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Medical Crimes in Midwifery Cases: Bibliometrics Analysis

Damayanti FN[1][ID], Wiyanti Z[2][ID], Istiana S[1][ID], Kusumawati E[1][ID], Pranata S[3][ID]

[1]Department of Midwifery, Universitas Muhammadiyah Semarang, Indonesia
[2]Department of Midwifery, Universitas Prima Nusantara Bukittinggi, Indonesia
[3]Department of Nursing, Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang, Semarang, Indonesia

Abstract
Background: Medical crimes in midwifery cases, a term used to describe medical crimes during pregnancy, childbirth, and the postpartum period, is a controversial feminist term in global health policy and midwifery practice and research. This work aimed to discover the trend of medical crime publications regarding obstetric cases, the number of citations, and the direction of further research topics.
Main body: The research method used in this study is Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which uses 2,617 scientific articles or publications from the Dimensions database. View articles with VOSviewer. This study conducted a bibliometric analysis of medical crime publications of midwifery case studies from 2013 to 2023 at https://app.dimensions.ai/. The study showed some results. There is an upward trend among the many publications on medical crime in midwifery cases, the number of citations of medical crime in midwifery cases has increased, and the online visualization of medical crime in midwifery cases provides information to find new topics that are not related to each. others, there are 5 clusters in terms of co-occurrence, the overlay imaging of medical crime in obstetric cases provides a trend to future research topics, medical crime in obstetric cases density imaging is still rare.
Conclusion: The conclusion of the findings of this study is the development of a medical criminal investigation plan for midwifery cases. Although this study contributed to https://app.dimensions.ai/ to provide the latest insight into medical crime trends in midwifery cases from 2013 to 2023, this study has limitations.

Keywords: Bibliometrics analysis, PRISMA, Medical crimes, Midwifery cases

Plain English Summary

Medical crimes in obstetric cases are medical crimes during pregnancy, childbirth and the postpartum period. This study aims to determine trends in medical crime publications regarding obstetric cases, the number of citations, and directions for further research topics. This research conducted a bibliometric analysis of medical crime publications of midwifery case studies from 2013 to 2023 at https://app.dimensions.ai/. The research shows several results. There is an increasing trend in the number of publications on medical crimes in midwifery cases, the number of citations of medical crimes in midwifery cases is increasing, and medical crimes in midwifery cases provide information to find new topics unrelated to medical crimes in midwifery cases.

Background

Medical crimes in midwifery cases, a term used to describe medical crimes during pregnancy, childbirth, and the postpartum period, is a controversial feminist term in global health policy and midwifery practice and research (1). Quality care is multifaceted and comprehensive, but in the case of maternal and newborn health, it can usually be defined by the extent to which obstetric services can provide adequate and timely service to achieve desired outcomes (2). Implementation of a midwifery service model that supports the presence of qualified, trained and regulated midwives in midwifery services (3), is

Correspondence:
Damayanti, Fitriani D
Department of Midwifery, Universitas Muhammadiyah Semarang
Central Java, Indonesia
+6285740822023, fitriani@unimus.ac.id

seen as an effective solution to the lack of health workers in low-and middle-income countries. Midwives can implement most evidence-based practices that ensure positive outcomes for maternal and neonatal (4).

Malpractice claims against midwives have risen in recent years, and midwifery services have been one of the most risky medical concerns (5), against a retrospective analysis aimed at examining all areas of Obstetrics and Gynecology (6).

The development of a regulatory system consists of the development of codes of ethics and standard operating systems, as well as licensing, registration, and codes of practice, as well as the management of midwifery services (7). Although developed through careful consideration of various stakeholders, many guidelines will need to be revised over time as understanding of the role of professional midwives and the necessary government guidance evolves (8).

Health workers with techno-scientific authority supported by unequal power relations in the presence of women (9), use this authority to maintain conformity, disrupt interpersonal relationships and undermine their interpersonal relationships, crisis of confidence in patients and the services offered (10). This approach was adopted because it led to the autonomy and right of women to make decisions about their bodies (11). These relationships are created through the unilateral use of power, which creates fertile ground for the concentration of various forms of violence during childbirth and obstetric care (12). Frequent reports of violence: the rejection of the presence of a female companion of choice (13), lack of information about the various procedures performed during treatment; unnecessary cesarean section; deprivation of the right to food and streets; routine and repeated vaginal examinations for no reason; frequent use of oxytocin to accelerate labour; episiotomy without the consent of the woman; and Kristeller's manoeuvres. All of these events can eventually cause permanent physical, mental and emotional damage (14).

Interest in midwifery cases by country is presented in Figure 1. According to Figure 1, Ethiopia is the country with the highest interest in midwifery cases, followed by the Philippines.
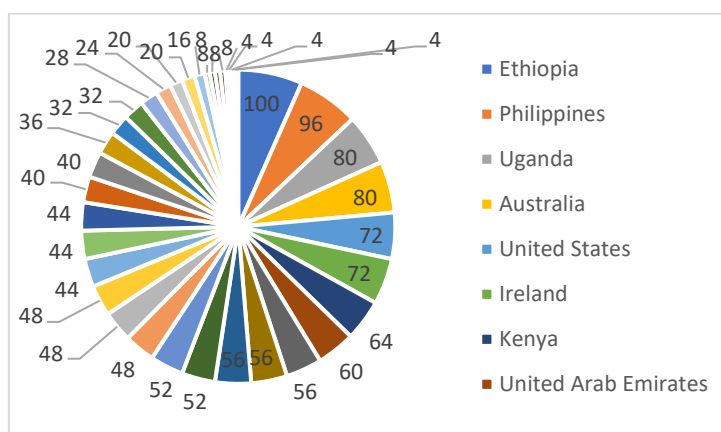

Figure 1: Country histogram of interest on the topic of medical crimes in midwifery cases (Data Source: Google Trends)

Data shows interest in general obstetric cases. On the other hand, researchers who want to study the topic of medicolegal cases in obstetrics need more specialized information, such as scientific publications in the form of research articles and scientific seminar publications on medicolegal crimes in obstetrics cases. Therefore, there is a need for medical crime in obstetrics cases in the form of research papers.

In the study, researchers need information about medical crime trends and innovations in obstetrics cases in the future. This is an emerging problem among researchers. However, there is still no bibliometric analysis of trends and novelties of medical crime in obstetric cases. The questions to be answered in this article are (1) how has the number of publications on medical crimes in midwives cases developed, (2) how has the number of references related to the subject of medical crimes in midwives developed? cases, (6) how the visualization of the network on the topic of medical crimes in midwifery cases, (7) how the publications accumulate on the topic of medical crimes in midwifery judging by co-occurrences, (8) how the visualization covers the topic of medical crimes in obstetric cases, (9) as the density of medical crimes in obstetric cases visualization.

Bibliometric analysis is a statistical approach to research that visualizes the contribution of academic institutions and changes in research output (15). Bibliometric analysis helps

researchers identify emerging areas and future trends in a research field using visualisers (16). Bibliometric analysis has been used by various authors to evaluate information theories listed in the Scopus database (16), to evaluate immigration and environmental degradation (17), and to investigate trends in medical crimes in midwifery case research (18). Thus, bibliometric analysis is a scientific and quantitative method to evaluate published articles that helps researchers find trends, innovations and specific research topics that provide researchers with development in future research (19).

The purpose of medical crimes in midwifery cases in this study is to determine the trend of the number of medical crimes in midwifery case publications, the number of citations, and the direction of future research topics. Topics related to medical crimes in midwifery cases are still rare, so it is necessary to look for novelty medical crimes in midwifery cases through bibliometric analysis (20).

Method
Bibliometric analysis, where studies are classified based on received citations, is important in evaluating the impact of research (21).
Data was extracted from https://app.dimensions.ai/ on October 28, 2023. Method *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (22), abbreviated as PRISMA, is used to extract articles from a database https://app.dimensions.ai/. The PRISMA flowchart is presented in Figure 3.
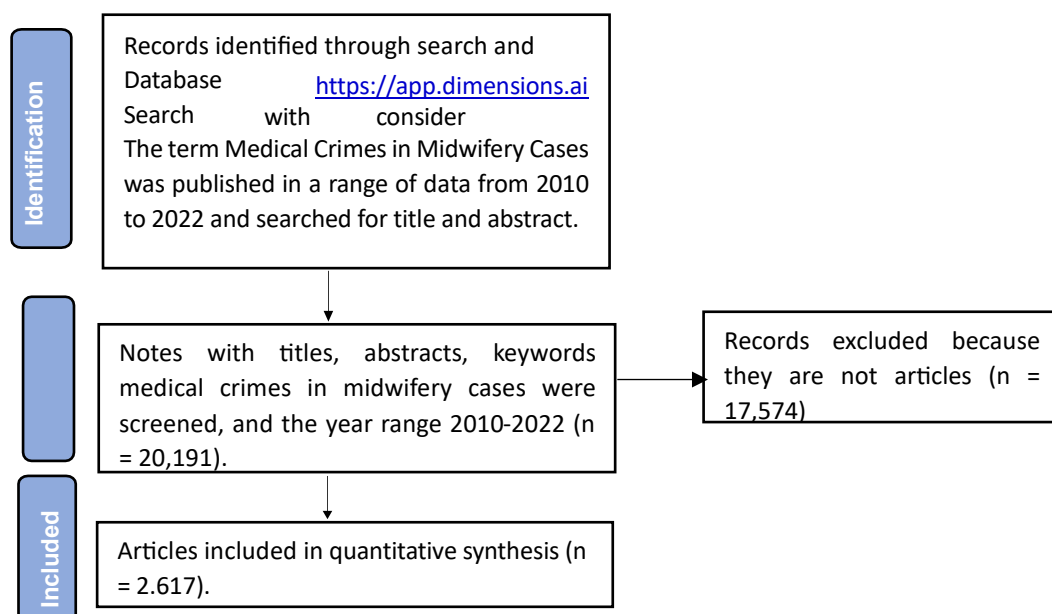

Figure 2. PRISMA flowchart (22)

The PRISMA method consists of three steps: identification, screening and inclusion. Step 1 (identification) identified 20,191 records from https://app.dimensions.ai/ considering published terms in the knowledge area 2013–2023 Medical Crime in Midwifery Cases and searching for titles and abstracts. In step 2 (screening), it produced 2,617 records with publication type "article", resulting in 17,574 publications. In stage 3 (inclusive), the final sample yielded 2,617 articles. Data were analyzed with VOSviewer. VOSviewer is a computer program for creating and viewing bibliometric maps (23). In this study, the analysis was reviewed from co-occurrence.

The procedure for co-occurrence analysis is as follows (1). A data type is selected to create a map based on test data. Select this option if you want to create a common event map based on text data (2). The data source has selected the option to read data from reference management files. Supported file types are RIS, EndNote, and RefWorks (3). RIS is selected as the file type (4). The fields from which the concept is extracted are the selected title and abstract fields, ignoring structured abstract identifiers and copyright statements (5). The full calculation option is selected as the calculation method (6). The minimum limit for the frequency of deadlines is 10. Out of 7368 deadlines, 170 reached the threshold (7). The number of terms is as follows. Importance scores are calculated for each of the 209 terms. Based on this score, the most important terms are selected. The default is to select 60% of relevant terms. Can choose between 125 terms.

Results
Searches from 2013 to 2023 yielded 2,617

scientific article publications. The number of publications of medical crimes in midwifery cases per year is presented in Figure 3.
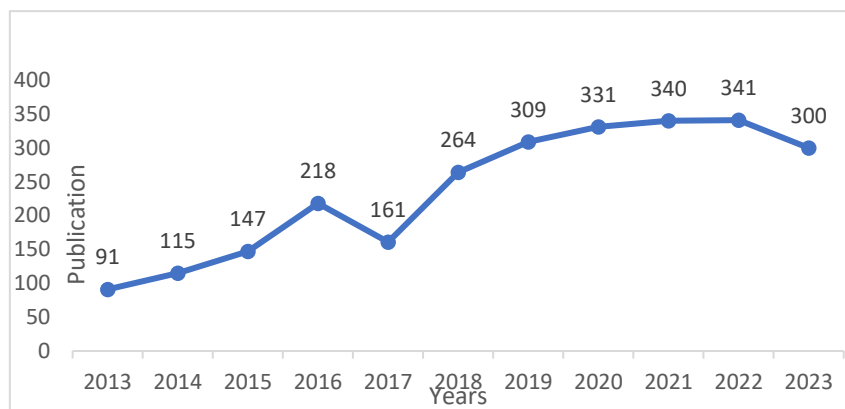

Figure 3: The number of publications on medical crimes in midwifery cases from 2013 to 2023 (source: https://app.dimensions.ai/)

The number of citations to crimes in midwifery cases from 2013 to 2023 is 45,113. The number of citations per year is presented in Figure 4.
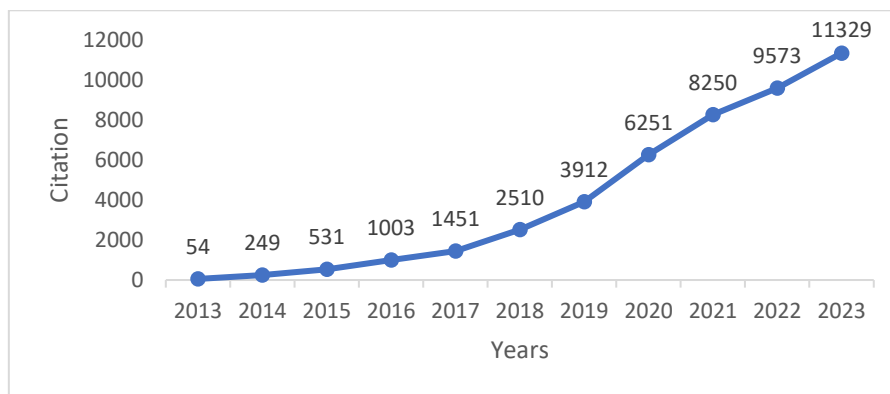

Figure 4: The number of citations for the topic of medical crimes in midwifery cases from 2013 to 2023 (source: https://app.dimensions.ai/)

Network visualization of these 125 terms is presented in Figure 5.
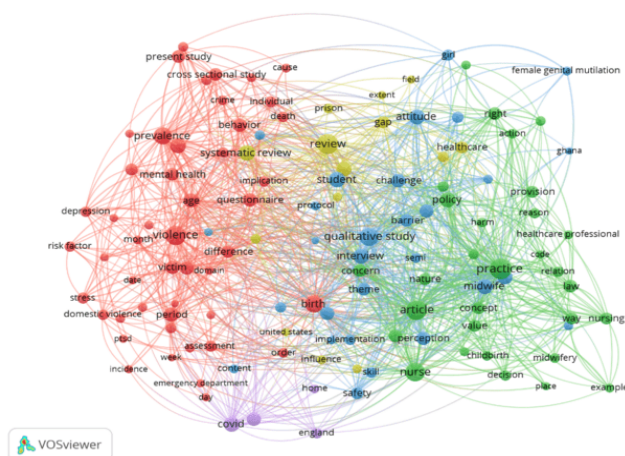
Figure 5. Network visualization (source: VOSviewer and https://app.dimensions.ai/)
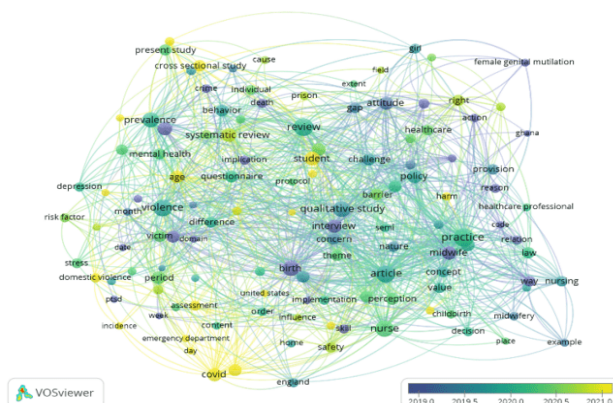
VOSviewer also provides overlay visualization maps. The overlay visualization of these 125 terms is presented in Figure 6.

Figure 6: Overlay visualization (source: VOSviewer and https://app.dimensions.ai/)

The density visualization of these 125 terms is presented in Figure 7.
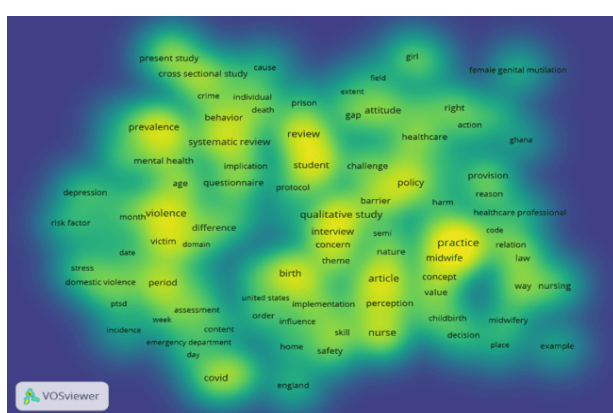
Figure 7: Density visualization (source: VOSviewer and https://app.dimensions.ai/)

Discussion

Figure 3. indicates that the number of publications up from year to year exponentially. The smallest publication occurred in 2013 with 91 publications. Meanwhile, the largest publication occurred in 2022 with 341 publications. The average publication is 231. These statistics are presented in Figure 8. Of the 2,617 publications, the publication titled "Frequency of Phobia among sexual assault victims referred to Legal Medicine Organization in Isfahan Province" is the most relevant (24). It is important to review recent articles to review and detect medical crimes related to midwifery crime cases. Therefore, there is a need for the latest publications related to the topic of medical crimes in midwifery cases.
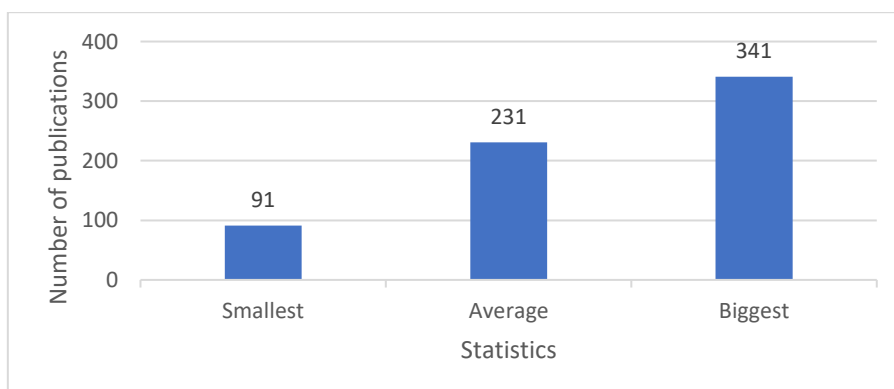

Figure 8: Histogram of the number of smallest, average, and largest publications on the topic of Medical Crimes in Midwifery Cases

Figure 4 shows that the number of citations From year to year rises exponentially. The smallest citations occurred in 2013 as many as 54. Meanwhile, the largest citation occurred in 2023

at 11329. Meanwhile, the average citation is 4101. This statistic is illustrated in Figure 9. The research data revealed that, from 2,617 publications, the publication was titled "Global, Regional, and National age-sex-specific Mortality for 282 Causes of Death in 195 Countries and Territories, 1980–2017: A Systematic Analysis for the Global Burden of Disease Study 2017" is the most cited publication (25). Journals indexed in reputable indexers will be cited by many other authors. Therefore, this article can be used as a reference in research that explains the topic of medical crimes in midwifery cases.
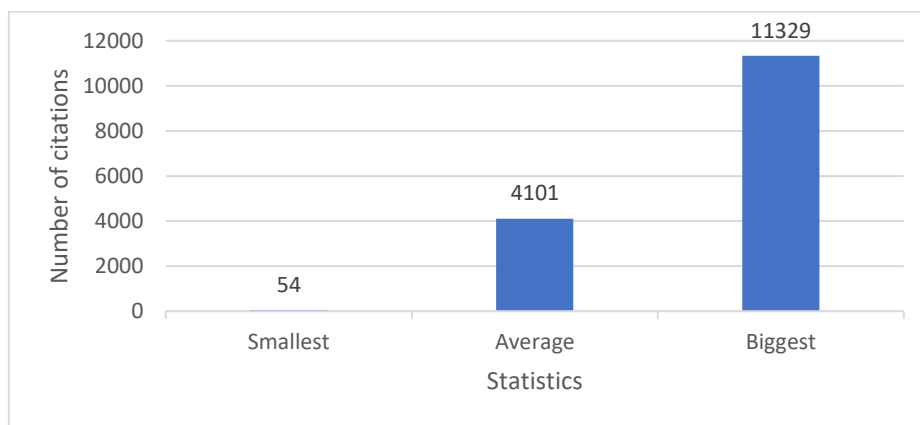

Figure 9. Histogram increase in the number of smallest, average, and highest citations for the topic of medical crimes in midwifery cases

In network visualization (Figure 5.), two terms connected by a line indicate that they appear together in a title and abstract. Conversely, two terms not connected by a line indicate that the two terms do not appear together in the title and abstract. The research data revealed that there were 125 terms, 5 clusters, 4,707 links, and a link strength of 9,967. Medical crimes in midwifery cases as a phenomenon recognized through the different types of violence that may occur in the context of pregnancy, childbirth, and puerperium, as well as in situations involving assistance for abortion cases, post-abortion and reproductive cycles. Therefore, the novelty for researchers on the topic of medical crimes in midwifery cases can then be obtained through research on terms that are not directly connected.

The 125 terms are grouped into 5 clusters consisting of cluster 1 (48 terms), cluster 2 (30 terms), cluster 3 (29 terms), cluster 4 (14 terms), cluster 5 (4 terms). In more detail, these clusters are presented in Table 1.

Table 1: Clusters for medical crimes in midwifery cases topics (Source VOSviewer and https://app.dimensions.ai/)

Cluster	Number of items	Member items cluster
1	48	Age, assessment, association, birth, cause, crime, cross-sectional study, date, day, death, depression, difference, domain, domestic violence, drug, emergency department, event, gender, implication, incidence, increase, individual, intimate partner violence, Iran, man, mental health, month, mother, order, parent, period, present study, prevalence, prevention, PTSD, questionnaire, regard, researcher, risk factor, sexual violence, social support, South Africa, stress, trauma, victim, violence, week.
2	30	Abortion, action, article, childbirth, code, concept, concern, decision, example, form, harm, healthcare professional, law, majority, midwifery, nature, nurse, nursing, place, policy, practice, provision, question, reason, relation, reproductive health, right, value, view, way.
3	29	Access, adolescent, attitude, barrier, challenge, content, depth interview, engagement, evaluation, female genital mutilation, Ghana, girl, health professional, implementation, interview, January, maternity care, middle-income country, midwife, perceptive, program, protocol, qualitative study, safety, semi, skill, student, theme.
4	14	Australia, effectiveness, extent, field, gap, guideline, healthcare, influence, literature, prison, review, scoping review, systematic review, United States.
5	4	COVID, England, home, pandemic.

Overlay Visualization (Figure 6) Presenting an analysis based on keywords Medical Crimes in Midwifery Cases 2013-2023 to trace trends in Medical Crimes of Midwives in Midwifery Research Titles. Based on the superimposed visualization map in Figure 6, the term yellow means that keywords are currently interesting research (16). Another question posed by authors who understand the phenomenon of childbirth violence is based on the perception of gender stereotypes prevailing in society, where women, who are considered the weaker sex, must remain under patriarchal authority, and have the right to decide what is most good for them (26), turning childbirth into a professional-centred action and subject to violent practices (27). Therefore, the current trend of research on medical crimes in midwifery cases focuses on yellow terms, such as gender, student, and social support.

Women are helped in cruel ways anywhere in the world (28). They experience situations of persecution, disrespect, abuse, negligence, and human rights violations by health workers, especially during childbirth (29). It is often seen in the obstetric room of women half-naked in the presence of strangers, or alone in hostile environments, in a submissive position, with legs open and raised and genital organs exposed, and routinely separated from their children soon after birth (30).

The density visualization (Figure 7.) shows a visualization of the density level of terms marked with colour. Blue means high density, while yellow means low density. High density means that the topic has been used a lot in previous research, while low density means that the topic has been used little in previous research. Violence in obstetric cases is largely ignored, especially in low- and middle-income countries. Therefore, for midwifery cases, low imaging topics such as midwifery, overweight and supervision are recommended research topics related to drug crime.

Conclusion

This study conducted a bibliometric analysis of medical crime publications of midwifery case studies from 2013 to 2023 at https://app.dimensions.ai/. The study showed some results. There is an upward trend among the many publications on medical crime in midwifery cases, the number of citations of medical crime in midwifery cases has increased, and the online visualization of medical crime in midwifery cases provides information to find new topics that are not related to each. others, there are five clusters in terms of co-occurrence, the overlay imaging of medical crime in obstetric cases provides a trend to future research topics,

medical crime in obstetric cases density imaging is still rare. The conclusion of the findings of this study is the development of a medical criminal investigation plan for midwifery cases.

Although this study contributed to https://app.dimensions.ai/ to provide the latest insight into medical crime trends in midwifery cases from 2013 to 2023, this study has limitations. Database https://app.dimensions.ai/ Update new releases from time to time. Therefore, a bibliometric analysis of labour pain interventions may be revised in the coming years. On the other hand, this bibliometric analysis only extracts scientific article information from the https://app.dimensions.ai/ database. Further research to include other databases to have a wider and more comprehensive understanding of medical crime in midwifery cases.

Reference
1. van der Waal R, Mayra K, Horn A, Chadwick R. Obstetric violence: an intersectional refraction through abolition feminism. Feminist Anthropology. 2023;4(1):91–114. https://doi.org/10.1002/fea2.12097
2. Damayanti FN, Mulyanti L, Poddar S. Juridical

Study of Criminal Law on Delegation of Authority of Obstetricians and Gynecologists to Midwives in Health Services. J Huk Novelty. 2023;14(2):272–87. https://doi.org/10.26555/novelty.v14i2.a25748

3. Franchuk V, Myroshnychenko M, Hnatjuk M, Kalyniuk N, Humenna N, Narizhna A, et al. Implementation of the decision tree method in expert analysis of the medical errors in obstetric practice. 2023; https://doi.org/10.36740/Merkur202302104

4. Bergamin E, Fiorillo A, Grassi VM, Lodise M, Vetrugno G, De-Giorgio F. Medical Professional Liability in Obstetrics and Gynecology: A Pilot Study of Criminal Proceedings in the Public Prosecutor's Office at the Court of Rome. In: Healthcare. MDPI; 2023. p. 1331. https://doi.org/10.3390/healthcare11091331

5. Damayanti FN, Absori A, Wardiono K. Legal protection of midwives based on professional justice in midwifery practices. IJPHRD. 2019;10(4):437–41. https://doi.org/10.5958/0976-5506.2019.00734.4

6. Bergamin E, Fiorillo A, Grassi VM, Lodise M, Vetrugno G, De-Giorgio F. Medical Professional Liability in Obstetrics and Gynecology: A Pilot Study of Criminal Proceedings in the Public Prosecutor's Office at the Court of Rome. Healthcare (Switzerland). 2023;11(9). https://doi.org/10.3390/healthcare11091331

7. Breslav I. Difficulties of Qualification of Crimes Committed in Obstetric and Gynecological Practice under Article 238 of the Russian Criminal Code. Russ Jurid J. 2022;41. https://doi.org/10.34076/20713797_2022_5_41

8. Begum, F., Ara, R., Islam, A., Marriott, S., Williams, A., & Anderson, R. Health System Strengthening Through Professional Midwives in Bangladesh: Best Practices, Challenges, and Successes. Global health, science and practice. 2023;11(5). https://doi.org/10.9745/GHSP-D-23-00081

9. Damayanti FN, Absori A, Wardiono K. Legal protection based on transcendental perspective against child sexual abuse in Indonesia. Medico-Legal Update. 2019;19(2):331–5. https://doi.org/10.5958/0974-1283.2019.00198.1

10. Vladislava P. Specifics of investigating crimes committed due to the lack of care during the provision of obstetric aid. 2018;

11. Brennan K. Reflections on criminalising obstetric violence: A feminist perspective. In: Childbirth, vulnerability and law. Routledge;

2019. p. 226–50. https://doi.org/10.4324/9780429443718-13

12. Chervenak FA, McLeod-Sordjan R, Pollet SL, Jones MDF, Gordon MR, Combs A, et al. Obstetric violence is a misnomer. American Journal of Obstetrics and Gynecology. 2024;230(3):S1138–45. https://doi.org/10.1016/j.ajog.2023.10.003

13. Absori A, Damayanti FN, Wardiono K, Rejeki S. Legal Protection Against Women in Sexual Violence. Indian Journal of Forensic Medicine & Toxicology. 2020;14(2).

14. Di Lello Finuoli M. Obstetric Violence in Italy. Hospitals. 2023;1(1):3–15. https://doi.org/10.3390/hospitals1010002

15. Fu Z, Lv J, Gao X, Zhang B, Li Y. Research trends and hotspots evolution of cardiac amyloidosis: a bibliometric analysis from 2000 to 2022. European. 2023; https://doi.org/10.1186/s40001-023-01026-5

16. Lam WH, Lam WS, Jaaman SH, Lee PF. Bibliometric Analysis of Information Theoretic Studies. Entropy. 2022;24(10). https://doi.org/10.3390/e24101359

17. Anuar A, Marwan NF, Smith J, Siriyanun S, Sharif A. Bibliometric analysis of immigration and environmental degradation: evidence from past decades. Environ Sci Pollut Res. 2022;29(9):13729–41. https://doi.org/10.1007/s11356-021-16470-1

18. Han X, Wei D. Advances in research on abused women in China: bibliometric analysis by cite space. Trauma, Violence, & Abuse. 2023;24(2):966–80. https://doi.org/10.1177/15248380211050562

19. Soytas RB. A bibliometric analysis of publications on COVID-19 and older adults. Ann Geriatr Med Res. 2021;25(3):197–203. https://doi.org/10.4235/agmr.21.0060

20. Syros A, Perez OF, Luxenburg D, Cohen JL, Swonger R, Huntley S. The most influential studies concerning revision shoulder arthroplasty research. J Orthop. 2022;34:349–56. https://doi.org/10.1016/j.jor.2022.09.019

21. Pahwa B, Goyal S, Chaurasia B. Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles. J Cerebrovasc Endovasc Neurosurg. 2022; https://doi.org/10.7461/jcen.2022.E2022.01.001

22. Page MJ, McKenzie JE, Bossuyt P, Boutron I, Hoffmann TC, Mulrow CD, et al. The Prisma 2020 statement: An updated guideline for reporting systematic reviews. Med Flum. 2021;57(4):444–65. https://doi.org/10.21860/medflum2021_264903

23. Van Eck NJ, Waltman L. Software survey:

VOSviewer, a computer program for bibliometric mapping. Scientometrics. 2010;84(2):523–38. https://doi.org/10.1007/s11192-009-0146-3

24. Khademi N, Heshmat F, Khodarahmi S, Nikbakht T, Mihandoust S. Frequency of phobia among sexual assault victims referred to legal medicine organization in Isfahan province. Journal of Family Medicine and Primary Care [Internet]. 2022 Apr 17;11(2):487–91. https://doi.org/10.4103/jfmpc.jfmpc_538_21

25. Collaborators GBD 2017 C of D, Roth GA, Abate D, Abate KH, Abay SM, Abbafati C, et al. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet 2018 May 8;392(10159):1736–88. https://doi.org/10.1016/s0140-6736(18)32203-7

26. Verity O. Obstetric Violence as a Civil Battery: Exploring the Limitations of Tort Law in the Context of Unauthorised Vaginal Examinations. Durham University; 2023.

27. Majety C, Bejugam S. Challenges and barriers faced by women in accessing justice against obstetric violence. Int J Reprod Contracept Obstet Gynecol. 2016;5:2899–903. https://doi.org/10.18203/2320-1770.ijrcog20162968

28. Geldenhuys K. Crime in our maternity wards-Obstetric violence. Servamus Community-based Safety and Security Magazine. 2022;115(5):28–30.

29. Reioux AJ. Obstetric Violence: A Survey of Women's Social and Legal Perceptions of Violence During Childbirth. George Mason University; 2023.

30. 30. Petrova TN. Features of investigation of crimes related to the low-quality of medical care at obstetrics. Consilium Medicum. 2017;19(6):9–31. https://doi.org/10.26442/2075-1753_19.6.9-31