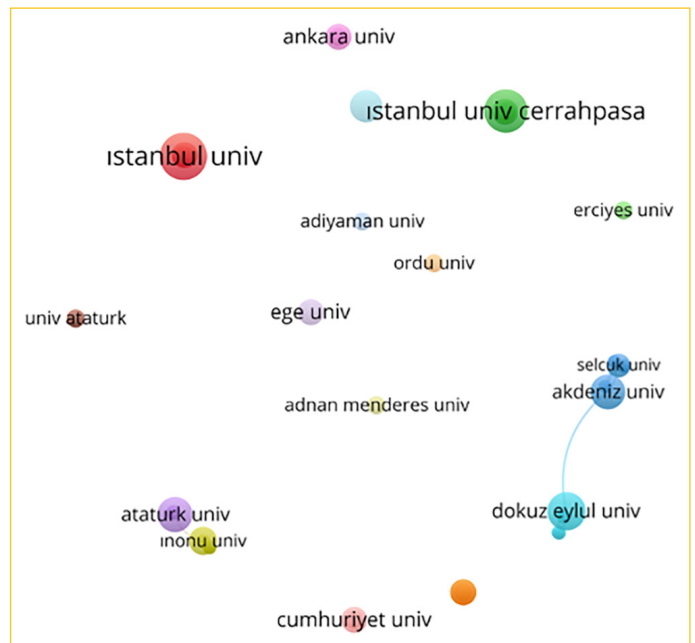

Figure 5. Map of co-author analysis.

The results of this study show that the majority of the RCTs published in the WOS Core Collection databases in the field of psychiatric nursing from Türkiye were included in journals indexed in the Q2 and Q3 quartiles whereas very few were included in journals indexed in the Q1 quartile. Journal quartiles are based on the principle that when all journals published in a certain field are ranked according to their impact factors and the total number of journals is divided by four, the first jour-
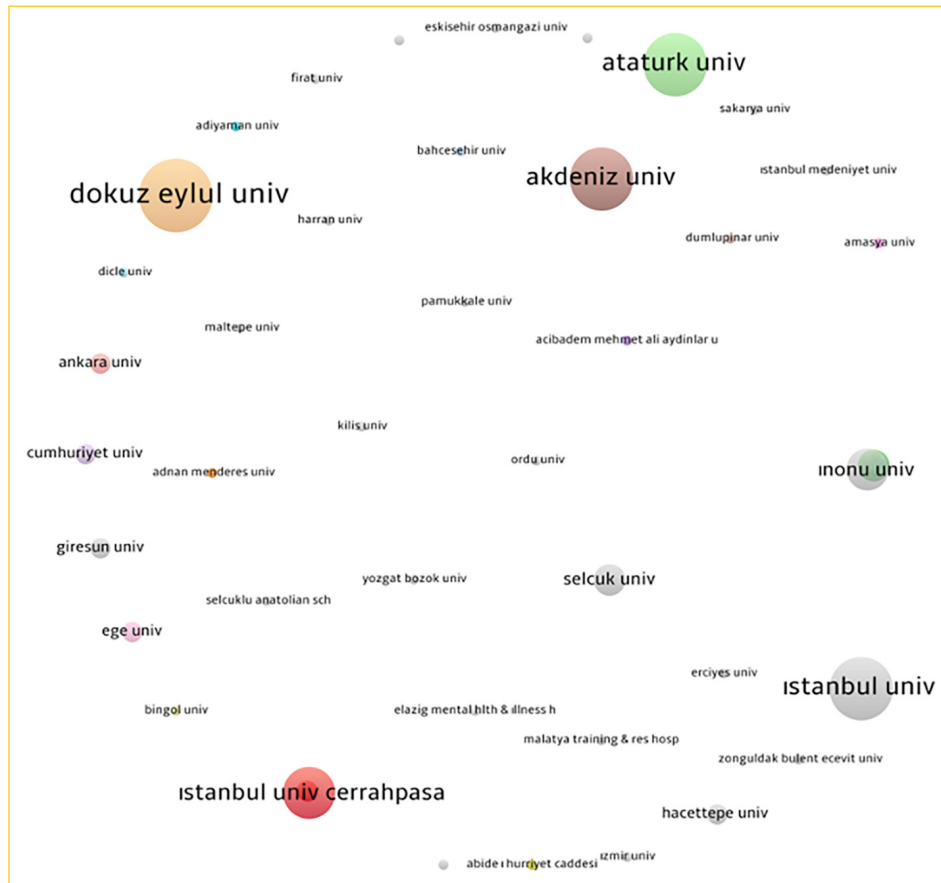
Figure 6. Citation analysis map by institution.

nals in the resulting number constitute the first quartile, followed by the second, third, and fourth quartiles.[19] The quartiles in which the journals are located significantly affect both the number of positive citations and overcoming the zero citation barrier.[20] In other words, as the quartile in which the journal is placed improves, the probability of receiving more citations increases. In light of this information, it can be said that the low rate of international RCT publications in the field of psychiatric nursing in the Q1 quartile may have a negative effect on the citation rate of these publications.

Publication and citation numbers are used to evaluate the performance of publications/researchers/universities, measure the impact of Turkish publications in domestic and international literature, and compare Türkiye's performance with that of other countries.[19] Publication in international journals has been encouraged in Türkiye for the last 35 years, and publication in indexed journals has been required for academic appointments and promotions since 2000.[20,21] Despite this information, the study findings show a rapid increase in the publication and citation analysis of RCTs published internationally in psychiatric nursing after 2016. This situation parallels the years when the Orpheus PhD Label started to be received by universities in our country. The Orpheus PhD Lable System is a European system that aims to ensure the
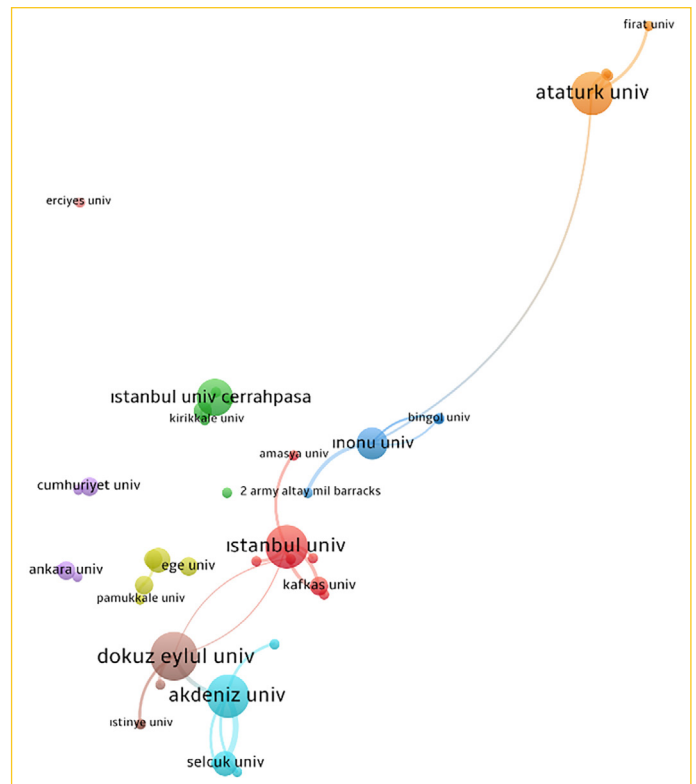

Figure 7. Bibliographic match analysis map by institution.
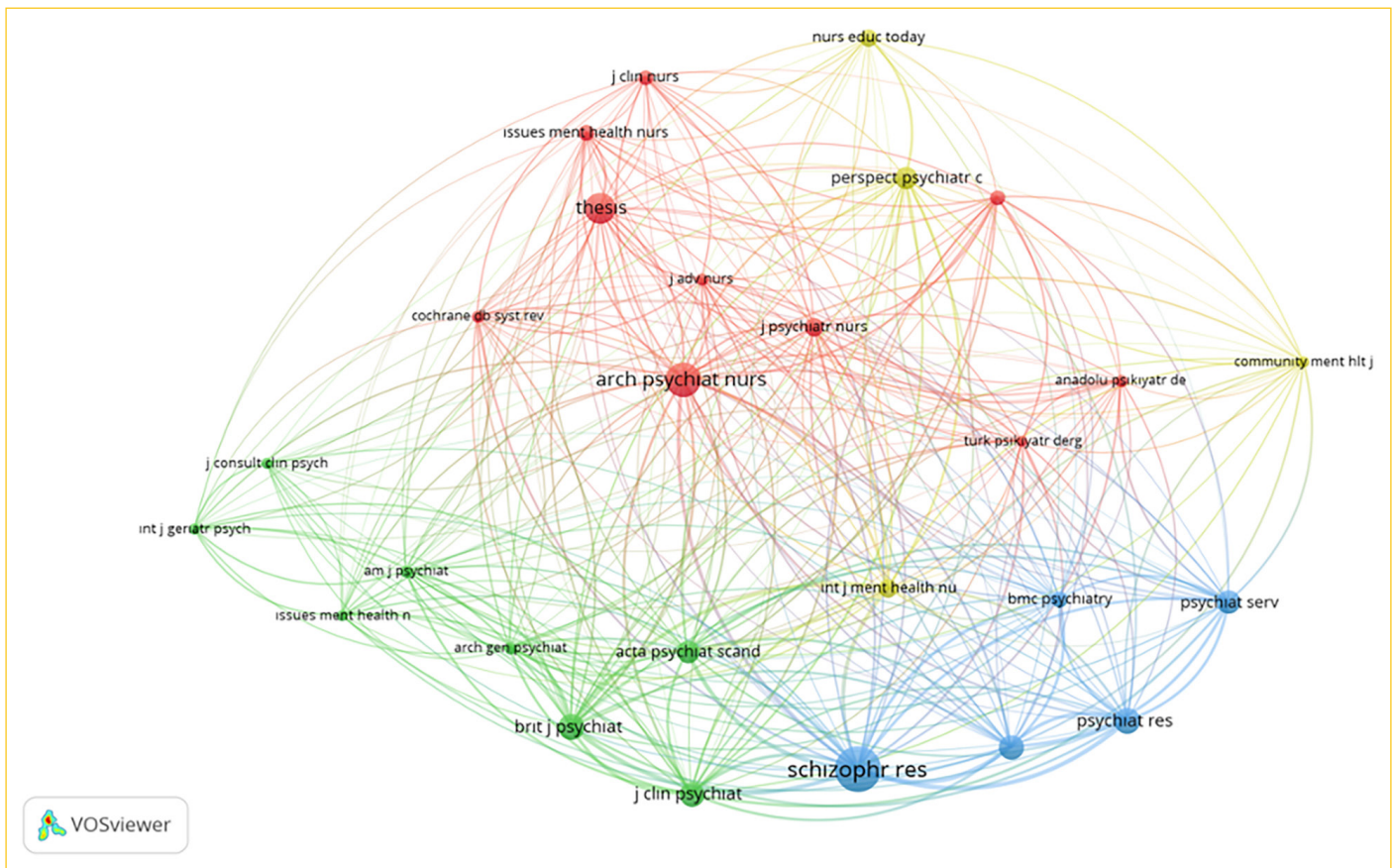
Figure 8. Co-citation analysis map by reference.

quality of PhD education focused on training researchers in biomedicine and health sciences.[22] The Orpheus PhD Label is awarded to universities that complete a three-stage evaluation process in line with certain quality criteria.[23] The first university to become a member of Orpheus in Türkiye was Dokuz Eylül University, followed by Hacettepe University and Kocaeli University.[24] Dokuz Eylül University received the Orpheus PhD Label for the 1st time in 2015, and since then, the number of universities receiving the Orpheus PhD Label has gradually increased.[25] According to the Orpheus PhD Label criteria, for the student to take the PhD dissertation exam, the student must have published in three international peer-reviewed journals (within the scope of SCI or SCI-expanded) and the PhD thesis must be capable of producing publications. Therefore, it is thought that the increase in the number of RCT publications with a high level of evidence after 2016 may be related to this phenomenon. On the other hand, 26 of the studies included in the study had not yet received any citations, and the average number of citations per article was 4.4, which are thought-provoking findings that need to be examined more deeply.

Considering that the 82 RCTs constituting the sample within the scope of this study were conducted by 38 universities, the number of RCT publications per university is 2.15 (82 studies/38 universities). The findings obtained as a result of the study show

that 34 of the 82 studies were conducted by only five universities and the number of RCT publications per one of these five universities was 6.8 (34 studies/five universities). However, according to the Council of Higher Education data for 2021, there are 146 universities providing nursing education in Türkiye.[26] When a calculation is done considering the total number of universities providing nursing education in Türkiye, the ratio of RCT studies per university is 0.56 (82 studies/146 universities). These results are important in terms of showing that there is an imbalance among universities in terms of producing RCTs in the field of psychiatric nursing in Türkiye, some universities have RCTs at a high rate, whereas others do not produce RCTs at all, and in total, the country-wide rate is relatively low.

According to the results obtained from this study, schizophrenia was the first of the current and frequently studied fields in RCTs in the field of psychiatric nursing in Türkiye; the subject areas clustered around schizophrenia were resilience, hope, and art therapy. It is thought that the search for solutions and support arising from the fact that schizophrenia is a disorder that negatively affects the functionality of the individual in all aspects, causes loss of ability, and has a high burden of care plays a role in the relatively higher number of studies on this group.[27] It can be said that the current intervention tendencies of psychiatric nurses to support schizophrenia patients
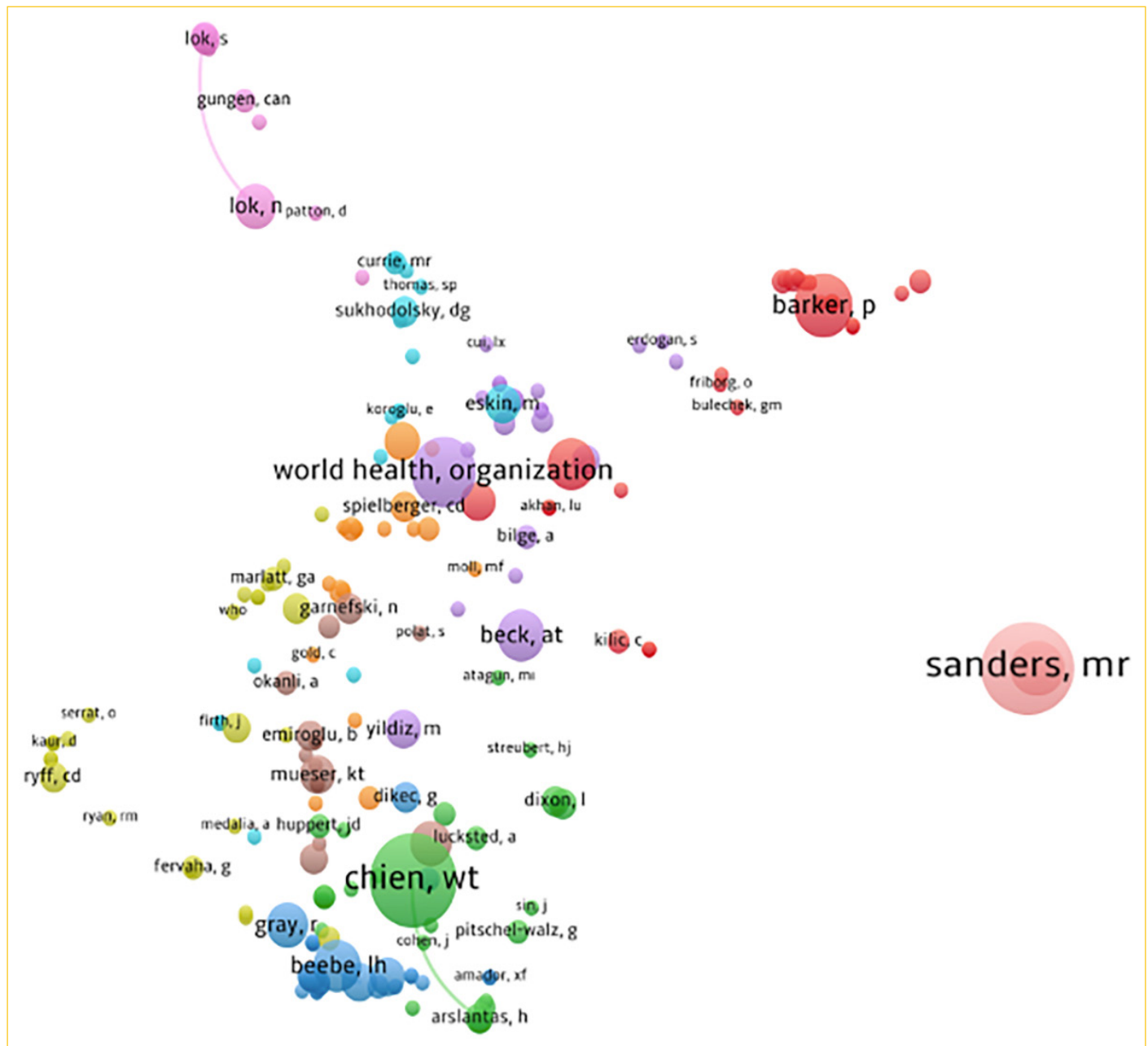
Figure 9. Author-based co-citation analysis map.

and their relatives in coping with the disease and its accompanying effects are focused on resilience, hope, and art therapy.[28,29] Another area frequently studied in RCTs included in the study was psychiatric nursing itself, and the concepts of barriers, attitude, and social functionality were clustered around this area. Regardless of the target group, this finding does not seem surprising when it is taken into consideration that the most intensive and primary issues that psychiatric nurses should address first and foremost are attitudes toward mental health problems, the barriers associated with them, and the development of the social functionality of the affected individuals. Another topic that comes to the forefront in the analyzed

studies is stress management and increasing coping skills in student nurses. Other related topics clustered around these topics are depression, group psychoeducation, psychodrama, and progressive muscle relaxation. The idea that it is important to start empowering student nurses, who will have to cope with many stressors in their professional lives, and the fact that they are a more favorable and accessible group in terms of conducting RCTs may have a share in these results. Psychiatric nurses use methods such as group psychoeducation, psychodrama, and progressive muscle relaxation in their recent intervention studies with nursing students and mostly focus on the variable of depression.

The results of the study reveal that the authors with the highest number of citations over the total number of publications and the institutions with the highest number of publications and citations are in parallel. The fact that they are faculty members or graduate students in these institutions may play a role in this phenomenon. When the collaborations between authors and institutions were examined, it was seen that the collaborating authors were researchers working in the same institution or often had a supervisor–student relationship between them. In addition, when the number of publications and citations based on institutions was considered, it was observed that the institutions with the highest number of publications and citations were large universities located in the country's big cities. This finding is important in terms of revealing that there is an uneven distribution among universities in terms of producing international RCT publications in the field of psychiatric nursing in the country, and the dynamics underlying this should be investigated.

In the study, the co-citation analysis based on the journal was parallel with the coexistence analysis, and journals publishing about schizophrenia were cited more. In addition, the author-based co-citation analysis map showed that the most frequently cited researchers were those who have studied in the field of schizophrenia. Since schizophrenia is one of the most frequently studied subjects within the scope of this study, it does not seem surprising that the citations are also concentrated in this field. According to the study results, the journals most frequently cited in RCTs in the field of psychiatric nursing are similar to those in which the current studies are most frequently published. When selecting publications for RCTs, the journals with the most utilized articles are considered when planning the study, and the choice is made among those journals. Therefore, it is thought that this dynamic may have a role in this result. In a recent article examining the research priorities of psychiatric nurses, it was seen that the journals in which psychiatric nurses mostly published were similar to the journals with the most publications and citations in this study.[30]

Limitations

This study has some limitations. Since databases other than the WOS Core Collection (PubMed, Scopus, etc.) were not included in the study, RCTs in the field of psychiatric nursing published there could not be reached. Studies published after December 31, 2021, were not included in the sample as this date was determined as the latest time limit to be included in the study. Due to the exclusion of studies published only in Turkish although within the scope of the WOS Core Collection, these studies were not included in the analysis. Although randomized controlled consultation-liaison psychiatric nursing studies are related to the field of psychiatric nursing, they stayed out of this study because they did not directly mention "psychiatric

nursing" since publication searching was conducted through keywords, titles, and abstracts. Bibliometric analyses are studies that analyze the quantitative status of studies rather than their content and quality. These analyses are recommended for studies with large data sets in a certain subject area. Systematic reviews and meta-analysis studies seem to be appropriate for the analysis of studies with small data sets as they deal with the content and quality of the studies.

Conclusion

As a result of the bibliometric analysis of RCTs published in international platforms in the field of psychiatric nursing from Türkiye, it was determined that although the number of RCTs in Türkiye is gradually increasing, this increase is mostly carried out in large universities in big cities by authors who work for or are students in these universities, there is an uneven distribution in the context of the universities providing nursing education in the country in general, and the number of publications and citations is quite low according to the total number of universities. In addition, it is also observed that the connections between institutions in the field of psychiatric nursing are frequently established among large universities. In this context, universities in other regions of the country are neglected. In light of these data, there is a need to clarify the obstacles preventing universities other than large universities in Türkiye from producing RCTs in the field of psychiatric nursing and supporting these universities to conduct more such studies with high-quality evidence. Very few publications included in the study were published in journals in the Q1 quartile. This situation indicates that efforts are needed to improve the quality of RCTs produced in psychiatric nursing and thus publish them in journals in the higher quartile. The most frequently addressed topics of the studies were schizophrenia, psychiatric nursing, and student nurses, respectively. When the most cited authors and journals are examined, the field of schizophrenia stands out. Although schizophrenia is a very important subject to be studied as an RCT in terms of psychiatric nursing, there is a need to increase the number of RCTs on other psychiatric disorders due to the burden on families, society, and the state.

References

1. Öztürk Çopur Ö, Kuru N, Canbolat Seyman C. Overview of evidence-based practices in nursing. J Health Nurs Manag [Article in Turkish] 2015;1:51–5.

2. Bench S, Day T, Metcalfe A. Randomised controlled trials: An introduction for nurse researchers. Nurse Res 2013;20:38–44.

3. Forbes A. Clinical intervention research in nursing. Int J Nurs Stud 2009;46:557–68.

4. Hallberg IR. Taking nursing research further, how and what to do. Nurs Pract Today 2016;3:40–3.

5. Günüşen NP, Üstün B. Evidence-based practices in psychiatric nursing. Dokuz Eylül Univ Fac Nurs Electr J [Article in Turkish] 2016;9:112–8.

6. Güner Küçükkaya P. Evidence-based practice in psychiatric nursing. J Psychiatry Nurs [Article in Turkish] 2010;1:128–32.

7. Zauszniewski JA, Suresky J. Evidence for psychiatric nursing practice: An analysis of three years of published research. Online J Issues Nurs 2004;9:13.

8. Zauszniewski JA, Bekhet A, Haberlein S. A decade of published evidence for psychiatric and mental health nursing interventions. Online J Issues Nurs. 2012;17:8.

9. Carter-Templeton H, Frazier RM, Wu L, H Wyatt T. Robotics in nursing: A bibliometric analysis. J Nurs Scholarsh 2018;50:582–9.

10. Rey-Martí A, Ribeiro-Soriano D, Palacios-Marqués D. A bibliometric analysis of social entrepreneurship. J Bus Res 2016;69:1651–5.

11. Donthu N, Kumar S, Mukherjee D, Pandey N, Lim WM. How to conduct a bibliometric analysis: An overview and guidelines. J Bus Res 2021;133:285–96.

12. Cobo MJ, Chiclana F, Collop A, de Ona J, Herrera-Viedma E. A bibliometric analysis of the intelligent transportation systems research based on science mapping. IEEE Trans Intell Transp Syst 2013;15:901–8.

13. Prado-Gascó V, Giménez-Espert MDC, De Witte H. Job insecurity in nursing: A bibliometric analysis. Int J Environ Res Public Health 2021;18:663.

14. Durieux V, Gevenois PA. Bibliometric indicators: Quality measurements of scientific publication. Radiology 2010;255:342–51.

15. Öztürk M, Gök SG. Investigation of research trends in the management literature with the bibliometric analysis method in the Covid-19 period. Cappadocia Acad Overview [Article in Turkish] 2020;4:73–89.

16. Zan BU. Evaluation of research areas based on direct citation, co-citation and bibliographic matching approaches. J Soc Sci Res [Article in Turkish] 2019;14:501–16.

17. van Eck NJ, Waltman L. Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics 2010;84:523–38.

18. Van Raan A. Advances in Bibliometric Analysis: Research Performance Assessment and Science Mapping. In: Blockmans, W, Engwall L, Weaire D, editors. Bibliometrics: Use and abuse in the review of research performance. London: Portland Press; 2014. p. 17–28.

19. Ahmet A, Aslan A. Quartile scores of scientific journals: Meaning, importance and usage. Acta Med Alanya 2020;4:102–8.

20. Tonta Y, Akbulut M. Factors increasing the citation impact of papers from Turkey published in international journals. Turk Librariansh [Article in Turkish] 2021;35:388–409.

21. Akçiğit U, Özcan-Tok E. Türkiye Bilim Raporu. Available at: https://www.tuba.gov.tr/files/yayinlar/raporlar/Tu%CC%88rkiye%20Bilim%20Raporu.pdf. Accessed May 16, 2024.

22. ORPHEUS. Available at: https://www.orpheus-med.org/. Accessed Dec 6, 2022.

23. ORPHEUS. Orpheus quality assurance and labelling. Available at: https://orpheus-med.org/quality-assurance/. Accessed May 16, 2024.

24. Akdoğan GG. Biyotıp ve sağlık bilimlerinde doktora'da kalite standartları ve Orpheus. J Exp Med Res Inst 2015;5:15–21.

25. Keçeli S. 12th Orpheus Congress-PhD education standards in health sciences: Impressions from Lithuania. J Health Sci Kocaeli Univ [Article in Turkish] 2017;3:22–3.

26. YÖK. Programı bulunan tüm üniversiteler. Available at: https://yokatlas.yok.gov.tr/lisans-bolum.php?b=10248. Accessed May 16, 2024.

27. Burcu A, Kerime B, Çetinkaya Duman Z. Attitudes of health professionals towards mental disorders: Studies in Turkey during the last decade. Curr Approach Psychiatry [Article in Turkish] 2011;3:214–31.

28. Aci OS, Kutlu FY. The effect of salutogenic approach-based interviews on sense of coherence and resilience in people with schizophrenia: A randomized controlled trial. Perspect Psychiatr Care 2022;58:1754–62.

29. Uslu E, Buldukoglu K. Randomized controlled trial of the effects of nursing care based on a telephone intervention for medication adherence in schizophrenia. Perspect Psychiatr Care 2020;56:63–71.

30. Mechling B, Ali Muhammad Ali Charania N, Paun O, Lewin L, Bostrom A, Mumba M, et al. Research priorities in psychiatric mental health nursing: Funding availability, recently published work, and future directions for advancing our science. J Am Psychiatr Nurses Assoc 2024;30:210–20.