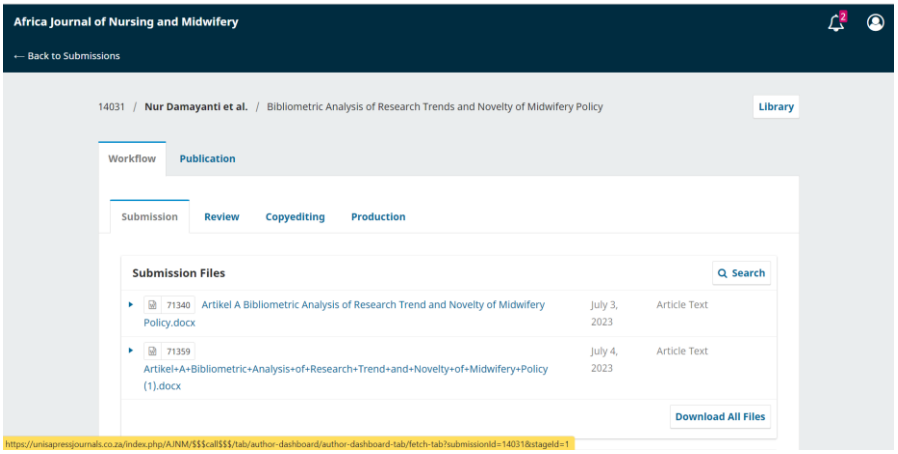
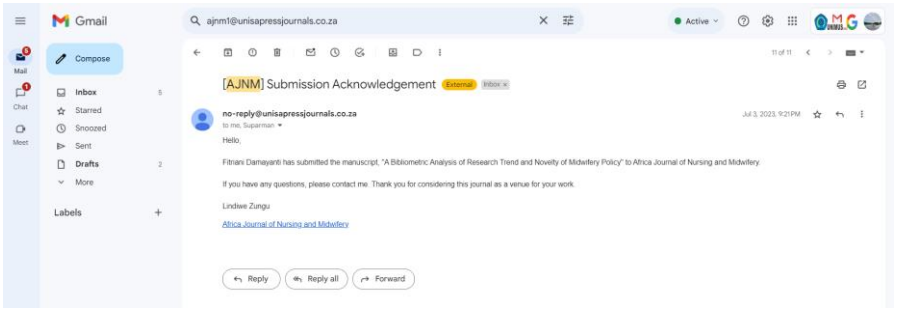
KORESPONDENSI

- **Judul Artikel:** Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy
- **ISSN:** 2550-0090
- **DOI:** https://doi.org/10.25159/2520-5293/14031
- **Publish:** Africa Journal of Nursing and Midwifery, #14031| 20pages
- **Publisher:** Africa Journal of Nursing and Midwifery, https://unisapressjournals.co.za/index.php/AJNM/Copyright
- **URL:** https://unisapressjournals.co.za/index.php/AJNM/article/view/14031
- **Tanggal Publisher:** 2024-02-08

Urutan file ini sebagai berikut:
1. Riwayat Submit
2. Manuskrip yang disubmit
3. Riwayat Review/review substatansi
4. Manuskrip setelah review
5. In Press
6. Artikel sudah publish

1. **RIWAYAT SUBMIT**





2. **MANUSKRIP YANG DISUBMIT**

A Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Abstract

Midwifery policy is very important in regulating midwifery services. Current midwifery policies still require research to be carried out because research evidence in midwifery can be used as an application of midwifery service practice to increase professionalism. However, there is no bibliometric analysis of midwifery policy publications to find out trends and novelties. This study aims to determine the trend of the number of publications, and visualization of the relationship on the topic of linear regression through bibliometric analysis. The research method uses systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to linear regression were retrieved via dimensions.ai from 2010 to 2022. The data was then

analyzed using Vosviewer. This study yielded the following findings. First, the number of publications and the number of citations on the topic of midwifery policy has increased exponentially from year to year. Second, there are 224 items, 8 clusters, 10047 links, and a link strength of 63352 on the topic of midwifery policy. Third, the trend of research related to midwifery policy focuses on hospitals, behavior, and framework. Fourth, research topics related to midwifery policy suggested are topics that have a low-density category, namely professional development, registration, and public health. Research findings can help related researchers to identify trends and novelties in midwifery policy research and recommend directions for further research

Keywords: bibliometrics analysis, midwifery policy, novelty, trend

Introduction

Policy health aim to design programs at the level central and local, so you can do change to determinants of health [1]. Impact policy health very big influence on the global and national world [2]. Policy in midwifery is very important in arranging service midwifery [3].

Midwifery policy has been researched by authors for various purposes. Among other things, are policies relating to health care facilities [4], policy in midwifery education settings [5], and policy on midwifery service [6]. The professionalism of midwives is a fundamental social contract between midwives and the community so professionalism is considered very important [7]. Current midwifery policies still require research to be carried out because research evidence in midwifery can be used as an application of midwifery service practices to increase professionalism [8]. Therefore, research on midwifery policy is still a hot topic for research.

Many countries are interested in the topic of midwifery policy. Interest in the topic of midwifery policy according to country served in Figure 1. Ghana is a country with interest in the topic of midwifery policy highest followed by Zambia.

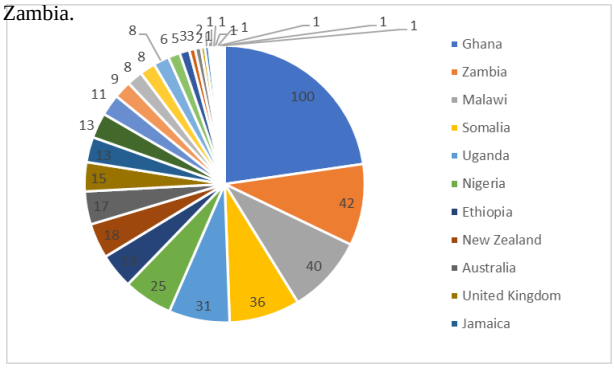


Figure 1: Histogram interest according to the country to midwifery policy

(Source Data: Google Trends)

The data describe interest in the topic of midwifery characteristic policies in general. Researchers who wish to research the topic of midwifery policy need information more special, for example, the publication of scientific in form articles scientific and producing seminars scientific to the topic of midwifery policy.

In research, researchers need information about trends and novelties for midwifery policy in the time future. this is a problem that arises among researchers. However, analysis of bibliometrics about publication midwifery policy for now trends and novelties nothing yet. Study this done for answer the questions following:

Q1. How many trends publications are on the topic of midwifery policy?

Q2. How many trends cite on the topic of midwifery policy?

Q3. How to network visualization on the topic of midwifery policy?

Q4. How to overlay visualization on the topic of midwifery policy?

Q5. How is density visualization on the topic of midwifery policy?

Analysis bibliometric is method scientific and quantitative for evaluating published articles, which can help researchers for find trend developments and research hotspots of the field study certain, giving development study period front for researchers[9]. Analysis bibliometrics helps researchers for identifying emerging areas and directions period front of the domain study with the help of tool visualization. Analysis bibliometrics has been used by various writers. For evaluating theory information registered in the database Scopus [10], for evaluating immigration and degradation environment [11], and for investigating trends in the study of radiotherapy glioma since 2011 [12].

The results obtained are very worth continuing to develop study scientific. This theme is midwifery policy for midwifery and those in need of study period past and past data front, like academics, researchers scientific, institute research, education tall institutions and personnel health [13].

Study this aim to find out the trend publications, the trend of many citations, network visualization, overlay visualization, and density visualization on topic linear regression through analysis bibliometrics.

To achieve the objectives of this research, this work is structured as follows. The first part describes the background, problems, and research objectives. The second part describes a literature study on the health system and midwifery policy. The third section describes the methods used, data collection, and data analysis. The fourth section presents the results of the research followed by a discussion. The fifth section provides conclusions, limitations, and recommendations.

Studies Literature

Health Systems

The health system owns very variation big, especially about limitation system health. According to definition the, system health can be understood "as consists of all organizations, institutions, and resources devoted to them for producing action health". In extended definition, system health consists of all organizations, people, and actions whose are goals mainly for promoting, restoring, or looking after health [14].

Success implementation system health needs made policy health to arrange the process [15]. Policy health is goals and objectives, as instruments, processes, and styles of a decision by taker decision, incl implementation as well as evaluation [16]. In policies and systems, health can do characteristic research interdisciplinary, taken from cross-knowledge of social and health [17]. It involves researchers from all departments, mainly studying interdisciplinary group knowledge health [18].

In policy health, there are unit parts among them policy nursing, policy midwifery, policy medicine, and soon.

Midwifery Policy

The midwife is an element more important than power Health is the front line in service health of mother and son [19]. Task midwife with others on pregnancy, childbirth, postpartum, baby new birth, and health reproduction [20]. In carrying out their job midwife arranged by regulation legislation [21].

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and development profession of midwife [22]. Implementation practice midwifery covers understanding system gift service midwifery and advocacy for the constitution as well as initiative enhancing policies quality in service midwifery [23]. Midwives too need protection law based on justice professionals in practice obstetrics must fulfill conditions in values of justice, that is own equity, opportunity, and equality right [24].

Policy midwifery is proven form framework work ethics obstetrics used in practice midwifery. use ethics midwifery by midwives to increase performance [25].

Methodology

There are five types of studies metric for data analysis namely: scientometrics, bibliometrics, cybermetrics, informetrics, and altmetrics [26]. Like in, analysis bibliometrics is used in the study. Analysis bibliometrics is more suitable for analysis in a manner quantitative spread paper research, terms, and keywords in determining trend study [27]. On the side, analysis bibliometric is a method of research used in knowledge libraries and information. To evaluate performance study [28]. Analysis bibliometrics is very important in evaluating impact studies where studies are given a ranking based on the quote received [29].

Data used in the study this based on an online search through https://app.dimensions.ai/ . Data retrieved May 30, 2023. Method study uses review systematic (systematic reviews) with stages following diagram flow Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [30]. Stages in PRISMA cover identification (identification), screening (screening), and including (included) such as in Figure 5. Stage 1 (Identification) detected 776 records from dimensions.ai, with consideration, for every term search main midwifery policy, "type document articles and proceedings" and "all published data in data range from 2010 to 2022". In stage 2 (filtering), the option "title article, abstract" is selected in the field every term search, and up to 50 records are issued. In phase 3 (incl.), the sample and produce article 726, which can be accessed.

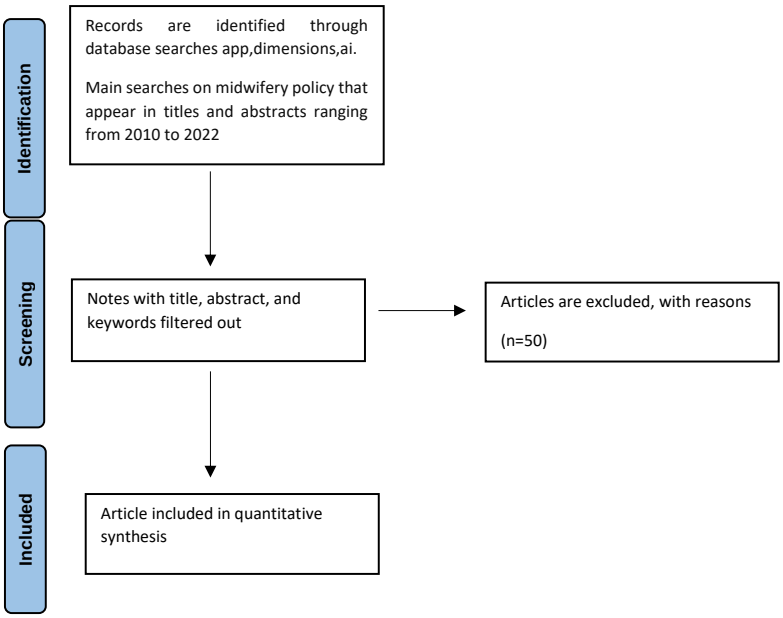


Figure 2 PRISMA flowchart [30]

Data analyzed use VOSviewer. VOSviewer is a computer program for creating and seeing map bibliometrics [31]. In the study, this analysis was reviewed by co-occurrence and co-author.

The procedure for analysis of co-occurrence is as follows. Data sources are selected to read data from reference manager files. Choose fields chosen fields from which terms will b extracted are title and abstract fields. The counting method selected full counting. The threshold chosen minimum number of occurrences of a term is 10. Choose many terms selected 224.

The procedure for the analysis co-author is as follows. Choose the type of data: create a map based on bibliographic data. Choose this option to create a co-authorship folder based on bibliographic data. Choose

data source: read data from reference manager files. Supported file type: ris. Choose the type of analysis and counting method: the type of analysis is co-authorship and the counting method is full counting. Choose threshold: the maximum number of documents of an author is 2. Of the 498 authors, 58 met the threshold. Choose the author: For each of the 58 authors, the total strength of the co-authorship links with other authors will b calculated. The authors with the greatest total link strength will be selected. The number of authors to be selected is 58.

Results and Discussion

Part This decipher results research and discussion.

Results

Analysis of Number Publications

Searches from 2010 to 2022 yielded results publication article scientific. The amount of publications on midwifery policy per year from 2010 to 2022 is presented in Figure 3. Enhancement highest happens in the year 2021 with an increase of 103. Meanwhile, the increase Lowest happen in 2010 with an increase of 93.

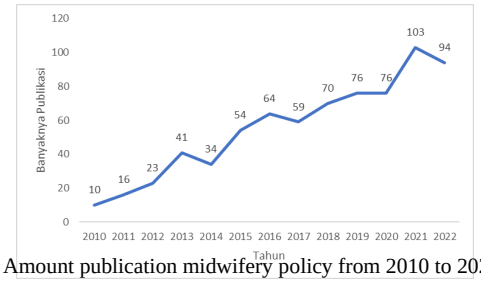


Figure 3 Amount publication midwifery policy from 2010 to 2022 (source: https://app.dimensions.ai/)

Analysis of Citation

The amount citation for midwifery policy per year from 2010 to 2022 is presented in Figure 4. Improvement highest happens in the year 2022 with an increase of 2319. Meanwhile, the increase Lowest happen in 2010 with an increase of 2317.

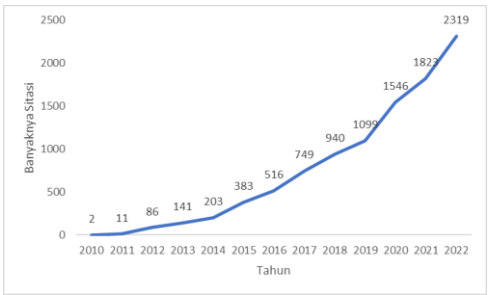


Figure 4 Amount citations For topic midwifery policy from 2010 to 2022

(source: https://app.dimensions.ai/)

Analysis of Networks

Network visualization of 224 terms. This is served in Figure 5.

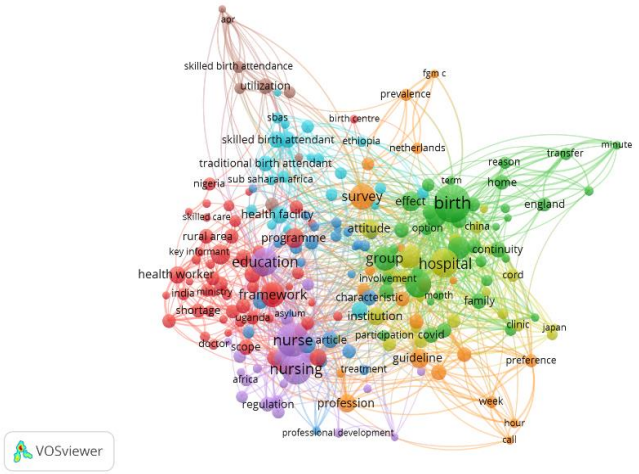


Figure 5: Network visualization (source: VOSviewer)

Election many terms are as many as 224. The two items are connected by a line shows that those two items appear together in something title and abstract. Conversely, the two items are not connected by a line shows that those two items No appear together in the title and abstract. In Figure 5, there are 224 items, 8 clusters, 10047 links, and a strength link of 63352.

Analysis of Overlays

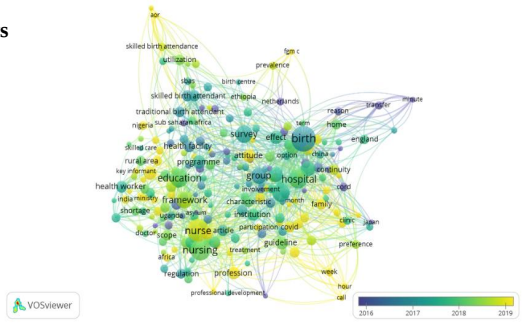


Figure 6: Overlay visualization (source: VOSviewer)

VOSviewer also provides map overlay visualization. Overlay visualization of 224 terms This served in Figure 6. Visualization overlays give analysis based on keywords midwifery policy from 2010 to 2022 to observe trend title study related midwifery policy. Based on map overlay visualization in Figure 6, knot yellow implies that the keyword is interest study moment this. For example, trend study moment This in midwifery policy focus on hospital, attitude, and framework.

Analysis of Density

Density visualization of 224 terms. This served in Figure 7.

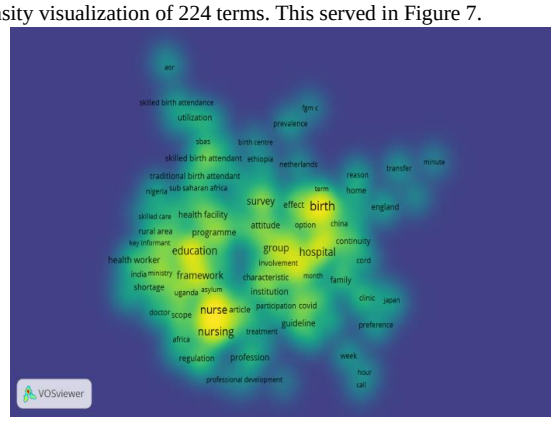


Figure 7: Density visualization (source: VOSviewer)

Figure 7 shows visualization density with lots of items there are several items, among other things pregnancy, birth, and education. Some items with colored knots yellow means have lots made a topic in publication journals before. So, the topic study related to midwifery suggested policies is a topic that has visualization density in category low for example professional development, registration, and public health.

Analysis of Co-Author

Network visualization for co-author served on Figure 8.

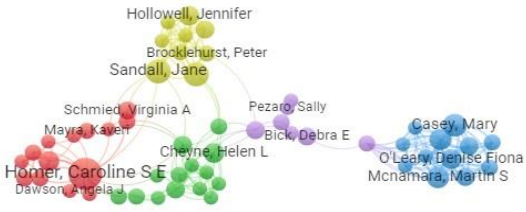


Figure 8: Network visualization For co-author (source: VOSviewer)

Figure 8 displays map collaboration between writer main based on co-authorship analysis. Writer pusher theme This is related to group network visualization, during the analyzed period (2010-2022), indicating dispersion certain in association writer based on method co-authorship. Network visualization consists of 58 researchers, 218 co-authorship links, 498 total co-authorships, and 5 clusters.

Discussion

The analysis is bibliometric and has been used in studies on the topic of midwifery policy in the field of midwifery. Based on Figure 3, analysis bibliometric to determine the results of research from midwifery policy. Studies show that from 2010 to 2022, a lot of publication policy midwifery's smallest happened in 2010 and the highest in 2020 with an average of 55 (figure 9). The number of publications increases from year to year in a manner exponential.

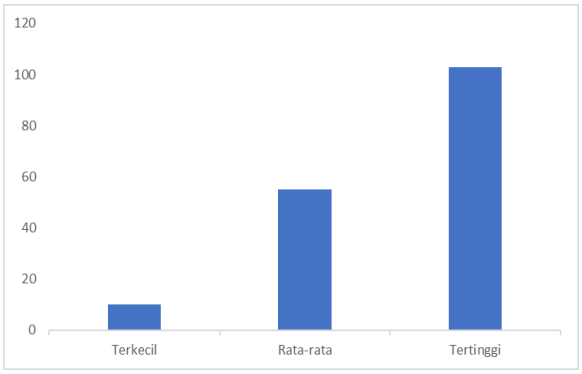


Figure 9: Histograms increase many publications smallest, average, and highest for the topic midwifery policy.

Based on Figure 4, ascension many citations of midwifery policies smallest happen in 2010 and highest in 2022 with an average of 755 (figure 10). The amount citation Also increases from year to year in a manner exponential. Most articles lots citation article entitled ‘Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: ‘The Birthplace in England national prospective cohort studies [31] 629 citations followed by an article entitled 'The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions [32] as many as 308 citations.

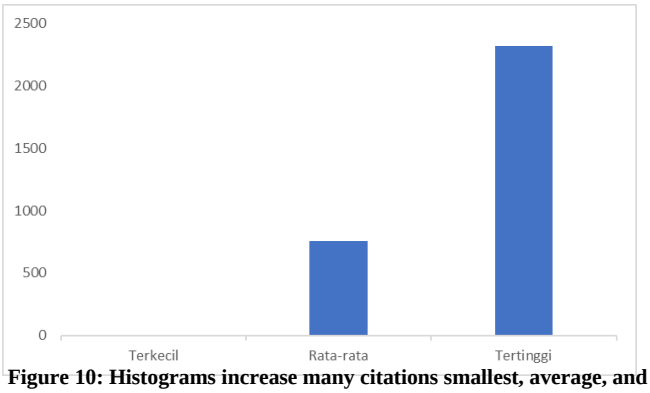


Figure 10: Histograms increase many citations smallest, average, and largest for the topic midwifery policy

To produce images 5 and 6 using VOSviewer the usage is explained as follows. The type of data is selected to create a map based on text data, to create a term co-occurrence sorry based on text data. Data sources are selected to read data from reference manager files because supported file type: ris. The threshold chosen minimum number of occurrences of a term is 10. This results in 373 meet the threshold of the 9248 terms. For each of the 373 terms, a relevance score will be calculated. Based on this score, The most relevant terms will be selected. The default choice is to select 60% most relevant terms.

Based on figure 5 shows that of the 224 items, there are 8 clusters. Cluster 1 (60 items), cluster 2 (40 items), cluster 3 (26 items), cluster 4 (26 items), cluster 5 (22 items), cluster 6 (22 items), cluster 7 (21 items), and cluster 8 (8 items). kindly more detail, on clusters. This is served in Table 1.

Table 1: Clusters For topic midwifery policy (Source: VOSviewer)

Cluster	Number of items	Member items cluster
1	60	Abortion, acceptability, accessibility, birth center, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker**
2	40	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, involvement, labor, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience
3	26	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment
4	25	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage
5	22	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development,
6	22	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust
7	21	Ethnicity, prevalence, organization, **national policy**, organization, primary care midwife, profession, screening, survey
8	8	Antenatal care, aor, gap, **midwifery practice**, utilization, skill birth attendance

Based on figure 6, shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality study, association, and integration.

Later, a contribution to the topic focused on midwifery-related policies not only on service just but the view of the facilities service obstetrics, system health, association profession, and internal stakeholders policy midwifery [34]. Midwives behave proactively and can see change practice of midwifery as an opportunity, anticipate the possibility of obstacle practice in the time ahead, go on focus on identifying and improving bad and moderate practices look for a viable alternative For carrying out work as efficiently and as effectively possible [35]. Proactive midwives maintain focus on the enhancement of quality, the efficiency of work, and the attitude overcome for increasing the integrity of work [36].

In the same way, works the has analyzed midwifery policy in various studies [37]. This can impact globally, service useful obstetrics for profession and society [38]. Several factors have been associated with the description of profession obstetrics and the enhancement of quality service midwifery over periods long [39].

Various sub-period in which activity scientific about the topic developed during 2010-2022 represent gathering term overflowing keys. In the title, abstract, and keywords of the article in the sample, VOSviewer has identified different keywords this possible to validate the breadth axis study in activity research.

Based on figure 7 shows that researchers, institutions, countries, and journals with the amount of paper biggest or frequency quote originate country forward. The more notice for the use of some new ones for methods experimental in exploring the study of midwifery policy [40].

Several topic studies related to midwifery suggested policies topic professional development, registration, public health, preference, aor, minute. The topic this own great opportunity for study related to midwifery policy. because in research previously still, lots discuss linkages on service midwifery [41]. Analysis opportunities on topic study can give several outlooks for researchers and practitioners' education to identify which direction study important [42]. Through analysis fill, it finds that researchers notice topics like this [43].

The room scope study was very broad and involved content lots of research resulting study no focus. Method research used can cover qualitative, quantitative, and research mixture [44].

Related topics with midwifery policy become the focus study in the development of knowledge of midwifery. Results of the analysis bibliometric show that field study midwifery policy characteristic wide, cross-discipline [45].

Studies will help readers understand the dynamics of trend development topic research of the results research. That will help researchers with fast identify hot spots and focus problem research, guiding them to find the most references and influence and choose the most researchers influential or relevant and institutional for cooperation [46]. Through analysis results, it should help the researcher find the contribution of the journal's main direction and encourage the development study more carry on achievements in institutions study scientific [47].

Based on figure 8 shows studies of the bibliometric moment which highlight midwifery developed policies over several years last. Studies also serve topics and trends study principal of time to time, consisting of countries leading organizations, and related sources (journals) with midwifery policy [48].

Findings moment show Australia occupies a ranking higher all over the world in analysis bibliometric because amount maximum publications and citations. Writing together, excerpt, clutch bibliography, and analysis co-author. Also, disclose the number of "BMC Pregnancy and Childbirth" in matter publications and citations more than a journal other who contributed to the study of midwifery policy.

Analysis of co-authorship of the network social help differentiates between pattern strong and weak collaboration besides it, to evaluate the contributing writer. For the team [49]. Findings moment also show that connecting writers in an analysis network increases the number of quote papers, which coincides with the study previously [50].

The results analysis explains that Caroline SE Homer is the author with the most lots citations 338 out of 16 publications this is based on a merger bibliography, writing together, and quotes together.

Conclusion

This study conducted a bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. This research shows several results. Among the many publications on the topic of midwifery policy, there is an increasing trend, the number of citations on the topic of midwifery policy has increased. The link between the topic of midwifery policy and several other topics can be analyzed using VOSviewer, namely network visualization, overlay visualization, and density visualization.

This research showcases themes, trends, prolific authors, core journals, leading country ratings and collaborations, and midwifery policy research groups. This study provides a systematic review of midwifery policy over time. The results of research on the trend of midwifery policy include, among others, hospital, attitude, framework, experience, health system, stakeholder, profession, quality study, association, and integration. Topics related to midwifery policy that have opportunities in research are the topics of professional development, registration, public health, preference, aor, and minute. The close relationship

between the topic of midwifery policy and other topics, namely policy makers, midwifery unit, patient safety, healthcare professionals, midwifery council, regulation, national policy, and midwifery practice.

Although this research has contributed to providing insight into the development of midwifery policy publications from 2010 to 2022 through app.dimension.ai, this research has limitations. The app.dimensional.ai database keeps updating new publications from time to time. Therefore, the midwifery policy bibliometric analysis can be reviewed in the next few years. In addition, this bibliometric analysis only extracts scientific article data from the app.dimension.ai database. Further research is in order to add other databases for a broader and more comprehensive understanding of midwifery policy.

Acknowledgment

The authors would like to thank the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software make it easier for writers to find and analyze data related to scientific articles.

BIBLIOGRAPHY

[1] K. Oliver and Z. Parolin, “Assessing the policy and practice impact of an international policy initiative: The State of the World’s Midwifery 2014,” *BMC Health Serv. Res.*, vol. 18, no. 1, p. 499, May 2018, doi: 10.1186/s12913-018-3294-4.

[2] J. K. Shakpeh *et al.*, “Normal physiologic birth continuing professional development: From a national health priority to expanded capacity,” *Ann. Glob. Heal.*, vol. 87, no. 1, p. 99, May 2021, doi: 10.5334/aogh.3247.

[3] S. Ruhmel, E. Ndirangu-Mugo, J. Mwizerwa, A. Sarki, and E. Pallangyo, “Capacity building among nursing and midwifery professional associations in East Africa,” *Glob. Health Action*, vol. 15, no. 1, p. 2118173, May 2022, doi: 10.1080/16549716.2022.2118173.

[4] K. Mayra, S. S. Padmadas, and Z. Matthews, “Challenges and needed reforms in midwifery and nursing regulatory systems in India: Implications for education and practice,” *PLoS One*, vol. 16, no. 5 May, p. e0251331, May 2021, doi: 10.1371/journal.pone.0251331.

[5] D. Pollock *et al.*, “Undertaking a scoping review: A practical guide for nursing and midwifery students, clinicians, researchers, and academics,” *J. Adv. Nurs.*, vol. 77, no. 4, pp. 2102–2113, May 2021, doi: 10.1111/jan.14743.

[6] A. McFadden *et al.*, “Systematic review of barriers to, and facilitators of, the provision of high-quality midwifery services in India,” *Birth*, vol. 47, no. 4, pp. 304–321, May 2020, doi: 10.1111/birt.12498.

[7] R. B. Soytas, “A bibliometric analysis of publications on covid-19 and older adults,” *Annals of Geriatric Medicine and Research*, vol. 25, no. 3. ncbi.nlm.nih.gov, pp. 197–203, 2021. doi: 10.4235/agmr.21.0060.

[8] C. A. Mattison, K. Bourret, and M. L. Dion, “Leveling up evidence syntheses: filling conceptual gaps of the role of midwifery in health systems through a network analysis,” *BMC Res. Notes*, vol. 15, no. 1, p. 216, May 2022, doi: 10.1186/s13104-022-06094-0.

[9] W. H. Lam, W. S. Lam, S. H. Jaaman, and P. F. Lee, “Bibliometric Analysis of Information Theoretic Studies,” *Entropy*, vol. 24, no. 10, 2022, doi: 10.3390/e24101359.

[10] A. Anuar, N. F. Marwan, J. Smith, S. Siriyanun, and ..., “Bibliometric analysis of immigration and environmental degradation: evidence from past decades,” *... Sci. Pollut. ...*, 2022, doi: 10.1007/s11356-021-16470-1.

[11] Y. Zhang, D. Lim, Y. Yao, C. Dong, and Z. Feng, “Global research trends in radiotherapy for gliomas: a systematic bibliometric analysis,” *World Neurosurg.*, 2022.

[12] E. Abad-Segura, M. D. González-Zamar, J. Gómez-Galán, and ..., “Management accounting for healthy nutrition education: meta-analysis,” *Nutrients*, 2020.

[13] C. Mattison *et al.*, “Health systems factors impacting the integration of midwifery: An evidence-informed framework on strengthening midwifery associations,” *BMJ Glob. Heal.*, vol. 6, no. 6, p. e004850, May 2021, doi: 10.1136/bmjgh-2020-004850.

[14] M. Jasper and F. Crossan, “What is strategic management?,” *J. Nurs. Manag.*, vol. 20, no. 7, pp. 838–846, May 2012, doi: 10.1111/jonm.12001.

[15] J. A. Asamani, N. P. Amertil, H. Ismaila, A. A. Francis, M. M. Chebere, and J. Nabyonga-Orem, “Nurses and midwives demographic shift in Ghana - The policy implications of a looming crisis,” *Hum. Resour. Health*, vol. 17, no. 1, p. 32, May 2019, doi: 10.1186/s12960-019-0377-1.

[16] B. Courtot, I. Hill, C. Cross-Barnet, and J. Markell, “Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care,” *Milbank Q.*, vol. 98, no. 4, pp. 1091–1113, May 2020, doi: 10.1111/1468-0009.12473.

[17] S. Innvaer, G. Vist, M. Trommald, and ..., “Health policy-makers’ perceptions of their use of evidence: a systematic review,” *J. Heal. …*, 2002, doi: 10.1258/135581902320432778.

[18] A. Nove, P. ten Hoope-Bender, N. T. Moyo, and M. Bokosi, “The Midwifery services framework: What is it, and why is it needed?,” *Midwifery*. Elsevier, 2018.

[19] N. Tickle, M. Sidebotham, J. Fenwick, and J. Gamble, “Women’s experiences of having a Bachelor of Midwifery student provide continuity of care,” *Women and Birth*, vol. 29, no. 3, pp. 245–251, May 2016, doi: 10.1016/j.wombi.2015.11.002.

[20] J. Harris, S. Beck, N. Ayers, D. Bick, B. W. Lamb, and ..., “Improving teamwork in maternity services: A rapid review of interventions,” *Midwifery*, 2022.

[21] S. C. Lopes, P. Titulaer, M. Bokosi, C. S. E. Homer, and P. ten Hoope-Bender, “The involvement of midwives associations in policy and planning about the midwifery workforce: A global survey,” *Midwifery*, vol. 31, no. 11, pp. 1096–1103, May 2015, doi: 10.1016/j.midw.2015.07.010.

[22] C. Van Hoover, “Innovation in health policy education: Project-based service learning at a distance for graduate midwifery students,” *J. Midwifery Womens. Health*, 2015, doi: 10.1111/jmwh.12264.

[23] F. N. Damayanti, A. Absori, and K. Wardiono, “Legal Protection of Midwives Based on Professional Justice in Midwifery Practices.” repository.unimus.ac.id, 2019.

[24] K. Buchanan, E. Newnham, D. Ireson, C. Davison, and S. Geraghty, “Care ethics framework for midwifery practice: A scoping review,” *Nurs. Ethics*, vol. 29, no. 5, pp. 1107–1133, May 2022, doi: 10.1177/09697330221073996.

[25] P. D. Chellappandi Ph Assistant Professor and C. Vijayakumar, “Bibliometrics, Scientometrics, Webometrics / Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research,” *Int. J. Educ.*, vol. 7, no. 1, pp. 5–8, 2018.

[26] G. V Murugesu, S. A. Khalid, and ..., “Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective,” *ASEANA Sci. …*, 2022.

[27] A. Syros, O. F. Perez, D. Luxenburg, J. L. Cohen, and ..., “The most influential studies concerning revision shoulder arthroplasty research,” *J. …*, 2022.

[28] B. Pahwa, S. Goyal, and B. Chaurasia, “Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles,” *… of Cerebrovascular and …*. synapse.koreamed.org, 2022.

[29] M. J. Page, J. E. McKenzie, P. M. Bossuyt, I. Boutron, and ..., “The PRISMA 2020 statement: an updated guideline for reporting systematic reviews,” *International journal of …*. Elsevier, 2021.

[30] N. J. van Eck and L. Waltman, “Software survey: VOSviewer, a computer program for bibliometric mapping,” *Scientometrics*, vol. 84, no. 2, pp. 523–538, 2010, doi: 10.1007/s11192-009-0146-3.

[31] P. Brocklehurst *et al.*, “Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study,” *BMJ*, vol. 343, no. 7840, p. d7400, May 2012, doi: 10.1136/bmj.d7400.

[32] K. E. Sleeman *et al.*, “The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions,” *Lancet Glob. Heal.*, vol. 7, no. 7, pp. e883–e892, 2019, doi: 10.1016/S2214-109X(19)30172-X.

[33] D. Ménage, E. Bailey, S. Lees, and J. Coad, “A concept analysis of compassionate midwifery,” *J. Adv. Nurs.*, vol. 73, no. 3, pp. 558–573, May 2016, doi: 10.1111/jan.13214.

[34] A. Nove, N. T. Moyo, M. Bokosi, and S. Garg, “The Midwifery Services Framework: The process of implementation,” *Midwifery*, vol. 58, pp. 96–101, May 2017, doi: 10.1016/j.midw.2017.12.013.

[35] A.-B. Moller *et al.*, “Are midwives ready to provide quality evidence-based care after pre-service training? Curricula assessment in four countries—Benin, Malawi, Tanzania, and Uganda,” *PLOS Glob. Public Heal.*, vol. 2, no. 9, p. e0000605, May 2022, doi: 10.1371/journal.pgph.0000605.

[36] A. Nove, N. T. Moyo, M. Bokosi, and S. Garg, “The Midwifery Services Framework: The process

of implementation," *Midwifery*, vol. 58, pp. 96–101, May 2018, doi: 10.1016/j.midw.2017.12.013.

[37] S. Touriño *et al.*, "Knowledge, attitudes and practices of spanish midwives and midwifery students toward oral healthcare during pregnancy," *Int. J. Environ. Res. Public Health*, vol. 18, no. 11, p. 6089, May 2021, doi: 10.3390/ijerph18116089.

[38] A. Bukkfalvi-Cadotte, "The professional identity of Lithuanian midwifery students: An exploratory study," *Eur. J. Midwifery*, vol. 4, no. October, pp. 1–4, May 2020, doi: 10.18332/ejm/127515.

[39] A. Glasper, "Professionalism in practice," *Br. J. Nurs.*, vol. 26, no. 12, pp. 706–707, Jun. 2017, doi: 10.12968/bjon.2017.26.12.706.

[40] K. Osborne, "Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives," *J. Midwifery Womens. Health*, vol. 62, no. 3, pp. 341–347, May 2017, doi: 10.1111/jmwh.12615.

[41] R. R. Jolivet, J. Gausman, N. Kapoor, A. Langer, J. Sharma, and K. E. A. Semrau, "Operationalizing respectful maternity care at the healthcare provider level: a systematic scoping review," *Reprod. Health*, vol. 18, no. 1, p. 194, May 2021, doi: 10.1186/s12978-021-01241-5.

[42] P. C. Webster, "Indonesia: the midwife and maternal mortality miasma.," *CMAJ*, vol. 185, no. 2, pp. e95–e96, May 2013, doi: 10.1503/cmaj.109-4347.

[43] D. J. Hall and D. S. Way, "A discussion paper: Do national maternity policy reviews take account of the education and training of the future midwifery workforce? An example from England," *Midwifery*, vol. 62, pp. 278–280, May 2018, doi: 10.1016/j.midw.2018.03.019.

[44] W. H. Organization, "Global strategic directions for nursing and midwifery 2021-2025." apps.who.int, 2021.

[45] T. Li *et al.*, "A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science," *J. Multidiscip. Healthc.*, vol. 16, pp. 677–692, May 2023, doi: 10.2147/JMDH.S398218.

[46] O. J. Baruwa, A. Y. Amoateng, and S. Mkwananzi, "Association between type of birth attendants and neonatal mortality: Evidence from a National survey," *Afr. Health Sci.*, vol. 21, no. 4, pp. 1870–1876, May 2021, doi: 10.4314/ahs.v21i4.45.

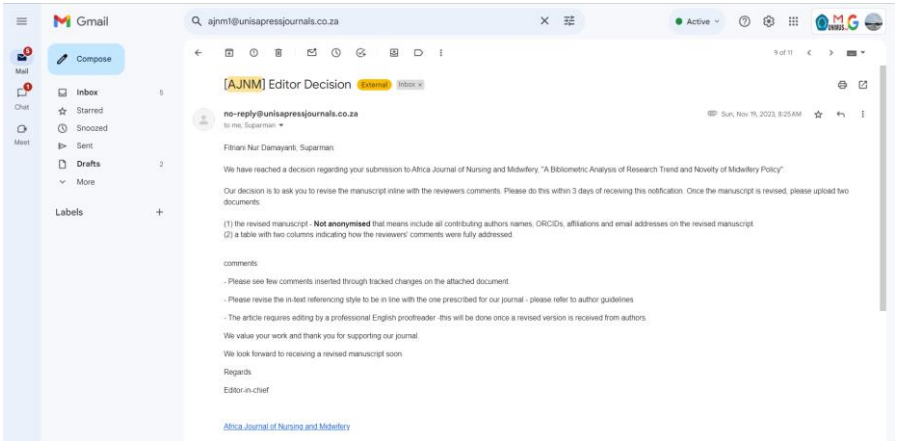
[47] C. M. E. Reynolds, L. E. McMahon, E. G. O'Malley, M. P. O'Connell, S. R. Sheehan, and M. J. Turner, "Trends in private maternity care in Ireland's capital during and after the Great Economic Recession 2009–2017," *Irish J. Med. Sci. (1971 -)*, vol. 190, no. 3, pp. 933–940, May 2020, doi: 10.1007/s11845-020-02415-z.

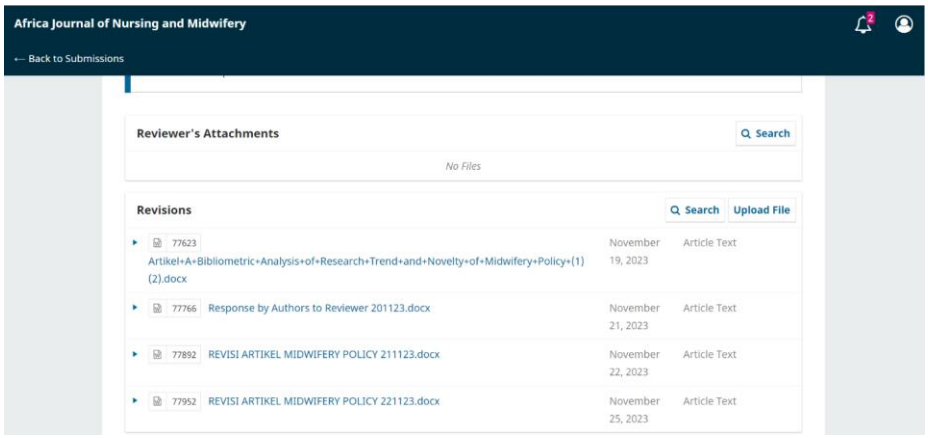
[48] J. He, L. Wan, W. Yang, and B. Luo, "Visual Analysis of Midwifery Research in China Based on

Bibliometrics," *J. Midwifery Women's …*, 2022, doi: 10.1111/jmwh.13379.

[49] P. M. Davidson, P. J. Newton, C. Ferguson, J. Daly, and ..., "Rating and ranking the role of bibliometrics and webometrics in nursing and midwifery," *The Scientific World …*. hindawi.com, 2014.

3. RIWAYAT REVIEW/REVIEW SUBSTATANSI





REVIEW 1

A Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Abstract

Midwifery policy is very important in regulating midwifery services. Current midwifery policies still require research to be carried out because research evidence in midwifery can be used as an application of midwifery service practice to increase professionalism. However, there is no bibliometric analysis of midwifery policy publications to find out trends and novelties. This study aims to determine the trend of the number of publications, and visualization of the relationship on the topic of linear regression through bibliometric analysis. The research method uses systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to linear regression were retrieved via dimensions.ai from 2010 to 2022. The data was then analyzed using Vosviewer. This study yielded the following findings. First, the number of publications and the number of citations on the topic of midwifery policy has increased exponentially from year to year. Second, there are 224 items, 8 clusters, 10047 links, and a link strength of 63352 on the topic of midwifery policy. Third, the trend of research related to midwifery policy focuses on hospitals, behavior, and framework. Fourth, research topics related to midwifery policy suggested are topics that have a low-density category, namely professional development, registration, and public health. Research findings can help related researchers to identify trends and novelties in midwifery policy research and recommend directions for further research

Keywords: bibliometrics analysis, midwifery policy, novelty, trend

Introduction

Policy health aim to design programs at the level central and local, so you can do change to determinants of health [1]. Impact policy health very big influence on the global and national world [2]. Policy in midwifery is very important in arranging service midwifery [3].

Midwifery policy has been researched by authors for various purposes. Among other things, are policies relating to health care facilities [4], policy in midwifery education settings [5], and policy on midwifery service [6]. The professionalism of midwives is a fundamental social contract between midwives and the

community so professionalism is considered very important [7]. Current midwifery policies still require research to be carried out because research evidence in midwifery can be used as an application of midwifery service practices to increase professionalism [8]. Therefore, research on midwifery policy is still a hot topic for research.

Many countries are interested in the topic of midwifery policy. Interest in the topic of midwifery policy according to country served as shown in Figure 1. Ghana is a country with interest in the topic of midwifery policy highest followed by Zambia.

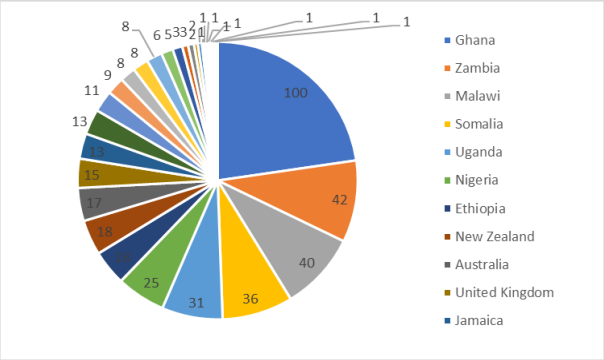


Figure 1: Histogram interest according to the country to midwifery policy

(Source Data: Google Trends)

Commented [ZL1]: Please replace this with a reputable source and include the year of publication.

The data describe interest in the topic of midwifery characteristic policies in general. Researchers who wish to research the topic of midwifery policy need information more special, for example, the publication of scientific in form articles scientific and producing seminars scientific to the topic of midwifery policy.

In research, researchers need information about trends and novelties for midwifery policy in the time future. this is a problem that arises among researchers. However, analysis of bibliometrics about publication midwifery policy for now trends and novelties nothing yet. Study this done for answer the questions following:

Commented [ZL2]: This is unclear. Can you elaborate on this in order to make it informative?

Q1. How many trends publications are on the topic of midwifery policy?

Q2. How many trends cite on the topic of midwifery policy?

Q3. How to network visualization on the topic of midwifery policy?

Q4. How to overlay visualization on the topic of midwifery policy?

Q5. How is density visualization on the topic of midwifery policy?

Analysis bibliometric is method scientific and quantitative for evaluating published articles, which can help researchers for find trend developments and research hotspots of the field study certain, giving development study period front for researchers[9]. Analysis bibliometrics helps researchers for identifying emerging areas and directions period front of the domain study with the help of tool visualization. Analysis bibliometrics has been used by various writers. For evaluating theory information registered in the database Scopus [10], for evaluating immigration and degradation environment [11], and for investigating trends in the study of radiotherapy glioma since 2011 [12].

The results obtained are very worth continuing to develop study scientific. This theme is midwifery policy for midwifery and those in need of study period past and past data front, like academics, researchers scientific, institute research, education tall institutions and personnel health [13].

Study this aim to find out the trend publications, the trend of many citations, network visualization, overlay visualization, and density visualization on topic linear regression through analysis bibliometrics.

To achieve the objectives of this research, this work is structured as follows. The first part describes the background, problems, and research objectives. The second part describes a literature study on the health system and midwifery policy. The third section describes the methods used, data collection, and data analysis. The fourth section presents the results of the research followed by a discussion. The fifth section provides conclusions, limitations, and recommendations.

Studies Literature

Health Systems

The health system owns very variation big, especially about limitation system health. According to definition the, system health can be understood "as consists of all organizations, institutions, and resources devoted to them for producing action health". In extended definition, system health consists of all organizations, people, and actions whose are goals mainly for promoting, restoring, or looking after health [14].

Success implementation system health needs made policy health to arrange the process [15]. Policy health is goals and objectives, as instruments, processes, and styles of a decision by taker decision, incl implementation as well as evaluation [16]. In policies and systems, health can do characteristic research interdisciplinary, taken from cross-knowledge of social and health [17]. It involves researchers from all departments, mainly studying interdisciplinary group knowledge health [18].

In policy health, there are unit parts among them policy nursing, policy midwifery, policy medicine, and soon.

Midwifery Policy

The midwife is an element more important than power Health is the front line in service health of mother and son [19]. Task midwife with others on pregnancy, childbirth, postpartum, baby new birth, and health reproduction [20]. In carrying out their job midwife arranged by regulation legislation [21].

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and development profession of midwife [22]. Implementation practice midwifery covers understanding system gift service midwifery and advocacy for the constitution as well as initiative enhancing policies quality in service midwifery [23]. Midwives too need protection law based on justice professionals in practice obstetrics must fulfill conditions in values of justice, that is own equity, opportunity, and equality right [24].

Policy midwifery is proven form framework work ethics obstetrics used in practice midwifery. use ethics midwifery by midwives to increase performance [25].

Methodology

There are five types of studies metric for data analysis namely: scientometrics, bibliometrics, cybermetrics, informetrics, and altmetrics [26]. Like in, analysis bibliometrics is used in the study. Analysis bibliometrics is more suitable for analysis in a manner quantitative spread paper research, terms, and keywords in determining trend study [27]. On the side, analysis bibliometric is a method of research used in knowledge libraries and information. To evaluate performance study [28]. Analysis bibliometrics is very important in evaluating impact studies where studies are given a ranking based on the quote received [29].

Data used in the study this based on an online search through https://app.dimensions.ai/ . Data retrieved May 30, 2023. Method study uses review systematic (systematic reviews) with stages following diagram flow Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [30]. Stages in PRISMA cover identification (identification), screening (screening), and including (included) such as in Figure 5. Stage 1 (Identification) detected 776 records from dimensions.ai, with consideration, for every term search main midwifery policy, “type document articles and proceedings” and “all published data in data range from 2010 to 2022”. In stage 2 (filtering), the option “ title article, abstract” is selected in the field every term search, and up to 50 records are issued. In phase 3 (incl.), the sample and produce article 726, which can be accessed.

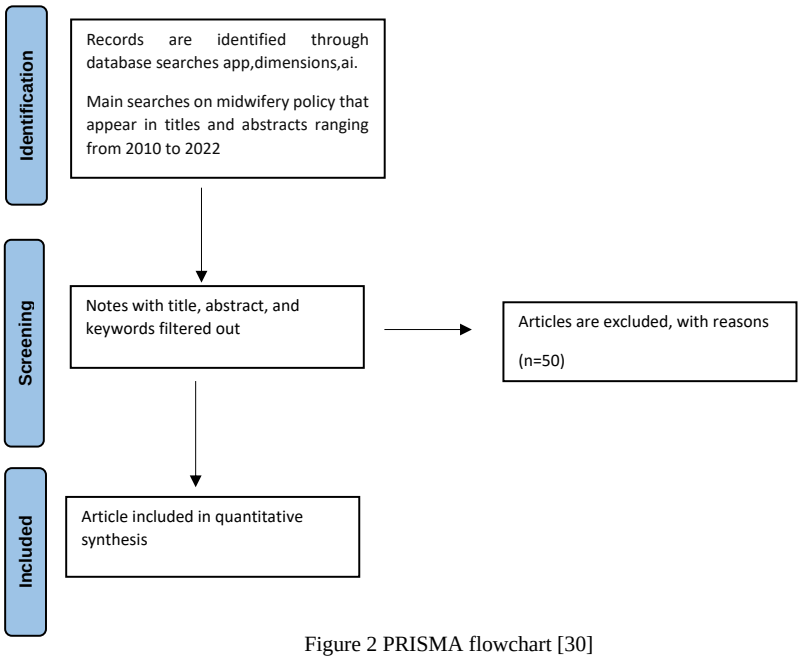


Figure 2 PRISMA flowchart [30]

Data analyzed use VOSviewer. VOSviewer is a computer program for creating and seeing map bibliometrics [31]. In the study, this analysis was reviewed by co-occurrence and co-author.

The procedure for analysis of co-occurrence is as follows. Data sources are selected to read data from reference manager files. Choose fields chosen fields from which terms will b extracted are title and abstract fields. The counting method selected full counting. The threshold chosen minimum number of occurrences of a term is 10. Choose many terms selected 224.

The procedure for the analysis co-author is as follows. Choose the type of data: create a map based on bibliographic data. Choose this option to create a co-authorship folder based on bibliographic data. Choose data source: read data from reference manager files. Supported file type: ris. Choose the type of analysis and counting method: the type of analysis is co-authorship and the counting method is full counting. Choose threshold: the maximum number of documents of an author is 2. Of the 498 authors, 58 met the threshold. Choose the author: For each of the 58 authors, the total strength of the co-authorship links with other authors will b calculated. The authors with the greatest total link strength will be selected. The number of authors to be selected is 58.

Results and Discussion

Part This decipher results research and discussion.

Results

Analysis of Number Publications

Searches from 2010 to 2022 yielded results publication article scientific. The amount of publications on midwifery policy per year from 2010 to 2022 is presented in Figure 3. Enhancement highest happens in the year 2021 with an increase of 103. Meanwhile, the increase Lowest happen in 2010 with an increase of 93.

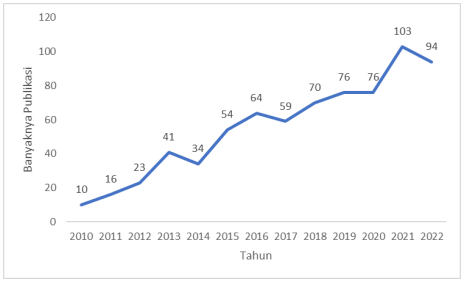


Figure 3 Amount publication midwifery policy from 2010 to 2022 (source: https://app.dimensions.ai/)

Analysis of Citation

The amount citation for midwifery policy per year from 2010 to 2022 is presented in Figure 4. Improvement highest happens in the year 2022 with an increase of 2319. Meanwhile, the increase Lowest happen in 2010 with an increase of 2317.

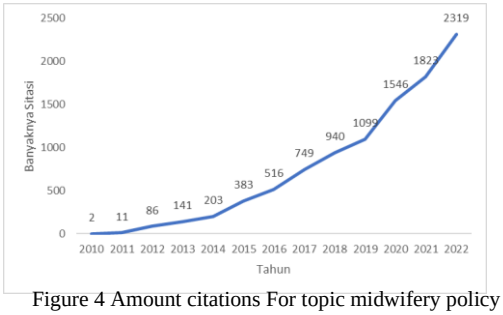


Figure 4 Amount citations For topic midwifery policy from 2010 to 2022

(source: https://app.dimensions.ai/)

Analysis of Networks

Network visualization of 224 terms. This is served in Figure 5.

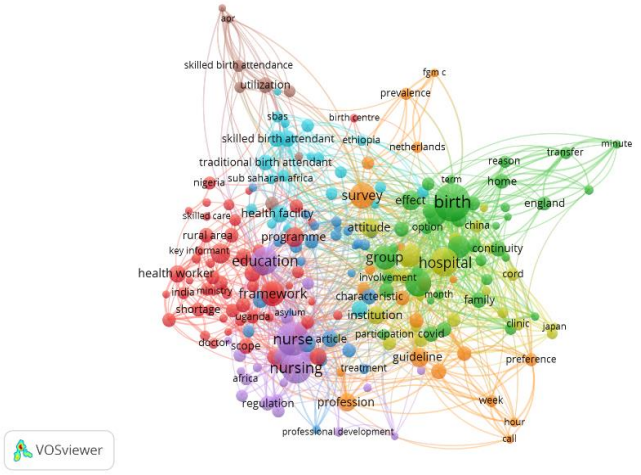


Figure 5: Network visualization (source: VOSviewer)

Election many terms are as many as 224. The two items are connected by a line shows that those two items appear together in something title and abstract. Conversely, the two items are not connected by a line shows that those two items No appear together in the title and abstract. In Figure 5, there are 224 items, 8 clusters, 10047 links, and a strength link of 63352.

Analysis of Overlays

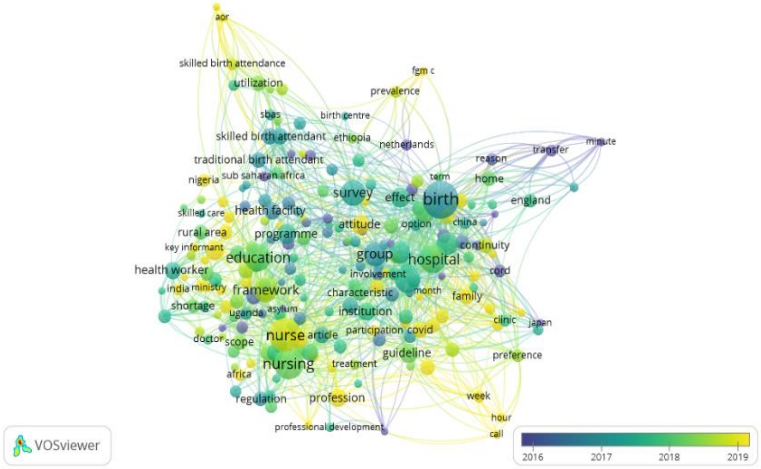


Figure 6: Overlay visualization (source: VOSviewer)

VOSviewer also provides map overlay visualization. Overlay visualization of 224 terms This served in Figure 6. Visualization overlays give analysis based on keywords midwifery policy from 2010 to 2022 to observe trend title study related midwifery policy. Based on map overlay visualization in Figure 6, knot yellow implies that the keyword is interest study moment this. For example, trend study moment This in midwifery policy focus on hospital, attitude, and framework.

Analysis of Density

Density visualization of 224 terms. This served in Figure 7.

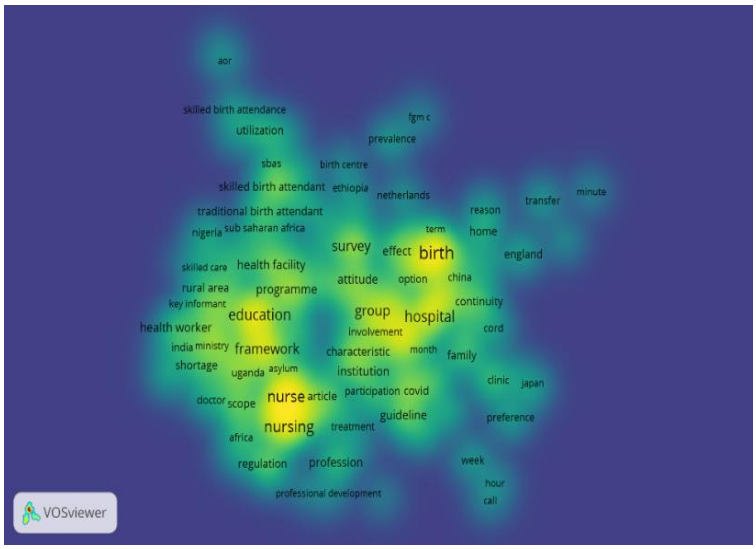


Figure 7: Density visualization (source: VOSviewer)

Figure 7 shows visualization density with lots of items there are several items, among other things pregnancy, birth, and education. Some items with colored knots yellow means have lots made a topic in publication journals before. So, the topic study related to midwifery suggested policies is a topic that has visualization density in category low for example professional development, registration, and public health.

Analysis of Co-Author

Network visualization for co-author served on Figure 8.

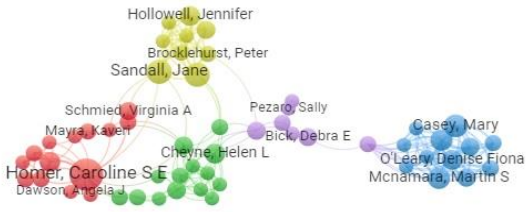


Figure 8: Network visualization For co-author (source: VOSviewer)

Figure 8 displays map collaboration between writer main based on co-authorship analysis. Writer pusher theme This is related to group network visualization, during the analyzed period (2010-2022), indicating dispersion certain in association writer based on method co-authorship. Network visualization consists of 58 researchers, 218 co-authorship links, 498 total co-authorships, and 5 clusters.

Discussion

The analysis is bibliometric and has been used in studies on the topic of midwifery policy in the field of midwifery. Based on Figure 3, analysis bibliometric to determine the results of research from midwifery policy. Studies show that from 2010 to 2022, a lot of publication policy midwifery's smallest happened in 2010 and the highest in 2020 with an average of 55 (figure 9). The number of publications increases from year to year in a manner exponential.

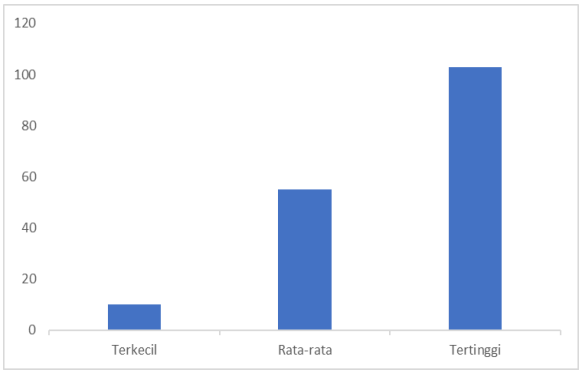


Figure 9: Histograms increase many publications smallest, average, and highest for the topic midwifery policy.

Based on Figure 4, ascension many citations of midwifery policies smallest happen in 2010 and highest in 2022 with an average of 755 (figure 10). The amount citation Also increases from year to year in a manner exponential. Most articles lots citation article entitled ‘Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: ‘The Birthplace in England national prospective cohort studies [31] 629 citations followed by an article entitled 'The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions [32] as many as 308 citations.

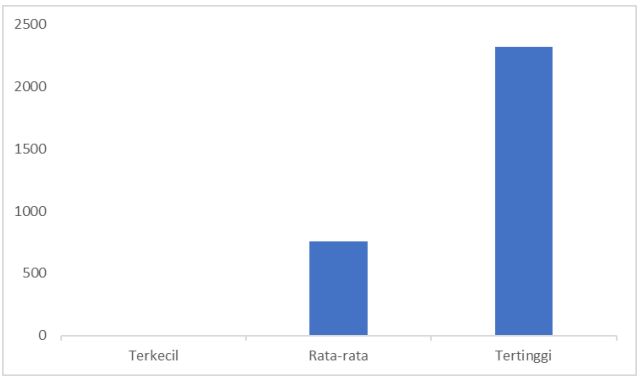


Figure 10: Histograms increase many citations smallest, average, and largest for the topic midwifery policy

To produce images 5 and 6 using VOSviewer the usage is explained as follows. The type of data is selected to create a map based on text data, to create a term co-occurrence sorry based on text data. Data sources are selected to read data from reference manager files because supported file type: ris. The threshold chosen minimum number of occurrences of a term is 10. This results in 373 meet the threshold of the 9248 terms. For each of the 373 terms, a relevance score will be calculated. Based on this score, The most relevant terms will be selected. The default choice is to select 60% most relevant terms.

Based on figure 5 shows that of the 224 items, there are 8 clusters. Cluster 1 (60 items), cluster 2 (40 items), cluster 3 (26 items), cluster 4 (26 items), cluster 5 (22 items), cluster 6 (22 items), cluster 7 (21 items), and cluster 8 (8 items). kindly more detail, on clusters. This is served in Table 1.

Table 1: Clusters For topic midwifery policy (Source: VOSviewer)

Cluster	Number of items	Member items cluster
1	60	Abortion, acceptability, accessibility, birth center, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker**
2	40	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, involvement, labor, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience
3	26	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment
4	25	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage
5	22	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development,
6	22	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust
7	21	Ethnicity, prevalence, organization, **national policy**, organization, primary care midwife, profession, screening, survey
8	8	Antenatal care, aor, gap, **midwifery practice**, utilization, skill birth attendance

Based on figure 6, shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality study, association, and integration.

Later, a contribution to the topic focused on midwifery-related policies not only on service just but the view of the facilities service obstetrics, system health, association profession, and internal stakeholders policy midwifery [34]. Midwives behave proactively and can see change practice of midwifery as an opportunity, anticipate the possibility of obstacle practice in the time ahead, go on focus on identifying and improving bad and moderate practices look for a viable alternative For carrying out work as efficiently and as effectively possible [35]. Proactive midwives maintain focus on the enhancement of quality, the efficiency of work, and the attitude overcome for increasing the integrity of work [36].

In the same way, works the has analyzed midwifery policy in various studies [37]. This can impact globally, service useful obstetrics for profession and society [38]. Several factors have been associated with the description of profession obstetrics and the enhancement of quality service midwifery over periods long [39].

Various sub-period in which activity scientific about the topic developed during 2010-2022 represent gathering term overflowing keys. In the title, abstract, and keywords of the article in the sample, VOSviewer has identified different keywords this possible to validate the breadth axis study in activity research.

Based on figure 7 shows that researchers, institutions, countries, and journals with the amount of paper biggest or frequency quote originate country forward. The more notice for the use of some new ones for methods experimental in exploring the study of midwifery policy [40].

Several topic studies related to midwifery suggested policies topic professional development, registration, public health, preference, aor, minute. The topic this own great opportunity for study related to midwifery policy. because in research previously still, lots discuss linkages on service midwifery [41]. Analysis opportunities on topic study can give several outlooks for researchers and practitioners' education to identify which direction study important [42]. Through analysis fill, it finds that researchers notice topics like this [43].

The room scope study was very broad and involved content lots of research resulting study no focus. Method research used can cover qualitative, quantitative, and research mixture [44].

Related topics with midwifery policy become the focus study in the development of knowledge of midwifery. Results of the analysis bibliometric show that field study midwifery policy characteristic wide, cross-discipline [45].

Studies will help readers understand the dynamics of trend development topic research of the results research. That will help researchers with fast identify hot spots and focus problem research, guiding them

to find the most references and influence and choose the most researchers influential or relevant and institutional for cooperation [46]. Through analysis results, it should help the researcher find the contribution of the journal's main direction and encourage the development study more carry on achievements in institutions study scientific [47].

Based on figure 8 shows studies of the bibliometric moment which highlight midwifery developed policies over several years last. Studies also serve topics and trends study principal of time to time, consisting of countries leading organizations, and related sources (journals) with midwifery policy [48].

Findings moment show Australia occupies a ranking higher all over the world in analysis bibliometric because amount maximum publications and citations. Writing together, excerpt, clutch bibliography, and analysis co-author. Also, disclose the number of "BMC Pregnancy and Childbirth" in matter publications and citations more than a journal other who contributed to the study of midwifery policy.

Analysis of co-authorship of the network social help differentiates between pattern strong and weak collaboration besides it, to evaluate the contributing writer. For the team [49]. Findings moment also show that connecting writers in an analysis network increases the number of quote papers, which coincides with the study previously [50].

The results analysis explains that Caroline SE Homer is the author with the most lots citations 338 out of 16 publications this is based on a merger bibliography, writing together, and quotes together.

Conclusion

This study conducted a bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. This research shows several results. Among the many publications on the topic of midwifery policy, there is an increasing trend, the number of citations on the topic of midwifery policy has increased. The link between the topic of midwifery policy and several other topics can be analyzed using VOSviewer, namely network visualization, overlay visualization, and density visualization.

This research showcases themes, trends, prolific authors, core journals, leading country ratings and collaborations, and midwifery policy research groups. This study provides a systematic review of midwifery policy over time. The results of research on the trend of midwifery policy include, among others, hospital, attitude, framework, experience, health system, stakeholder, profession, quality study, association, and integration. Topics related to midwifery policy that have opportunities in research are the topics of professional development, registration, public health, preference, aor, and minute. The close relationship between the topic of midwifery policy and other topics, namely policy makers, midwifery unit, patient safety, healthcare professionals, midwifery council, regulation, national policy, and midwifery practice.

Although this research has contributed to providing insight into the development of midwifery policy publications from 2010 to 2022 through app.dimension.ai, this research has limitations. The app.dimensional.ai database keeps updating new publications from time to time. Therefore, the midwifery policy bibliometric analysis can be reviewed in the next few years. In addition, this bibliometric analysis only extracts scientific article data from the app.dimension.ai database. Further research is in order to add other databases for a broader and more comprehensive understanding of midwifery policy.

Acknowledgment

The authors would like to thank the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software make it easier for writers to find and analyze data related to scientific articles.

BIBLIOGRAPHY

[1] K. Oliver and Z. Parolin, “Assessing the policy and practice impact of an international policy initiative: The State of the World’s Midwifery 2014,” *BMC Health Serv. Res.*, vol. 18, no. 1, p. 499, May 2018, doi: 10.1186/s12913-018-3294-4.

[2] J. K. Shakpeh *et al.*, “Normal physiologic birth continuing professional development: From a national health priority to expanded capacity,” *Ann. Glob. Heal.*, vol. 87, no. 1, p. 99, May 2021, doi: 10.5334/aogh.3247.

[3] S. Ruhmel, E. Ndirangu-Mugo, J. Mwizerwa, A. Sarki, and E. Pallangyo, “Capacity building among nursing and midwifery professional associations in East Africa,” *Glob. Health Action*, vol. 15, no. 1, p. 2118173, May 2022, doi: 10.1080/16549716.2022.2118173.

[4] K. Mayra, S. S. Padmadas, and Z. Matthews, “Challenges and needed reforms in midwifery and nursing regulatory systems in India: Implications for education and practice,” *PLoS One*, vol. 16, no. 5 May, p. e0251331, May 2021, doi: 10.1371/journal.pone.0251331.

[5] D. Pollock *et al.*, “Undertaking a scoping review: A practical guide for nursing and midwifery students, clinicians, researchers, and academics,” *J. Adv. Nurs.*, vol. 77, no. 4, pp. 2102–2113, May 2021, doi: 10.1111/jan.14743.

[6] A. McFadden *et al.*, “Systematic review of barriers to, and facilitators of, the provision of high-quality midwifery services in India,” *Birth*, vol. 47, no. 4, pp. 304–321, May 2020, doi: 10.1111/birt.12498.

[7] R. B. Soytas, “A bibliometric analysis of publications on covid-19 and older adults,” *Annals of Geriatric Medicine and Research*, vol. 25, no. 3. ncbi.nlm.nih.gov, pp. 197–203, 2021. doi: 10.4235/agmr.21.0060.

[8] C. A. Mattison, K. Bourret, and M. L. Dion, “Leveling up evidence syntheses: filling conceptual gaps of the role of midwifery in health systems through a network analysis,” *BMC Res. Notes*, vol. 15, no. 1, p. 216, May 2022, doi: 10.1186/s13104-022-06094-0.

[9] W. H. Lam, W. S. Lam, S. H. Jaaman, and P. F. Lee, “Bibliometric Analysis of Information Theoretic Studies,” *Entropy*, vol. 24, no. 10, 2022, doi: 10.3390/e24101359.

[10] A. Anuar, N. F. Marwan, J. Smith, S. Siriyanun, and ..., “Bibliometric analysis of immigration and environmental degradation: evidence from past decades,” *... Sci. Pollut. ...*, 2022, doi: 10.1007/s11356-021-16470-1.

[11] Y. Zhang, D. Lim, Y. Yao, C. Dong, and Z. Feng, “Global research trends in radiotherapy for gliomas: a systematic bibliometric analysis,” *World Neurosurg.*, 2022.

[12] E. Abad-Segura, M. D. González-Zamar, J. Gómez-Galán, and ..., “Management accounting for healthy nutrition education: meta-analysis,” *Nutrients*, 2020.

[13] C. Mattison *et al.*, “Health systems factors impacting the integration of midwifery: An evidence-informed framework on strengthening midwifery associations,” *BMJ Glob. Heal.*, vol. 6, no. 6, p. e004850, May 2021, doi: 10.1136/bmjgh-2020-004850.

[14] M. Jasper and F. Crossan, “What is strategic management?,” *J. Nurs. Manag.*, vol. 20, no. 7, pp. 838–846, May 2012, doi: 10.1111/jonm.12001.

[15] J. A. Asamani, N. P. Amertil, H. Ismaila, A. A. Francis, M. M. Chebere, and J. Nabyonga-Orem, “Nurses and midwives demographic shift in Ghana - The policy implications of a looming crisis,” *Hum. Resour. Health*, vol. 17, no. 1, p. 32, May 2019, doi: 10.1186/s12960-019-0377-1.

[16] B. Courtot, I. Hill, C. Cross-Barnet, and J. Markell, “Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care,” *Milbank Q.*, vol. 98, no. 4, pp. 1091–1113, May 2020, doi: 10.1111/1468-0009.12473.

[17] S. Innvaer, G. Vist, M. Trommald, and ..., “Health policy-makers’ perceptions of their use of evidence: a systematic review,” *J. Heal. …*, 2002, doi: 10.1258/135581902320432778.

[18] A. Nove, P. ten Hoope-Bender, N. T. Moyo, and M. Bokosi, “The Midwifery services framework: What is it, and why is it needed?,” *Midwifery*. Elsevier, 2018.

[19] N. Tickle, M. Sidebotham, J. Fenwick, and J. Gamble, “Women’s experiences of having a Bachelor of Midwifery student provide continuity of care,” *Women and Birth*, vol. 29, no. 3, pp. 245–251, May 2016, doi: 10.1016/j.wombi.2015.11.002.

[20] J. Harris, S. Beck, N. Ayers, D. Bick, B. W. Lamb, and ..., “Improving teamwork in maternity services: A rapid review of interventions,” *Midwifery*, 2022.

[21] S. C. Lopes, P. Titulaer, M. Bokosi, C. S. E. Homer, and P. ten Hoope-Bender, “The involvement of midwives associations in policy and planning about the midwifery workforce: A global survey,” *Midwifery*, vol. 31, no. 11, pp. 1096–1103, May 2015, doi: 10.1016/j.midw.2015.07.010.

[22] C. Van Hoover, “Innovation in health policy education: Project-based service learning at a distance for graduate midwifery students,” *J. Midwifery Womens. Health*, 2015, doi: 10.1111/jmwh.12264.

[23] F. N. Damayanti, A. Absori, and K. Wardiono, “Legal Protection of Midwives Based on Professional Justice in Midwifery Practices.” repository.unimus.ac.id, 2019.

[24] K. Buchanan, E. Newnham, D. Ireson, C. Davison, and S. Geraghty, “Care ethics framework for midwifery practice: A scoping review,” *Nurs. Ethics*, vol. 29, no. 5, pp. 1107–1133, May 2022, doi: 10.1177/09697330221073996.

[25] P. D. Chellappandi Ph Assistant Professor and C. Vijayakumar, “Bibliometrics, Scientometrics, Webometrics / Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research,” *Int. J. Educ.*, vol. 7, no. 1, pp. 5–8, 2018.

[26] G. V Murugesu, S. A. Khalid, and ..., “Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective,” *ASEANA Sci. …*, 2022.

[27] A. Syros, O. F. Perez, D. Luxenburg, J. L. Cohen, and ..., “The most influential studies concerning revision shoulder arthroplasty research,” *J. …*, 2022.

[28] B. Pahwa, S. Goyal, and B. Chaurasia, “Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles,” *… of Cerebrovascular and …*. synapse.koreamed.org, 2022.

[29] M. J. Page, J. E. McKenzie, P. M. Bossuyt, I. Boutron, and ..., “The PRISMA 2020 statement: an updated guideline for reporting systematic reviews,” *International journal of …*. Elsevier, 2021.

[30] N. J. van Eck and L. Waltman, “Software survey: VOSviewer, a computer program for bibliometric mapping,” *Scientometrics*, vol. 84, no. 2, pp. 523–538, 2010, doi: 10.1007/s11192-009-0146-3.

[31] P. Brocklehurst *et al.*, “Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study,” *BMJ*, vol. 343, no. 7840, p. d7400, May 2012, doi: 10.1136/bmj.d7400.

[32] K. E. Sleeman *et al.*, “The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions,” *Lancet Glob. Heal.*, vol. 7, no. 7, pp. e883–e892, 2019, doi: 10.1016/S2214-109X(19)30172-X.

[33] D. Ménage, E. Bailey, S. Lees, and J. Coad, “A concept analysis of compassionate midwifery,” *J. Adv. Nurs.*, vol. 73, no. 3, pp. 558–573, May 2016, doi: 10.1111/jan.13214.

[34] A. Nove, N. T. Moyo, M. Bokosi, and S. Garg, “The Midwifery Services Framework: The process of implementation,” *Midwifery*, vol. 58, pp. 96–101, May 2017, doi: 10.1016/j.midw.2017.12.013.

[35] A.-B. Moller *et al.*, “Are midwives ready to provide quality evidence-based care after pre-service training? Curricula assessment in four countries—Benin, Malawi, Tanzania, and Uganda,” *PLOS Glob. Public Heal.*, vol. 2, no. 9, p. e0000605, May 2022, doi: 10.1371/journal.pgph.0000605.

[36] A. Nove, N. T. Moyo, M. Bokosi, and S. Garg, “The Midwifery Services Framework: The process

of implementation," *Midwifery*, vol. 58, pp. 96–101, May 2018, doi: 10.1016/j.midw.2017.12.013.

[37] S. Touriño *et al.*, "Knowledge, attitudes and practices of spanish midwives and midwifery students toward oral healthcare during pregnancy," *Int. J. Environ. Res. Public Health*, vol. 18, no. 11, p. 6089, May 2021, doi: 10.3390/ijerph18116089.

[38] A. Bukkfalvi-Cadotte, "The professional identity of Lithuanian midwifery students: An exploratory study," *Eur. J. Midwifery*, vol. 4, no. October, pp. 1–4, May 2020, doi: 10.18332/ejm/127515.

[39] A. Glasper, "Professionalism in practice," *Br. J. Nurs.*, vol. 26, no. 12, pp. 706–707, Jun. 2017, doi: 10.12968/bjon.2017.26.12.706.

[40] K. Osborne, "Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives," *J. Midwifery Womens. Health*, vol. 62, no. 3, pp. 341–347, May 2017, doi: 10.1111/jmwh.12615.

[41] R. R. Jolivet, J. Gausman, N. Kapoor, A. Langer, J. Sharma, and K. E. A. Semrau, "Operationalizing respectful maternity care at the healthcare provider level: a systematic scoping review," *Reprod. Health*, vol. 18, no. 1, p. 194, May 2021, doi: 10.1186/s12978-021-01241-5.

[42] P. C. Webster, "Indonesia: the midwife and maternal mortality miasma.," *CMAJ*, vol. 185, no. 2, pp. e95–e96, May 2013, doi: 10.1503/cmaj.109-4347.

[43] D. J. Hall and D. S. Way, "A discussion paper: Do national maternity policy reviews take account of the education and training of the future midwifery workforce? An example from England," *Midwifery*, vol. 62, pp. 278–280, May 2018, doi: 10.1016/j.midw.2018.03.019.

[44] W. H. Organization, "Global strategic directions for nursing and midwifery 2021-2025." apps.who.int, 2021.

[45] T. Li *et al.*, "A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science," *J. Multidiscip. Healthc.*, vol. 16, pp. 677–692, May 2023, doi: 10.2147/JMDH.S398218.

[46] O. J. Baruwa, A. Y. Amoateng, and S. Mkwananzi, "Association between type of birth attendants and neonatal mortality: Evidence from a National survey," *Afr. Health Sci.*, vol. 21, no. 4, pp. 1870–1876, May 2021, doi: 10.4314/ahs.v21i4.45.

[47] C. M. E. Reynolds, L. E. McMahon, E. G. O'Malley, M. P. O'Connell, S. R. Sheehan, and M. J. Turner, "Trends in private maternity care in Ireland's capital during and after the Great Economic Recession 2009–2017," *Irish J. Med. Sci. (1971 -)*, vol. 190, no. 3, pp. 933–940, May 2020, doi: 10.1007/s11845-020-02415-z.

[48] J. He, L. Wan, W. Yang, and B. Luo, "Visual Analysis of Midwifery Research in China Based on

Bibliometrics," *J. Midwifery Women's …*, 2022, doi: 10.1111/jmwh.13379.

[49] P. M. Davidson, P. J. Newton, C. Ferguson, J. Daly, and ..., "Rating and ranking the role of bibliometrics and webometrics in nursing and midwifery," *The Scientific World …*. hindawi.com, 2014.

REVIEW 2

Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Fitriani Nur Damayanti
https://orcid.org/0000-0002-4592-4026
Universitas Muhammadiyah Semarang
fitriani@unimus.ac.id

Ariyani Lutfitasari
https://orcid.org/0000-0001-6058-0244
Universitas Muhammadiyah Semarang
ariyani_lutfitasari@unimus.ac.id

Budi Santosa
https://orcid.org/0000-0003-0354-0136
Universitas Muhammadiyah Semarang
budisantosa@unimus.ac.id

Sherkia Ichtiarsi Prakasiwi
https://orcid.org/0009-0000-8264-1482
Universitas Muhammadiyah Semarang
sherkiasalamah@gmail.com

Suparman
https://orcid.org/0000-0001-5526-6285
Universitas Ahmad Dahlan
suparman@pmat.uad.ac.id

Novita Nining Anggraini
https://orcid.org/ 0009-0008-4177-659X
Universitas Muhammadiyah Semarang
novitanovi@unimus.ac.id

Commented [TD3]: Please add the country next to the university name.

Abstract

Midwifery policy is important in regulating services, and its significance cannot be overstated. Despite the ongoing efforts in formulating policy, there remains a need for further analysis. This is because evidence-based research in midwifery serves as a foundation for enhancing the professionalism of the service practices. Bibliometric analysis of publications pertaining to midwifery policy is absent, leaving a gap in understanding trends and concepts. Therefore, this research aimed to determine trends in the number of publications, and visualisation of the relationship on the topic of linear regression through bibliometric analysis. The method used systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to linear regression were retrieved through dimensions.ai from 2010 to 2022 and the data was analysed using Vosviewer. The results showed that first, there was an annual exponential growth in the number of publications and citations on the topic. Second, there were 224 items, eight clusters, and 10047 links with a strength of 63352 on the topic of midwifery policy. Third, trends of research related to the topic were focused on hospitals, behaviour, and framework. Fourth, the research related to policy were topics with a low-density category, namely professional development, registration, and public health. Research results could identify trends and novelty in midwifery policy and recommend directions for further analysis.

Commented [TD4]: What is dimesions.ai? Is this meant to be a website?

Keywords: bibliometric analysis; midwifery policy; novelty; trends

Introduction

Health policy is implemented to formulate programs at both the central and local levels, enabling interventions to be made in the determinants of health (Oliver and Parolin 2018). Furthermore, it has a substantial impact on both the global and national spheres, exerting a significant influence on the well-being of populations worldwide (Shakpeh et al. 2021). The concept is very important in arranging service midwifery (Ruhmel et al. 2022).

Commented [TD5]: Is this meant to be "midwifery services?"

In this context, midwifery policy has been researched for various purposes concerning healthcare facilities (Mayra et al. 2021), education settings (Pollock et al. 2021), and service (McFadden et al. 2020). The professionalism of midwives represents a fundamental social contract, which is very important (Soytas 2021). Current midwifery policy still requires research to be carried out because the evidence in the service can be used as an application to increase professionalism (Mattison et al. 2022).

Commented [TD6]: This date does not correspond with the date you have in the reference list. Please check and amend accordingly.

Figure 1 shows that many countries are interested in the topic of midwifery policy. The United Arab Emirates showed a pronounced interest in the subject before Australia.

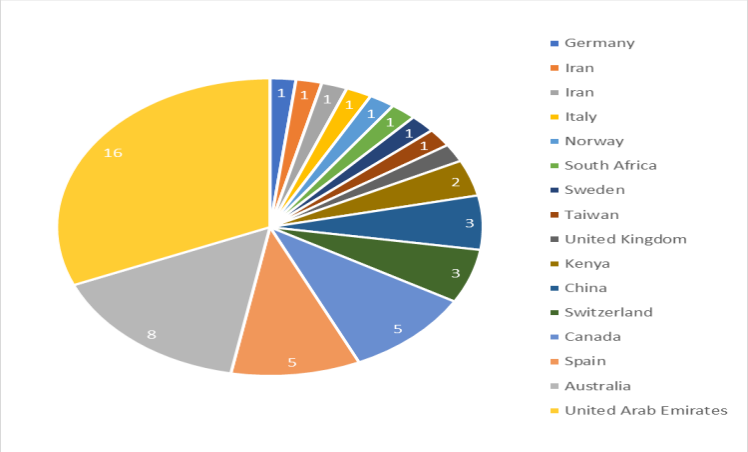


Figure 1: Interest according to the country to midwifery policy (Data: Dimensions 2023)

Commented [TD7]: I am not able to find this in the reference list. Please add the full citation to the reference list.

The data outline the interest in general policy related to the field of midwifery. For research considering the specifics of policy, it is important to access more specialised information. This includes scientific articles and seminars dedicated to the aspects of midwifery policy. In the field of research, acquiring insights into trends and innovations concerning the topics is essential. This challenge is prevalent since analysis of bibliometric on publications shows a lack of information on current trends and innovations. To address these gaps, comprehensive research has been conducted to answer the following questions:

- How many trends publications are on the topic of midwifery policy?
- How many trends are cited on the topic of midwifery policy?
- How can an individual facilitate network visualisation pertaining to midwifery policy?
- In what manner can visualisation be overlaid on the subject of midwifery policy?
- What is the methodology for conducting density visualisation on the topic of midwifery policy?

Bibliometric analysis is a scientific and quantitative method for evaluating published articles. This method identifies trends, developments, and research hotspots within a specific field of research. Furthermore, it provides valuable insights to navigate and understand the evolving landscape of the field. This analysis

determines the current state of research, offering a foundation for the advancement of the respective field (Lam et al., 2022). Bibliometric analysis identifies areas and directions within a specific domain of research through the use of visualisation tools. This method has been used to evaluate theoretical information stored in databases such as Scopus. The use of visualisation tools enhances the interpretability of data, as an effective means to navigate and understand the complex dynamics of information (Anuar et al. 2022). These tools evaluate the migration and degradation environment (Zhang et al. 2022), and investigate trends in the research of radiotherapy glioma since 2011 (Abad-Segura et al. 2020).

The results obtained are highly valuable, warranting further development. This theme pertains to midwifery policy, catering to midwives and individuals requiring a comprehensive examination of past research periods and historical data. This is particularly pertinent for academics, research institutes, higher education institutions, and healthcare personnel (Mattison et al. 2021).

This research aims to investigate trends in publications, citation patterns, network visualisation, overlay visualisation, and density visualisation concerning the topic of linear regression through bibliometric analysis.

To accomplish the objectives, the structure of this work is organised as follows. The first section outlines the background, issues, and research goals. The second section includes a comprehensive literature review on health systems and midwifery policy. The third section delineates the methods used, including data collection and analysis procedures. Subsequently, the fourth section presents the research results, followed by a detailed discussion. The fifth section offers conclusions, shows limitations, and provides recommendations for future research.

Research Literature

Health Systems

The health system shows considerable variation, particularly regarding the limitations within healthcare. According to the definition, a health system can be comprehended as "consisting of all organisations, institutions, and resources dedicated to producing health-related actions." In an extended definition, the concept includes all organisations, individuals, and activities primarily focused on promoting, restoring, or maintaining health (Jasper and Crossan 2012).

The successful implementation of a health system requires the formulation of health policy to guide the entire process (Asamani et al. 2019). Policy health refers to goals and objectives, as instruments, processes, and styles of a decision by taker decision, including implementation as well as evaluation (Courtot et al. 2020). In policy and systems, health can conduct characteristic research interdisciplinary, taken from cross-knowledge of social and health (Innvaer et al. 2002). This comprises collaboration from various departments, particularly those contributing to interdisciplinary group knowledge in the field of health (Nove et al. 2018). Within the realm of health policy, distinct components include policy nursing, policy midwifery, policy medicine, and others.

Midwifery Policy

The role of a midwife holds significant importance as a key element in the frontline of maternal and child health services (Tickle et al. 2016). Midwives collaborate with other healthcare professionals in managing aspects of pregnancy, childbirth, postpartum care, newborn health, and reproductive health. The execution of their duties is governed by regulatory legislation, ensuring adherence to established standards and guidelines (Lopes et al. 2015).

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and development profession of midwives (Hoover 2015). The implementation of midwifery practice includes a comprehensive understanding of the service delivery system, advocating for constitutional rights, and taking the initiative to enhance the quality of policy (Damayanti, Absori, and

Wardiono 2019). Midwives also require legal protection based on principles of justice. Professionals practicing obstetrics must adhere to conditions that uphold the values of justice, including fairness, equal opportunity, and the right to equality (Buchanan et al. 2022).

Midwifery policy serves as a proven framework for the ethical practice of obstetrics. The use is essential to enhance performance and ensure standards in practice (Chellappandi and Vijayakumar 2018).

Methodology

There are five types of research metrics for data analysis, namely scientometrics, bibliometric, cybermetrics, informetrics, and altmetrics (Murugesu et al. 2022). Bibliometric analysis used is particularly well-suited for the dissemination of research papers, terms, and keywords. This methodology is instrumental in determining trends in the research. (Syros et al. 2022). Furthermore, analysis is a method of research used in knowledge libraries and information (Pahwa et al. 2022). Bibliometric analysis is very important in evaluating impact research based on the quote received (Page et al. 2021).

Data used in the research was based on an online search through https://app.dimensions.ai/ and was retrieved on May 30, 2023. The methodology used a systematic review, adhering to the stages outlined in the PRISMA flow diagram (van Eck andWaltman 2010). The stages in PRISMA include identification, screening, and inclusion, as shown in Figure 5. During Stage 1 (Identification), 776 records were detected from dimensions.ai, considering every main term search for midwifery policy, specifying "type of document: "articles and proceedings", and including all "published data in the range from 2010 to 2022." In Stage 2 (Screening), the option "title, abstract" was selected for each term search, producing 50 records. Finally, in Stage 3 (Inclusion), the sample was refined, resulting in 726 articles accessible for further analysis.

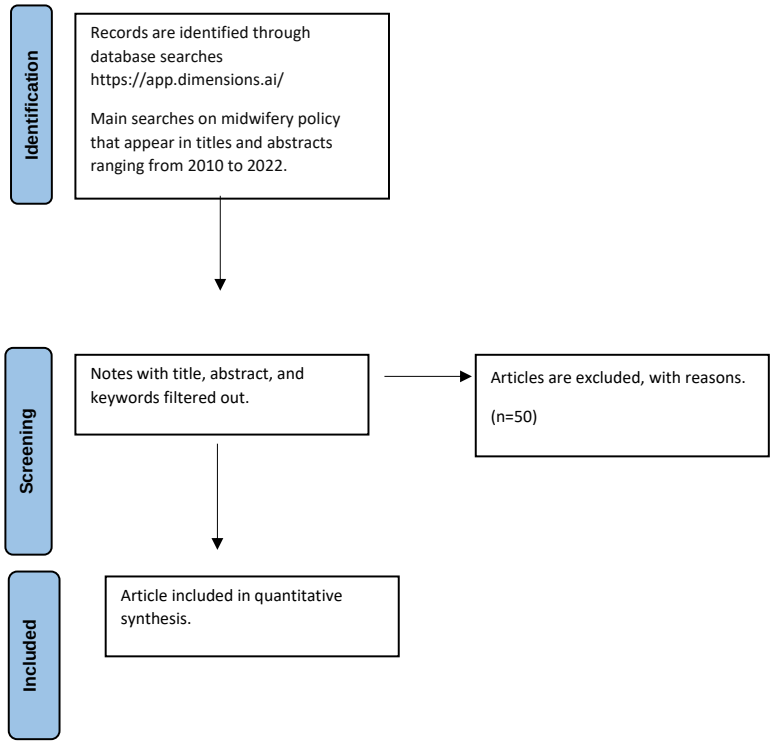


Figure 2: PRISMA (van Eck and Waltman 2010)

The data analysis was conducted using VOSviewer, a computer program designed for creating and visualising bibliometric maps. VOSviewer facilitates the mapping of bibliometric data, providing a visual representation that aids in analysis of relationships and patterns within the literature (Brocklehurst et al. 2012). In the research, this analysis was reviewed by co-occurrence and co-author.

The co-occurrence analysis procedure is outlined as follows. Data sources are selected to read information from reference manager files. The selected fields for extracting terms are the title and abstract fields. A threshold is set with a minimum number of occurrences for a term, which is determined to be 10. A total of 224 terms are selected for analysis based on these criteria.

The procedure for the analysis co-author has been as follows. The data type was selected, and a map was created based on bibliographic data. The option to generate a co-authorship folder based on bibliographic data was selected. The data source was determined and was read from reference manager files, specifically in the RIS file type. The type of analysis and counting method was specified, with co-authorship as analysis type and full counting as the selected method. The threshold was set by specifying the maximum number of documents, which was established at 2. Out of the 498 authors, 58 met the threshold. The selection was conducted by assessing the total strength of co-authorship links and those with the highest total link strength were selected.

Results and Discussion

Analysis of Number Publications

Searches conducted from 2010 to 2022 have produced scientific articles on publication. The number of publications related to midwifery policy per year is shown in Figure 3. The most significant enhancement occurred in the year 2021, showing an increase of 103 publications. In contrast, the lowest increase was observed in 2010, with an increase of 93 publications.

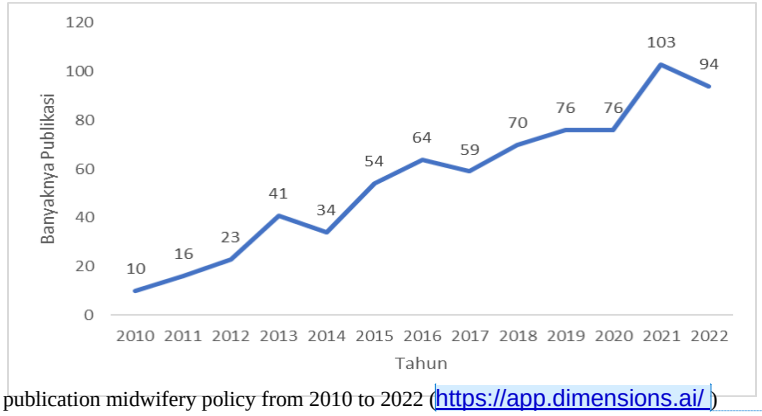


Figure 3: Amount publication midwifery policy from 2010 to 2022 (https://app.dimensions.ai/)

Commented [TD8]: Can this be added to the reference list?

Analysis of Citation

The amount citation for midwifery policy per year from 2010 to 2022 is presented in Figure 4. The highest and lowest improvement occurred in 2022 and 2010, reflecting an increase of 2319 and 2317.

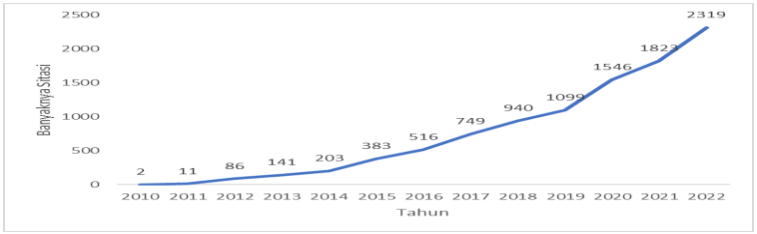


Figure 4: Amount citations for topic midwifery policy from 2010 to 2022 (https://app.dimensions.ai/)

Analysis of Networks

Figure 5 shows the Network visualisation of 224 terms.

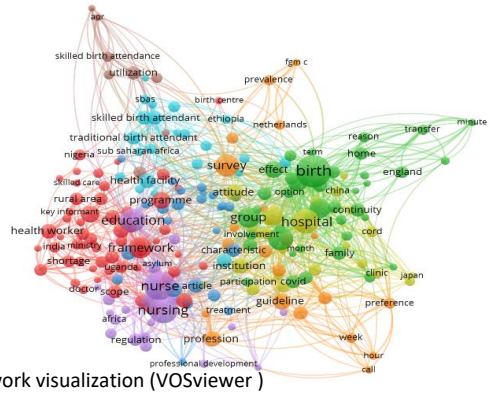


Figure 5: Network visualization (VOSviewer)

A total of 224 terms related to elections have been identified. The connection between two items is shown by a line, signifying that these two items appear together in the title and abstract of a document. Conversely, the absence of a line between two items shows that they do not appear together in the title and abstract. Figure 5 shows a comprehensive overview, featuring 224 items organized into 8 clusters. This is interconnected by 10047 links and the cumulative strength is recorded at 63352.

Analysis of Overlays

Visualisation overlays served in Figure 6

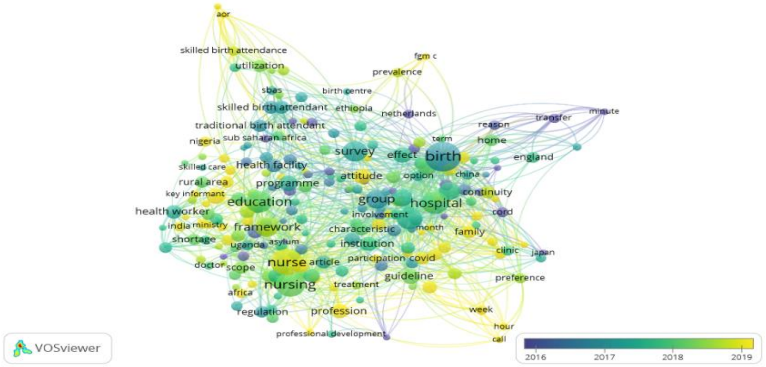


Figure 6: Overlay visualisation (VOSviewer)

VOSviewer also offers map overlay visualisation, which is applied to the 224 terms as shown in Figure 6. The overlay visualisation facilitates analysis based on keywords related to midwifery policy from 2010 to 2022, allowing the observation of trends in the titles of research related to midwifery policy.

In the map overlay visualisation presented in Figure 6, a yellow knot shows that the keyword is important in the research. For instance, trends during this period related to midwifery policy focuses on topics such as hospitals, attitudes, and frameworks.

Analysis of Density

Figure 7 shows the density visualisation of 224 terms.

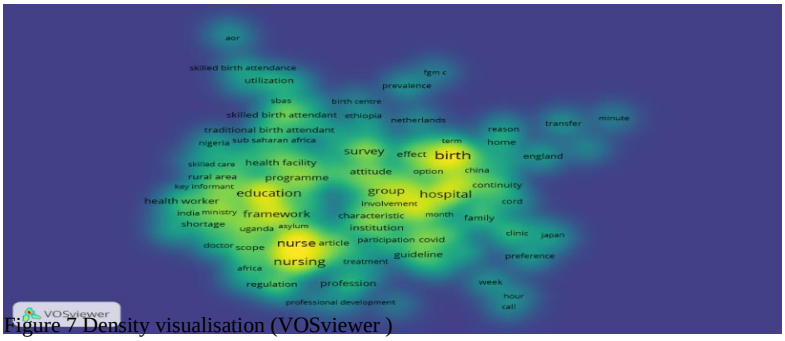


Figure 7 Density visualisation (VOSviewer)

Figure 7 shows visualisation density with lots of items such as pregnancy, birth, and education. Items with yellow-coloured knots show that these topics have been frequently addressed in publications before. Therefore, the research topic related to midwifery-suggested policy is a subject with a low visualisation density in categories such as professional development, registration, and public health. This suggests that there is a relatively lower concentration of research or visualisations within these specific areas, as compared to other topics in published journals.

Analysis of Co-Author

Figure 8 shows the network visualisation for co-authors.

Commented [TD9]: I am unable to resize this image so that it is clearly visible.

Figure 8: Network visualisation For co-author (VOSviewer)

Figure 8 presents a collaborative map among the main writers based on co-authorship analysis. The visualisation focuses on the thematic connections pushed by these writers and is associated with group network visualisation. This analysis spans the period from 2010 to 2022, showing a specific dispersion in the association of writers based on the co-authorship method. The network visualisation includes 58 research, showing 218 co-authorship links. The total count of co-authorships amounts to 498, and the network is categorised into 5 clusters, showing distinct thematic or collaborative groupings among the writers.

Discussion

Bibliometric analysis has been used in research focusing on the topic of midwifery policy. As depicted in Figure 3, the analysis aimed to derive insights regarding midwifery policy outcomes. The minimum number of publications occurred in 2010, while the maximum was observed in 2020, averaging 55, as shown in Figure 9. The number of publications shows an exponential increase each year over the specified time frame.

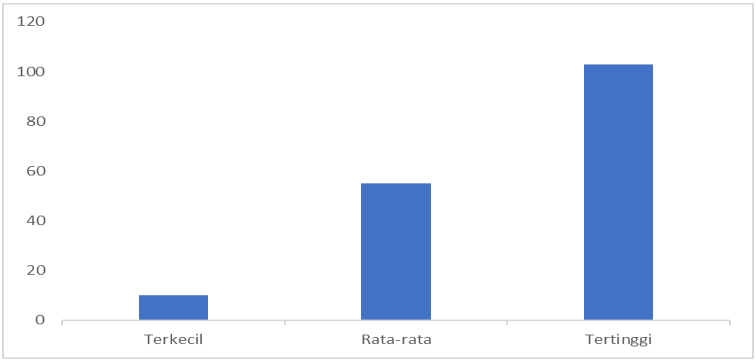
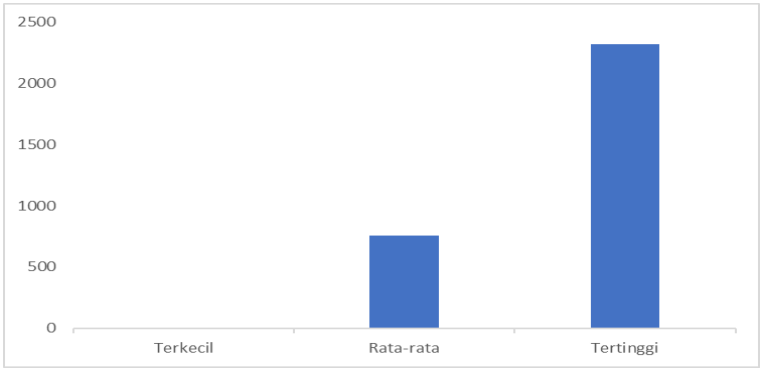


Figure 9: Histograms increase many publications smallest, average, and highest for the topic midwifery policy.

According to Figure 4, the ascent in citations for midwifery policy shows the lowest occurrence in 2010 and the highest in 2022, averaging 755 (Figure 10). The number of citations also shows an exponential increase from year to year. Most articles lots citations articles entitled 'Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: 'The Birthplace in England National Prospective Cohort Research by Brocklehurst et al. (2012), accruing 629 citations. This is followed by an article entitled 'The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions (Sleeman et al. 2019) with a total of 308 citations.



Commented [TD10]: Is this meant to be "lost". Please check and amend accordingly.

Commented [TD11]: Is this an entire title? Why is there a single inverted comma after "**pregnancies: 'the** …"
Where does the single inverted comma close?

Commented [TD12]: Please close this single inverted comma at the end of the title.

Figure 10: Histograms increase many citations smallest, average, and largest for the topic midwifery policy.

To generate images 5 and 6 using VOSviewer, the procedural steps are elucidated as follows. Firstly, the data type is selected to facilitate the creation of a map grounded in text data and the establishment of a term co-occurrence matrix derived from textual information. Subsequently, data sources are deliberately obtained to extract information from reference manager files, with a specific emphasis on the supported file type, namely, "ris." The applied threshold is set to a minimum number of occurrences of a term, established at 10. Consequently, 373 terms out of the total 9248 meet this defined threshold. For each of these 373 terms, a relevance score is calculated. Based on this score, the most pertinent terms are systematically selected, and the default criterion is to select the top 60% of the most relevant terms.

Figure 5 shows that, among the 224 items, there exist eight distinct clusters. Cluster 1, 2, 3, 4, 5, 6, 7, and 8 comprise 60, 40, 26, 26, 22, 22, 21, and 8 items, respectively. For a more comprehensive understanding of these clusters, additional details are provided in Table 1.

Table 1: Clusters For topic midwifery policy (VOSviewer)

Cluster	Number of items	Member items cluster
1	**60**	Abortion, acceptability, accessibility, birth center, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker.**
2	**40**	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, inclusion, labor, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience.
3	**26**	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment.
4	**25**	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage.
5	**22**	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development.
6	**22**	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust.
7	**21**	Ethnicity, prevalence, organisation, **national policy**, organisation, primary care midwife, profession, screening, survey.
8	**8**	Antenatal care, aor, gap, **midwifery practice**, use, skill birth attendance.

Figure 6 shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration.

A contribution to the topic focused on midwifery-related policy not only on service but the view of the facilities service obstetrics, system health, association profession, and internal stakeholders' policy midwifery (Andrea Nove et al. 2018). Midwives show a proactive method and perceive shifts in the practice of midwifery as opportunities. They anticipate potential obstacles in the future, remain focused on

identifying and enhancing suboptimal and moderate practices, and actively seek viable alternatives to carry out their work with maximum efficiency and effectiveness. Proactive midwives consistently rank the improvement of quality, the efficiency of their work, and the cultivation of a positive attitude to enhance the integrity of professional responsibilities (Moller et al. 2022).

Similarly, various research have analysed policy governing midwifery (Touriño et al. 2021). This can have a global impact, providing valuable obstetric services for both the profession and society (Bukkfalvi-Cadotte 2020). Several factors have been associated with the description of professional obstetrics and the enhancement of quality service midwifery over long periods (Glasper 2017).

Various sub-periods from 2010 to 2022 have witnessed the development of scientific activities related to the topic, as evidenced by the accumulation of terms in titles, abstracts, and keywords in the sampled articles. VOSviewer has successfully identified diverse keywords, enabling the validation of the breadth of the research activity axis. Figure 7 shows that institutions, countries, and journals with the highest paper count or citation frequency predominantly originate from a specific country. This observation indicates the significance of exploring new experimental methods, as shown by the increasing attention given to certain methods in the research community (Osborne, 2017).

Several topic research related to midwifery suggested policy topic professional development, registration, public health, and preference. The topic presents a significant opportunity for researching midwifery policy. Previous research has extensively discussed linkages related to midwifery services, showing a rich area for exploration and research (Jolivet et al. 2021). Analysis opportunities can give several outlooks for practitioners' education to identify important directions (Webster 2013). Through a comprehensive analysis, it becomes evident that attention is given to topics of this nature (Hall and Way 2018).

The scope of the research was extensive, including a wide range of content and numerous research aspects, leading to a lack of focus. The research methodology covered a spectrum of methods, including qualitative, quantitative, and a combination of both. (WHO 2021).

The research of related topics within midwifery policy has become a focal point in advancing knowledge in the field of midwifery. Bibliometric analysis results show that the characteristics of the field are broad and cross-disciplinary (Li et al. 2023).

Research of this nature will aid readers in comprehending the dynamic trends in topic development and the outcomes. This understanding identifies hot spots and focuses on research problems to pinpoint the most referenced and influential sources. Furthermore, it facilitates the selection of the most influential and relevant institutions for potential collaboration (Baruwa, Amoateng, and Mkwananzi 2021). The results of the analysis should show the main contributions of journals and their primary directions. This information can serve to inspire further research and encourage the development of scientific research in institutions, enhancing continued achievements in the field (Reynolds et al. 2020).

Figure 8 shows bibliometric analysis, capturing the evolution of research on midwifery policy over several years. The results analyse predominant topics and trends in research, including leading countries, organisations, and relevant sources such as journals (He et al. 2022).

The current results show that Australia holds a prominent global position in bibliometric analysis, primarily due to its substantial volume of publications and citations. This assessment includes collaborative writing, excerpts, bibliography compilation, and co-authorship analysis. The journal "BMC Pregnancy and Childbirth" has the highest number of publications and citations compared to others, signifying its contribution to midwifery policy. In addition, the analysis of social network co-authorship distinguishes between strong and weak collaboration patterns, providing valuable insights into the collaborative dynamics. This evaluation proves essential for assessing the contributions of individual writers and the effectiveness of collaborative teams in advancing the research (Davidson et al. 2014). The results also show

that establishing connections among writers within an analytical network lead to an increase in the quantity of cited papers.

The results show that Caroline SE Homer has garnered the highest number of citations, with a total of 338 across 16 publications. This assessment is grounded in a comprehensive examination of bibliographies, collaborative writing endeavours, and shared citations.

Conclusion

In conclusion, this research was reported to use bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. Among the numerous publications on the subject, discernible upward trends were evident in the number of citations related to the topic. The link between midwifery policy and several other topics could be analysed using VOSviewer, namely network, overlay, and density visualisation.

This research showcased themes, trends, core journals, leading country ratings, and collaborations, as well as midwifery policy research groups. Furthermore, a systematic review of midwifery policy was provided over time. The research on trends of midwifery policy included hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration. Topics related to midwifery policy were professional development, registration, public health, preference, aor, and minute. There was a close relationship between midwifery policy and various other elements, namely policy makers, midwifery unit, patient safety, healthcare professionals, midwifery council, regulation, national policy, and midwifery practice.

Commented [TD13]: Is this an abbreviation for a word? If it is, please write the word out.

Regarding the limitations of this research, the app.dimensional.ai database was subjected to continuous updates with new publications being added periodically. Therefore, midwifery policy bibliometric analysis could be reviewed in the next few years. The analysis only extracted scientific article data from the app.dimension.ai database. Further research should consider incorporating additional databases to achieve a broader understanding of midwifery policy.

Acknowledgment

The authors are grateful to the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software facilitates the process for writers to locate and analyse data pertinent to scientific articles, streamlining the research and analysis phases.

References

Abad-Segura, E., M. D. González-Zamar, J. Gómez-Galán & ... 2020. “Management Accounting for Healthy Nutrition Education: Meta-Analysis.” https://www.mdpi.com/908900

Anuar, A., Marwan, N. F., Smith, J., Siriyanun, S., & ... (2022). Bibliometric analysis of immigration and environmental degradation: evidence from past decades. … Science and Pollution …. https://doi.org/10.1007/s11356-021-16470-1

Asamani, J. A., N. P. Amertil, H. Ismaila, A. A. Francis, M. M. Chebere, and J. Nabyonga-Orem. 2019. “Nurses and Midwives Demographic Shift in Ghana - The Policy Implications of a Looming Crisis.” *Human Resources for Health* 17(1): 32.

Baruwa, O. J., A. Y. Amoateng, and S. Mkwananzi. 2021. “Association Between Type of Birth Attendants and Neonatal Mortality: Evidence From a National Survey.” *African Health Sciences* 21(4): 1870–1876.

Brocklehurst, P., P. Hardy, J. Hollowell, L. Linsell, A. Macfarlane, C. McCourt, N. Marlow, A. Miller, M. Newburn, S. Petrou, D. Puddicombe, M. Redshaw, R. Rowe, J. Sandall, L. Silverton, and M. Stewart. 2012. “Perinatal and Maternal Outcomes by Planned Place of Birth for Healthy Women with Low Risk Pregnancies: The Birthplace in England National Prospective Cohort Study.” *BMJ* 343(7840): d7400.

Commented [TD14]: Please include the initials and surnames of all authors of this article.
Please include the access date.

Commented [TD15]: Please complete the reference.
All authors need to be included.
What is this source?
If this is an internet source, please include a direct link to the article and the access date.

Buchanan, K., E. Newnham, D. Ireson, C. Davison, and S. Geraghty. 2022. “Care Ethics Framework for Midwifery Practice: A Scoping Review.” *Nursing Ethics* 29(5): 1107–1133.

Bukkfalvi-Cadotte, A. 2020. “The Professional Identity of Lithuanian Midwifery Students: An Exploratory Study.” *European Journal of Midwifery* 4(43): 1–4.

Chellappandi P. D., and C. Vijayakumar. 2018. “Bibliometrics, Scientometrics, Webometrics / Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research.” *International Journal of Education* 7(1): 5–8.

Courtot, B., I. Hill, C. Cross-Barnet, and J. Markell. 2020. “Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care.” Milbank Quarterly 98(4): 1091–1113.

Damayanti, F. N., A. Absori, and K. Wardiono. 2019. “Legal Protection of Midwives Based on Professional Justice in Midwifery Practices.” repository.unimus.ac.id. http://repository.unimus.ac.id/5272/1/Legal Protection Of Midwives Based On Professional Justice In Midwifery Practices.pdf

Davidson, P. M., P. J. Newton, C. Ferguson, J. Daly, and ... 2014. “Rating and Ranking the Role of Bibliometrics and Webometrics in Nursing and Midwifery.” The Scientific World Journal https://www.hindawi.com/journals/tswj/2014/135812/

Glasper, A. 2017. “Professionalism in Practice.” *British Journal of Nursing* 26(12): 706–707.

Hall, D. J. and D. S. Way. 2018. “A Discussion Paper: Do National Maternity Policy Reviews Take Account of the Education and Training of the Future Midwifery Workforce? An Example from England.” *Midwifery* 62: 278–280.

Harris, J., S. Beck, N. Ayers, D. Bick, B. W. Lamb, and ... 2022. “Improving Teamwork in Maternity Services: A Rapid Review of Interventions.” https://www.sciencedirect.com/science/article/pii/S0266613822000377

He, J., L. Wan, W. Yang, and B. Luo. 2022. “Visual Analysis of Midwifery Research in China Based on Bibliometrics.” *Journal of Midwifery and Women's Health* 67(4): 478–487.

Hoover, C. Van. 2015. “Innovation in Health Policy Education: Project-Based Service Learning at a Distance for Graduate Midwifery Students.” *Journal of Midwifery and Women's Health* 60(5): 554–560.

Innvaer, S., G. Vist, M. Trommald ., & ... 2002. “Health Policy-Makers’ Perceptions of Their Use of Evidence: A Systematic Review.” Journal of Health …. https://doi.org/10.1258/135581902320432778

Jasper, M., and F. Crossan. 2012. “What is Strategic Management?” *Journal of Nursing Management* 20(7): 838–846.

Jolivet, R. R., J. Gausman, N. Kapoor, A. Langer, J. Sharma, and K. E. A. Semrau. 2021. “Operationalizing Respectful Maternity Care at the Healthcare Provider Level: A Systematic Scoping Review.” *Reproductive Health* 18(1): 194.

Lam, W. H., W. S. Lam, S. H. Jaaman, and P. F. Lee. 2022. “Bibliometric Analysis of Information Theoretic Studies.” *Entropy* 24(10).

Li, T., Y. Zeng, X. Fan, J. Yang, C. Yang, Q. Xiong, and P. Liu. 2023. “A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science.” *Journal of Multidisciplinary Healthcare* 2023(16): 677–692.

Lopes, S. C., P. Titulaer, M. Bokosi, C. S. E. Homer, C. and P Hoope-Bender. 2015. “The Involvement of Midwives Associations in Policy and Planning About the Midwifery Workforce: A Global Survey.” *Midwifery* 31(11): 1096–1103.

Commented [TD16]: This link gives a 404 error. Please provide a direct link to the article and the access date.

Commented [TD17]: Please include the initialls and surnames of all authors and provide an access date.

Commented [TD18]: Is there an issue number?

Commented [TD19]: Please complete the reference.
All author's initials and surnames, the full name of the journal, volume and issue number and the page numbers.

Mattison, C. A., K. Bourret, and M. L. Dion. 2022. “Leveling Up Evidence Syntheses: Filling Conceptual Gaps of the Role of Midwifery in Health Systems Through a Network Analysis.” *BMC Research Notes* 15(1): 216.

Mattison, C., K. Bourret, E. Hebert, S. Leshabari, A. Kabeya, P. Achiga, J. Robinson, and E. Darling. 2021. “Health Systems Factors Impacting the Integration of Midwifery: An Evidence-Informed Framework on Strengthening Midwifery Associations.” *BMJ Global Health* 6(6): e004850.

Mayra, K., S. S. Padmadas, and Z. Matthews. 2021. “Challenges and Needed Reforms in Midwifery and Nursing Regulatory Systems in India: Implications for Education and Practice.” *PLoS ONE* 16: e0251331.

McFadden, A., S. Gupta, J. L. Marshall, S. Shinwell, B. Sharma, F. McConville, and S. MacGillivray. 2020. “Systematic Review of Barriers to, and Facilitators of the Provision of High-Quality Midwifery Services in India.” *Birth* 47(4): 304–321.

Moller, A.-B., J. Welsh, E. Ayebare, E. Chipeta, M. M. Gross, G. Houngbo, H. Hounkpatin, B. Kandeya, B. Mwilike, G. Nalwadda, M. Petzold, A. Sognonvi, and C. Hanson. 2022. “Are Midwives Ready to Provide Quality Evidence-Based Care After Pre-Service Training? Curricula Assessment in Four Countries—Benin, Malawi, Tanzania, and Uganda.” *PLOS Global Public Health* 2(9): e0000605.

Murugesu, G. V, Khalid, S. A., & ... (2022). Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective. ASEANA Science and ….

Nove, A., P. Hoope-Bender, N. T. ten, Moyo, and M. Bokosi. 2018. “The Midwifery Services Framework: What is it, and Why is it Needed?” https://www.sciencedirect.com/science/article/pii/S0266613817306307

Nove, Andrea, Moyo, N. T., M. Bokosi, and S. Garg. 2017. “The Midwifery Services Framework: The Process of Implementation.” *Midwifery* 58: 96–101.

Oliver, K., and Z. Parolin. 2018. “Assessing the policy and practice impact of an international policy initiative: The State of the World’s Midwifery 2014.” *BMC Health Services Research* 18(1): 499.

World Health Organization. 2021. “Global strategic directions for nursing and midwifery 2021-2025.” https://apps.who.int/iris/bitstream/handle/10665/344562/9789240033863-eng.pdf

Osborne, K. 2017. “Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives.” *Journal of Midwifery and Women’s Health* 62(3): 341–347

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., & ... (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. In International journal of …. Elsevier.

Pahwa, B., S. Goyal, and B. Chaurasia. 2022. Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles. In … of Cerebrovascular and …. synapse.koreamed.org.

Pollock, D., E. L. Davies, M. D. J. Peters, A. C. Tricco, L. Alexander, P. McInerney, C. M. Godfrey, H. Khalil, and Z. Munn. 2021. “Undertaking a Scoping Review: A Practical Guide for Nursing and Midwifery Students, Clinicians, Researchers, and Academics.” *Journal of Advanced Nursing* 77(4): 2102–2113.

Reynolds, C. M. E., L. E. McMahon, E. G. O’Malley, M. P. O’Connell, S. R. Sheehan, and M. J. Turner. 2020. “Trends in Private Maternity Care in Ireland’s Capital During and After the Great Economic Recession 2009–2017.” *Irish Journal of Medical Science (1971 -)* 190(3): 933–940.

Ruhmel, S., E. Ndirangu-Mugo, J. Mwizerwa, A. Sarki, and E. Pallangyo. 2022. “Capacity Building Among Nursing and Midwifery Professional Associations in East Africa.” *Global Health Action* 15(1): 2118173.

Shakpeh, J. K., M. W. Tiah, C. C. Kpangbala-Flomo, R. F. Matte, S. C. Lake, S. D. Altman, T. Tringali, K. Stalonas, L. Goldsamt, L. Zogbaum, and R. T. Klar. 2021. “Normal Physiologic Birth Continuing Professional Development: From a National Health Priority To Expanded Capacity.” *Annals of Global Health* 87(1): 99.

Commented [TD20]: Please complete the reference.

Commented [TD21]: Please provide the access date.

Commented [TD22]: I was not able to find this reference in the text. Please check or remove.

Commented [TD23]: Please provide an access date.

Commented [TD24]: Please complete the reference.

Commented [TD25]: Please complete the reference.
If this an internet source, please include the access date.

Sleeman, K. E., M. de Brito, S. Etkind, K. Nkhoma, P. Guo, I. J. Higginson, B. Gomes, and R. Harding. 2019. "The Escalating Global Burden of Serious Health-Related Suffering: Projections to 2060 by World Regions, Age Groups, and Health Conditions." *The Lancet Global Health* 7(7): e883–e892.

Soytas, R. B. 2021. "A Bibliometric Analysis of Publications on Covid-19 and Older Adults." *Annals of Geriatric Medicine and Research* 25(3):197–203.

Syros, A., Perez, O. F., Luxenburg, D., Cohen, J. L., & ... (2022). The most influential studies concerning revision shoulder arthroplasty research. Journal of ….

Tickle, N., M. Sidebotham, J. Fenwick, and J. Gamble. 2016. "Women's Experiences of Having a Bachelor of Midwifery Student Provide Continuity of Care." *Women and Birth* 29(3): 245–251.

Touriño, S., M. D. C. Suárez-Cotelo, M. J. Núñez-Iglesias, E. M. Domínguez-Martís, D. G. Mosteiro-Miguéns, D. López-Ares, and S. Novío. 2021. "Knowledge, Attitudes and Practices of Spanish Midwives and Midwifery Students Toward Oral Healthcare During Pregnancy." *International Journal of Environmental Research and Public Health* 18(11): 6089.

van Eck, N. J., and L. Waltman. 2010. "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping." Scientometrics 84(2): 523–538.

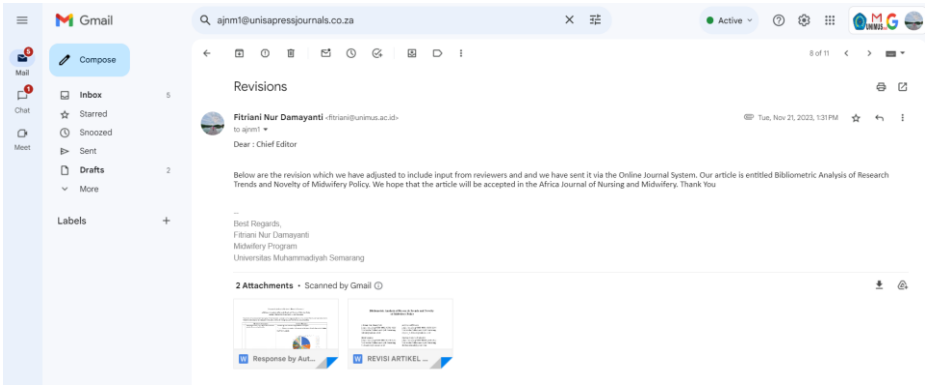
Webster, P. C. 2013. "Indonesia: The Midwife and Maternal Mortality Miasma. *Canadian Medical Association Journal* 185(2): e95–e96.

Zhang, Y., D. Lim, Y. Yao, C. Dong, and Z. Feng. 2022. Global Research Trends in Radiotherapy for Gliomas: A Systematic Bibliometric Analysis. World Neurosurgery.

Commented [TD26]: Please complete the reference.

Commented [TD27]: Please complete the reference.
What is this source?
If this is a journal article, please provide the volume and issue number as well as the page numbers.

4. MANUSKRIP SETELAH REVIEW



REVISI 1

Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Fitriani Nur Damayanti
https://orcid.org/0000-0002-4592-4026
Universitas Muhammadiyah Semarang
fitriani@unimus.ac.id

Ariyani Lutfitasari
https://orcid.org/0000-0001-6058-0244
Universitas Muhammadiyah Semarang
ariyani_lutfitasari@unimus.ac.id

Budi Santosa
https://orcid.org/0000-0003-0354-0136
Universitas Muhammadiyah Semarang
budisantosa@unimus.ac.id

Sherkia Ichtiarsi Prakasiwi
https://orcid.org/0009-0000-8264-1482
Universitas Muhammadiyah Semarang
sherkiasalamah@gmail.com

Suparman
https://orcid.org/0000-0001-5526-6285
Universitas Ahmad Dahlan
suparman@pmat.uad.ac.id

Novita Nining Anggraini
https://orcid.org/ 0009-0008-4177-659X
Universitas Muhammadiyah Semarang
novitanovi@unimus.ac.id

Abstract

Midwifery policy is important in regulating services, and its significance cannot be overstated. Despite the ongoing efforts in formulating policy, there remains a need for further analysis. This is because evidence-based research in midwifery serves as a foundation for enhancing the professionalism of the service practices. Bibliometric analysis of publications pertaining to midwifery policy is absent, leaving a gap in understanding trends and concepts. Therefore, this research aimed to determine trends in the number of publications, and visualization of the relationship on the topic of linear regression through bibliometric analysis. The method used systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to linear regression were retrieved through dimensions.ai from 2010 to 2022 and the data was analyzed using Vosviewer. The results showed that, first, there was an annual exponential growth in the number of publications and citations on the topic. Second, there were 224 items, 8 clusters, and 10047 links with a strength of 63352 on the topic of midwifery policy. Third, trends of research related to the topic were focused on hospitals, behavior, and framework. Fourth, the research related to policy were topics with a low-density category, namely professional development, registration, and public health. Research results could identify trends and novelty in midwifery policy and recommend directions for further analysis.

Keywords: bibliometric analysis, midwifery policy, novelty, trends

Introduction

Health policy is implemented to formulate programs at both the central and local levels, enabling interventions to be made in the determinants of health (Oliver & Parolin, 2018). Furthermore, it has a substantial impact on both the global and national spheres, exerting a significant influence on the well-being of populations worldwide (Shakpeh et al., 2021). The concept is very important in arranging service midwifery (Ruhmel et al., 2022).

In this context, midwifery policy has been researched for various purposes concerning healthcare facilities (Mayra et al., 2021), education settings (Pollock et al., 2021), and service (McFadden et al., 2020). The professionalism of midwives represents a fundamental social contract, which is very important (Soytas, 2021). Current midwifery policy still requires research to be carried out because the evidence in the service can be used as an application to increase professionalism (C. A. Mattison et al., 2022).

Figure 1 shows that many countries are interested in the topic of midwifery policy. The United Arab Emirates showed a pronounced interest in the subject before Australia.

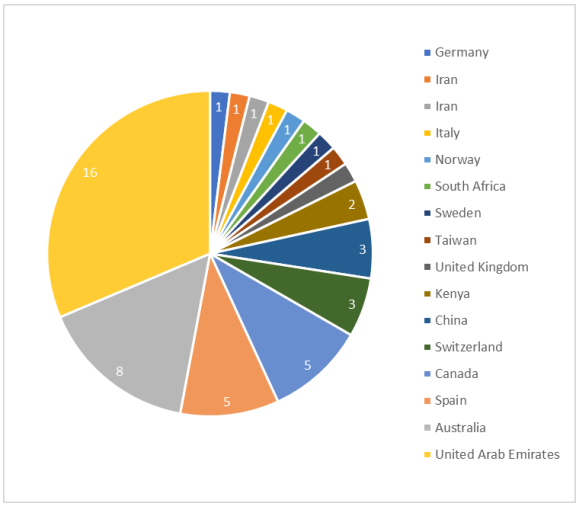


Figure 1: Interest according to the country to midwifery policy

(Source Data: Dimensions, 2023)

The data outline the interest in general policy related to the field of midwifery. For research considering the specifics of policy, it is important to access more specialized information. This includes scientific articles and seminars dedicated to the aspects of midwifery policy. In the field of research, acquiring insights into trends and innovations concerning the topics is essential. This challenge is prevalent since analysis of bibliometric on publications shows a lack of information on current trends and innovations. To address these gaps, a comprehensive research has been conducted to answer the following questions:

Q1. How many trends publications are on the topic of midwifery policy?

Q2. How many trends are cited on the topic of midwifery policy?

Q3. How can an individual facilitate network visualization pertaining to midwifery policy?

Q4. In what manner can visualization be overlaid on the subject of midwifery policy?

Q5. What is the methodology for conducting density visualization on the topic of midwifery policy?

Bibliometric analysis is a scientific and quantitative method for evaluating published articles. This method identifies trends, developments, and research hotspots within a specific field of research. Furthermore, it provides valuable insights to navigate and understand the evolving landscape of the field. This analysis determines the current state of research, offering a foundation for the advancement of the respective field (Lam et al., 2022). Bibliometric analysis identifies areas and directions within a specific domain of research through the use of visualization tools. This method has been used to evaluate theoretical information stored in databases such as Scopus. The use of visualization tools enhances the interpretability of data, as an effective means to navigate and understand the complex dynamics of information (Anuar et al., 2022). These tools evaluate the migration and degradation environment (Zhang et al., 2022), and investigate trends in the research of radiotherapy glioma since 2011 (Abad-Segura et al., 2020).

The results obtained are highly valuable, warranting further development. This theme pertains to midwifery policy, catering to midwives and individuals requiring a comprehensive examination of past research periods and historical data. This is particularly pertinent for academics, research institutes, higher education institutions, and healthcare personnel (C. Mattison et al., 2021).

This research aims to investigate trends in publications, citation patterns, network visualization, overlay visualization, and density visualization concerning the topic of linear regression through bibliometric analysis.

To accomplish the objectives, the structure of this work is organized as follows. The first section outlines the background, issues, and research goals. The second section includes a comprehensive literature review on health systems and midwifery policy. The third section delineates the methods used, including data collection and analysis procedures. Subsequently, the fourth section presents the research results, followed by a detailed discussion. The fifth section offers conclusions, shows limitations, and provides recommendations for future research.

Research Literature

Health Systems

The health system shows considerable variation, particularly regarding the limitations within healthcare. According to the definition, a health system can be comprehended as "consisting of all organizations, institutions, and resources dedicated to producing health-related actions." In an extended definition, the concept includes all organizations, individuals, and activities primarily focused on promoting, restoring, or maintaining health (Jasper & Crossan, 2012).

The successful implementation of a health system requires the formulation of health policy to guide the entire process (Asamani et al., 2019). Policy health refers to goals and objectives, as instruments, processes, and styles of a decision by taker decision, including implementation as well as evaluation (Courtot et al., 2020). In policy and systems, health can conduct characteristic research interdisciplinary, taken from cross-knowledge of social and health (Innvaer et al., 2002). This comprises collaboration from various departments, particularly those contributing to interdisciplinary group knowledge in the field of health (A Nove et al., 2018).

Within the realm of health policy, distinct components include policy nursing, policy midwifery, policy medicine, and others.

Midwifery Policy

The role of a midwife holds significant importance as a key element in the frontline of maternal and child health services (Tickle et al., 2016). Midwives collaborate with other healthcare professionals in managing aspects of pregnancy, childbirth, postpartum care, newborn health, and reproductive health. The

execution of their duties is governed by regulatory legislation, ensuring adherence to established standards and guidelines (Lopes et al., 2015).

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and development profession of midwives (Hoover, 2015). The implementation of midwifery practice includes a comprehensive understanding of the service delivery system, advocating for constitutional rights, and taking the initiative to enhance the quality of policy (Damayanti et al., 2019). Midwives also require legal protection based on principles of justice. Professionals practicing obstetrics must adhere to conditions that uphold the values of justice, including fairness, equal opportunity, and the right to equality (Buchanan et al., 2022).

Midwifery policy serves as a proven framework for the ethical practice of obstetrics. The use is essential to enhance performance and ensure standards in practice (Chellappandi Ph Assistant Professor & Vijayakumar, 2018).

Methodology

There are five types of research metrics for data analysis, namely scientometrics, bibliometric, cybermetrics, informetrics, and altmetrics (Murugesu et al., 2022). Bibliometric analysis used is particularly well-suited for the dissemination of research papers, terms, and keywords. This methodology is instrumental in determining trends in the research. (Syros et al., 2022). Furthermore, analysis is a method of research used in knowledge libraries and information (Pahwa et al., 2022). Bibliometric analysis is very important in evaluating impact research based on the quote received (Page et al., 2021).

Data used in the research was based on an online search through https://app.dimensions.ai/ and was retrieved on May 30, 2023. The methodology used a systematic review, adhering to the stages outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram (van Eck & Waltman, 2010). The stages in PRISMA include identification, screening, and inclusion, as shown in Figure 5. During Stage 1 (Identification), 776 records were detected from dimensions.ai, considering every main term search for midwifery policy, specifying "type of document: articles and proceedings," and including "all published data in the range from 2010 to 2022." In Stage 2 (Screening), the option "title, abstract" was selected for each term search, producing 50 records. Finally, in Stage 3 (Inclusion), the sample was refined, resulting in 726 articles accessible for further analysis.

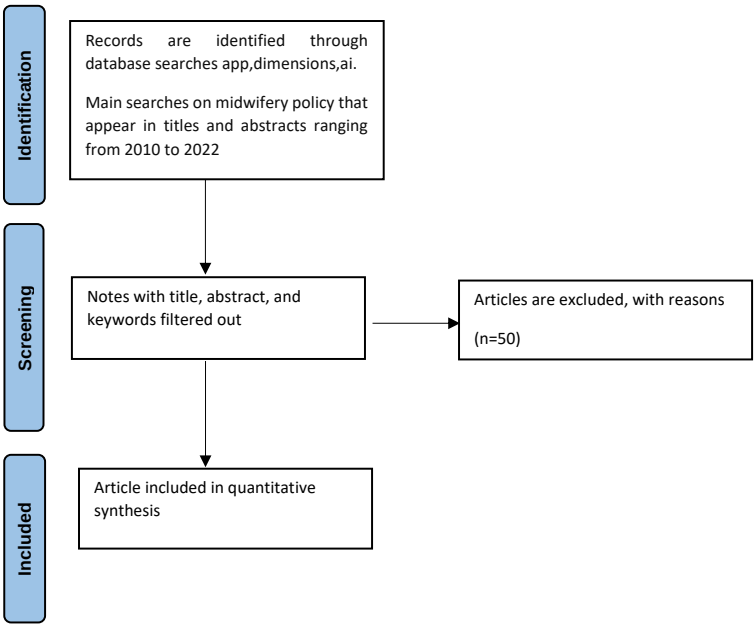


Figure 2 PRISMA (van Eck & Waltman, 2010)

The data analysis was conducted using VOSviewer, a computer program designed for creating and visualizing bibliometric maps. VOSviewer facilitates the mapping of bibliometric data, providing a visual representation that aids in analysis of relationships and patterns within the literature (Brocklehurst et al., 2012). In the research, this analysis was reviewed by co-occurrence and co-author.

The co-occurrence analysis procedure is outlined as follows. Data sources are selected to read information from reference manager files. The selected fields for extracting terms are the title and abstract fields. A threshold is set with a minimum number of occurrences for a term, which is determined to be 10. A total of 224 terms are selected for analysis based on these criteria.

The procedure for the analysis co-author has been as follows. The data type was selected, and a map was created based on bibliographic data. The option to generate a co-authorship folder based on bibliographic data was selected. The data source was determined and was read from reference manager files, specifically in the RIS file type. The type of analysis and counting method was specified, with co-authorship as analysis type and full counting as the selected method. The threshold was set by specifying the maximum number of documents, which was established at 2. Out of the 498 authors, 58 met the threshold. The selection was conducted by assessing the total strength of co-authorship links and those with the highest total link strength were selected.

Results and Discussion

Results

Analysis of Number Publications

Searches conducted from 2010 to 2022 have produced scientific articles on publication. The number of publications related to midwifery policy per year is shown in Figure 3. The most significant enhancement occurred in the year 2021, showing an increase of 103 publications. In contrast, the lowest increase was observed in 2010, with an increase of 93 publications.

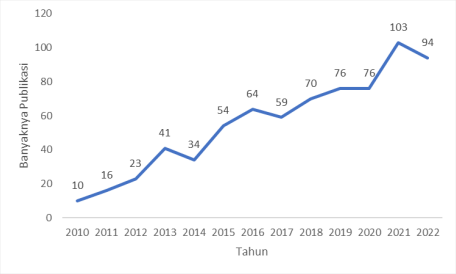


Figure 3 Amount publication midwifery policy from 2010 to 2022 (source: https://app.dimensions.ai/)

Analysis of Citation

The amount citation for midwifery policy per year from 2010 to 2022 is presented in Figure 4. The highest and lowest improvement occurred in 2022 and 2010, reflecting an increase of 2319 and 2317.

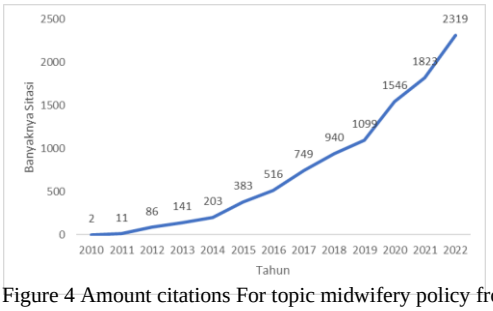


Figure 4 Amount citations For topic midwifery policy from 2010 to 2022

(source: https://app.dimensions.ai/)

Analysis of Networks

Figure 5 shows the Network visualization of 224 terms.

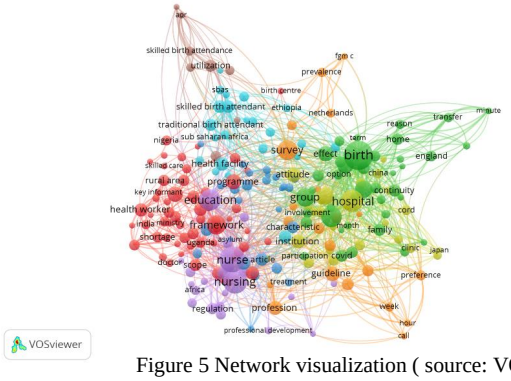


Figure 5 Network visualization (source: VOSviewer)

A total of 224 terms related to elections have been identified. The connection between two items is shown by a line, signifying that these two items appear together in the title and abstract of a document. Conversely, the absence of a line between two items shows that they do not appear together in the title and abstract. Figure 5 shows a comprehensive overview, featuring 224 items organized into 8 clusters. This is interconnected by 10047 links and the cumulative strength is recorded at 63352.

Analysis of Overlays

Visualization overlays served in Figure 6

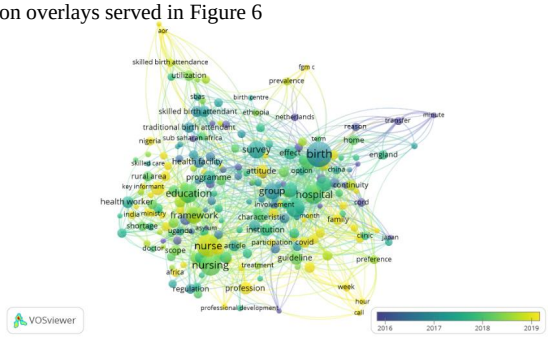


Figure 6 Overlay visualization (source: VOSviewer)

VOSviewer also offers map overlay visualization, which is applied to the 224 terms as shown in Figure 6. The overlay visualization facilitates analysis based on keywords related to midwifery policy from 2010 to 2022, allowing the observation of trends in the titles of research related to midwifery policy.

In the map overlay visualization presented in Figure 6, a yellow knot shows that the keyword is important in the research. For instance, trends during this period related to midwifery policy focuses on topics such as hospitals, attitudes, and frameworks.

Analysis of Density

Figure 7 shows the density visualization of 224 terms.

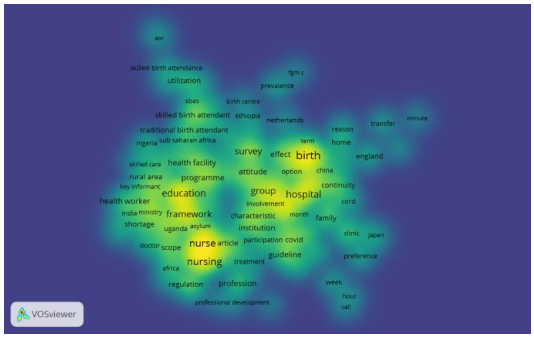


Figure 7 Density visualization (source: VOSviewer)

Figure 7 shows visualization density with lots of items such as pregnancy, birth, and education. Items with yellow-colored knots show that these topics have been frequently addressed in publications before. Therefore, the research topic related to midwifery-suggested policy is a subject with a low visualization density in categories such as professional development, registration, and public health. This suggests that there is a relatively lower concentration of research or visualizations within these specific areas, as compared to other topics in published journals.

Analysis of Co-Author

Figure 8 shows the network visualization for co-authors.

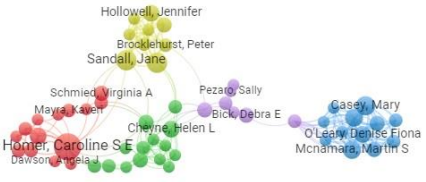


Figure 8 Network visualization For co-author (source: VOSviewer)

Figure 8 presents a collaborative map among the main writers based on co-authorship analysis. The visualization focuses on the thematic connections pushed by these writers and is associated with group network visualization. This analysis spans the period from 2010 to 2022, showing a specific dispersion in the association of writers based on the co-authorship method. The network visualization includes 58 research, showing 218 co-authorship links. The total count of co-authorships amounts to 498, and the

network is categorized into 5 clusters, showing distinct thematic or collaborative groupings among the writers.

Discussion

Bibliometric analysis has been used in research focusing on the topic of midwifery policy. As depicted in Figure 3, the analysis aimed to derive insights regarding midwifery policy outcomes. The minimum number of publications occurred in 2010, while the maximum was observed in 2020, averaging 55, as shown in Figure 9. The number of publications shows an exponential increase each year over the specified time frame.

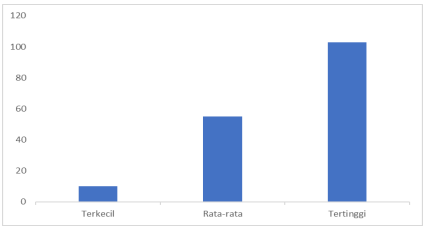


Figure 9 Histograms increase many publications smallest, average, and highest For the topic midwifery policy.

According to Figure 4, the ascent in citations for midwifery policy shows the lowest occurrence in 2010 and the highest in 2022, averaging 755 (figure 10). The number of citations also shows an exponential increase from year to year. Most articles lots citations articles entitled ‘Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: ‘The Birthplace in England National Prospective Cohort Research by (Brocklehurst et al., 2012), accruing 629 citations. This is followed by an article entitled 'The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions (Sleeman et al., 2019) with a total of 308 citations.

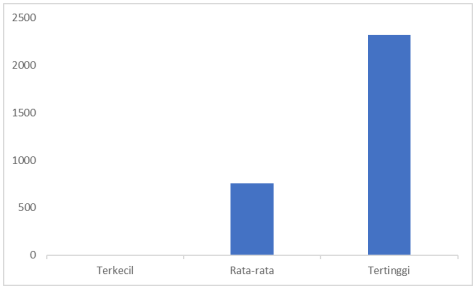


Figure 10 Histograms increase many citations smallest, average, and largest for the topic midwifery policy.

To generate images 5 and 6 using VOSviewer, the procedural steps are elucidated as follows. Firstly, the data type is selected to facilitate the creation of a map grounded in text data and the establishment of a term co-occurrence matrix derived from textual information. Subsequently, data sources are deliberately obtained to extract information from reference manager files, with a specific emphasis on the supported file type, namely, "ris." The applied threshold is set to a minimum number of occurrences of a term, established at 10. Consequently, 373 terms out of the total 9248 meet this defined threshold. For each of

these 373 terms, a relevance score is calculated. Based on this score, the most pertinent terms are systematically selected and the default criterion is to select the top 60% of the most relevant terms.

Figure 5 shows that, among the 224 items, there exist 8 distinct clusters. Cluster 1, 2, 3, 4, 5, 6, 7, and 8 comprise 60, 40, 26, 26, 22, 22, 21, and 8 items, respectively. For a more comprehensive understanding of these clusters, additional details are provided in Table 1.

Table 1 Clusters For topic midwifery policy (Source: VOSviewer)

Cluster	Number of items	Member items cluster
1	60	Abortion, acceptability, accessibility, birth center, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker**
2	40	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, inclusion, labor, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience
3	26	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment
4	25	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage
5	22	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development,
6	22	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust
7	21	Ethnicity, prevalence, organization, **national policy**, organization, primary care midwife, profession, screening, survey
8	8	Antenatal care, aor, gap, **midwifery practice**, use, skill birth attendance

Figure 6 shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration.

A contribution to the topic focused on midwifery-related policy not only on service but the view of the facilities service obstetrics, system health, association profession, and internal stakeholders policy midwifery (Andrea Nove et al., 2018). Midwives show a proactive method and perceive shifts in the practice of midwifery as opportunities. They anticipate potential obstacles in the future, remain focused on identifying and enhancing suboptimal and moderate practices, and actively seek viable alternatives to carry out their work with maximum efficiency and effectiveness. Proactive midwives consistently rank the improvement of quality, the efficiency of their work, and the cultivation of a positive attitude to enhance the integrity of professional responsibilities (Moller et al., 2022).

Similarly, various research have analyzed policy governing midwifery (Touriño et al., 2021). This can have a global impact, providing valuable obstetric services for both the profession and society (Bukkfalvi-Cadotte, 2020). Several factors have been associated with the description of professional obstetrics and the enhancement of quality service midwifery over long periods (Glasper, 2017).

Various sub-periods from 2010 to 2022 have witnessed the development of scientific activities related to the topic, as evidenced by the accumulation of terms in titles, abstracts, and keywords in the sampled articles. VOSviewer has successfully identified diverse keywords, enabling the validation of the breadth of the research activity axis. Figure 7 shows that institutions, countries, and journals with the highest paper count or citation frequency predominantly originate from a specific country. This observation indicates the significance of exploring new experimental methods, as shown by the increasing attention given to certain methods in the research community (Osborne, 2017).

Several topic research related to midwifery suggested policy topic professional development, registration, public health, and preference. The topic presents a significant opportunity for researching midwifery policy. Previous research has extensively discussed linkages related to midwifery services, showing a rich area for exploration and research (Jolivet et al., 2021). Analysis opportunities can give several outlooks for practitioners' education to identify important directions (Webster, 2013). Through a comprehensive analysis, it becomes evident that attention is given to topics of this nature (Hall & Way, 2018).

The scope of the research was extensive, including a wide range of content and numerous research aspects, leading to a lack of focus. The research methodology covered a spectrum of methods, including qualitative, quantitative, and a combination of both. (Organization, 2021).

The research of related topics within midwifery policy has become a focal point in advancing knowledge in the field of midwifery. Bibliometric analysis results show that the characteristics of the field are broad and cross-disciplinary (Li et al., 2023).

Research of this nature will aid readers in comprehending the dynamic trends in topic development and the outcomes. This understanding identifies hot spots and focuses on research problems to pinpoint the most referenced and influential sources. Furthermore, it facilitates the selection of the most influential and relevant institutions for potential collaboration (Baruwa et al., 2021). The results of the analysis should show the main contributions of journals and their primary directions. This information can serve to inspire further research and encourage the development of scientific research in institutions, enhancing continued achievements in the field (Reynolds et al., 2020).

Figure 8 shows bibliometric analysis, capturing the evolution of research on midwifery policy over several years. The results analyze predominant topics and trends in research, including leading countries, organizations, and relevant sources such as journals (He et al., 2022).

The current results show that Australia holds a prominent global position in bibliometric analysis, primarily due to its substantial volume of publications and citations. This assessment includes collaborative writing, excerpts, bibliography compilation, and co-authorship analysis. The journal "BMC Pregnancy and Childbirth" has the highest number of publications and citations compared to others, signifying its contribution to midwifery policy. In addition, the analysis of social network co-authorship distinguishes between strong and weak collaboration patterns, providing valuable insights into the collaborative dynamics. This evaluation proves essential for assessing the contributions of individual writers and the effectiveness of collaborative teams in advancing the research (Davidson et al., 2014). The results also show that establishing connections among writers within an analytical network leads to an increase in the quantity of cited papers.

The results show that Caroline SE Homer has garnered the highest number of citations, with a total of 338 across 16 publications. This assessment is grounded in a comprehensive examination of bibliographies, collaborative writing endeavors, and shared citations.

Conclusion

In conclusion, this research was reported to use bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. Among the numerous publications on the subject, a discernible upward trends were evident in the number of citations related to the topic. The link between midwifery policy and several other topics could be analyzed using VOSviewer, namely network, overlay, and density visualization.

This research showcased themes, trends, core journals, leading country ratings, and collaborations, as well as midwifery policy research groups. Furthermore, a systematic review of midwifery policy was provided over time. The research on trends of midwifery policy included hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration. Topics related to midwifery policy were professional development, registration, public health, preference, aor, and minute. There was a close relationship between midwifery policy and various other elements, namely policy markers, midwifery unit, patient safety, healthcare professionals, midwifery council, regulation, national policy, and midwifery practice.

Regarding the limitations of this research, the app.dimensional.ai database was subjected to continuous updates with new publications being added periodically. Therefore, midwifery policy bibliometric analysis could be reviewed in the next few years. The analysis only extracted scientific article data from the app.dimension.ai database. Further research should consider incorporating additional databases to achieve a broader understanding of midwifery policy.

Acknowledgment

The authors are grateful to the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software facilitates the process for writers to locate and analyze data pertinent to scientific articles, streamlining the research and analysis phases.

BIBLIOGRAPHY

Abad-Segura, E., González-Zamar, M. D., Gómez-Galán, J., & ... (2020). Management accounting for healthy nutrition education: meta-analysis. *Nutrients*. https://www.mdpi.com/908900

Anuar, A., Marwan, N. F., Smith, J., Siriyanun, S., & ... (2022). Bibliometric analysis of immigration and environmental degradation: evidence from past decades. *... Science and Pollution …*. https://doi.org/10.1007/s11356-021-16470-1

Asamani, J. A., Amertil, N. P., Ismaila, H., Francis, A. A., Chebere, M. M., & Nabyonga-Orem, J. (2019). Nurses and midwives demographic shift in Ghana - The policy implications of a looming crisis. *Human Resources for Health*, *17*(1), 32. https://doi.org/10.1186/s12960-019-0377-1

Baruwa, O. J., Amoateng, A. Y., & Mkwananzi, S. (2021). Association between type of birth attendants and neonatal mortality: Evidence from a National survey. *African Health Sciences*, *21*(4), 1870–1876. https://doi.org/10.4314/ahs.v21i4.45

Brocklehurst, P., Hardy, P., Hollowell, J., Linsell, L., Macfarlane, A., McCourt, C., Marlow, N., Miller, A., Newburn, M., Petrou, S., Puddicombe, D., Redshaw, M., Rowe, R., Sandall, J., Silverton, L., & Stewart, M. (2012). Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study. *BMJ (Online)*, *343*(7840), d7400. https://doi.org/10.1136/bmj.d7400

Buchanan, K., Newnham, E., Ireson, D., Davison, C., & Geraghty, S. (2022). Care ethics framework for midwifery practice: A scoping review. *Nursing Ethics*, *29*(5), 1107–1133. https://doi.org/10.1177/09697330221073996

Bukkfalvi-Cadotte, A. (2020). The professional identity of Lithuanian midwifery students: An exploratory study. *European Journal of Midwifery*, *4*(October), 1–4. https://doi.org/10.18332/ejm/127515

Chellappandi Ph Assistant Professor, P. D., & Vijayakumar, C. (2018). Bibliometrics, Scientometrics, Webometrics / Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research. *International Journal of Education*, *7*(1), 5–8.

Courtot, B., Hill, I., Cross-Barnet, C., & Markell, J. (2020). Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care. *Milbank Quarterly*, *98*(4), 1091–1113. https://doi.org/10.1111/1468-0009.12473

Damayanti, F. N., Absori, A., & Wardiono, K. (2019). *Legal Protection of Midwives Based on Professional Justice in Midwifery Practices.* repository.unimus.ac.id. http://repository.unimus.ac.id/5272/1/Legal Protection Of Midwives Based On Professional Justice In Midwifery Practices.pdf

Davidson, P. M., Newton, P. J., Ferguson, C., Daly, J., & ... (2014). Rating and ranking the role of bibliometrics and webometrics in nursing and midwifery. In *The Scientific World …*. hindawi.com. https://www.hindawi.com/journals/tswj/2014/135812/

Glasper, A. (2017). Professionalism in practice. *British Journal of Nursing*, *26*(12), 706–707. https://doi.org/10.12968/bjon.2017.26.12.706

Hall, D. J., & Way, D. S. (2018). A discussion paper: Do national maternity policy reviews take account of the education and training of the future midwifery workforce? An example from England. *Midwifery*, *62*, 278–280. https://doi.org/10.1016/j.midw.2018.03.019

Harris, J., Beck, S., Ayers, N., Bick, D., Lamb, B. W., & ... (2022). Improving teamwork in maternity

services: A rapid review of interventions. *Midwifery*. https://www.sciencedirect.com/science/article/pii/S0266613822000377

He, J., Wan, L., Yang, W., & Luo, B. (2022). Visual Analysis of Midwifery Research in China Based on Bibliometrics. *Journal of Midwifery & Women's …*. https://doi.org/10.1111/jmwh.13379

Hoover, C. Van. (2015). Innovation in health policy education: Project-based service learning at a distance for graduate midwifery students. *Journal of Midwifery & Women's Health*. https://doi.org/10.1111/jmwh.12264

Innvaer, S., Vist, G., Trommald, M., & ... (2002). Health policy-makers' perceptions of their use of evidence: a systematic review. *Journal of Health …*. https://doi.org/10.1258/135581902320432778

Jasper, M., & Crossan, F. (2012). What is strategic management? *Journal of Nursing Management*, *20*(7), 838–846. https://doi.org/10.1111/jonm.12001

Jolivet, R. R., Gausman, J., Kapoor, N., Langer, A., Sharma, J., & Semrau, K. E. A. (2021). Operationalizing respectful maternity care at the healthcare provider level: a systematic scoping review. *Reproductive Health*, *18*(1), 194. https://doi.org/10.1186/s12978-021-01241-5

Lam, W. H., Lam, W. S., Jaaman, S. H., & Lee, P. F. (2022). Bibliometric Analysis of Information Theoretic Studies. *Entropy*, *24*(10). https://doi.org/10.3390/e24101359

Li, T., Zeng, Y., Fan, X., Yang, J., Yang, C., Xiong, Q., & Liu, P. (2023). A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science. *Journal of Multidisciplinary Healthcare*, *16*, 677–692. https://doi.org/10.2147/JMDH.S398218

Lopes, S. C., Titulaer, P., Bokosi, M., Homer, C. S. E., & ten Hoope-Bender, P. (2015). The involvement of midwives associations in policy and planning about the midwifery workforce: A global survey. *Midwifery*, *31*(11), 1096–1103. https://doi.org/10.1016/j.midw.2015.07.010

Mattison, C. A., Bourret, K., & Dion, M. L. (2022). Leveling up evidence syntheses: filling conceptual gaps of the role of midwifery in health systems through a network analysis. *BMC Research Notes*, *15*(1), 216. https://doi.org/10.1186/s13104-022-06094-0

Mattison, C., Bourret, K., Hebert, E., Leshabari, S., Kabeya, A., Achiga, P., Robinson, J., & Darling, E. (2021). Health systems factors impacting the integration of midwifery: An evidence-informed framework on strengthening midwifery associations. *BMJ Global Health*, *6*(6), e004850. https://doi.org/10.1136/bmjgh-2020-004850

Mayra, K., Padmadas, S. S., & Matthews, Z. (2021). Challenges and needed reforms in midwifery and nursing regulatory systems in India: Implications for education and practice. *PLoS ONE*, *16*(5 May), e0251331. https://doi.org/10.1371/journal.pone.0251331

McFadden, A., Gupta, S., Marshall, J. L., Shinwell, S., Sharma, B., McConville, F., & MacGillivray, S. (2020). Systematic review of barriers to, and facilitators of, the provision of high-quality midwifery services in India. *Birth*, *47*(4), 304–321. https://doi.org/10.1111/birt.12498

Moller, A.-B., Welsh, J., Ayebare, E., Chipeta, E., Gross, M. M., Houngbo, G., Hounkpatin, H., Kandeya, B., Mwilike, B., Nalwadda, G., Petzold, M., Sognonvi, A., & Hanson, C. (2022). Are midwives ready to provide quality evidence-based care after pre-service training? Curricula assessment in four countries—Benin, Malawi, Tanzania, and Uganda. *PLOS Global Public Health*, *2*(9), e0000605. https://doi.org/10.1371/journal.pgph.0000605

Murugesu, G. V, Khalid, S. A., & ... (2022). Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective. *ASEANA Science and …*

Nove, A, Hoope-Bender, P. ten, Moyo, N. T., & Bokosi, M. (2018). The Midwifery services framework: What is it, and why is it needed? In *Midwifery*. Elsevier. https://www.sciencedirect.com/science/article/pii/S0266613817306307

Nove, Andrea, Moyo, N. T., Bokosi, M., & Garg, S. (2017). The Midwifery Services Framework: The process of implementation. *Midwifery*, *58*, 96–101. https://doi.org/10.1016/j.midw.2017.12.013

Nove, Andrea, Moyo, N. T., Bokosi, M., & Garg, S. (2018). The Midwifery Services Framework: The process of implementation. *Midwifery*, *58*, 96–101. https://doi.org/10.1016/j.midw.2017.12.013

Oliver, K., & Parolin, Z. (2018). Assessing the policy and practice impact of an international policy initiative: The State of the World's Midwifery 2014. *BMC Health Services Research*, *18*(1), 499. https://doi.org/10.1186/s12913-018-3294-4

Organization, W. H. (2021). *Global strategic directions for nursing and midwifery 2021-2025*. apps.who.int. https://apps.who.int/iris/bitstream/handle/10665/344562/9789240033863-eng.pdf

Osborne, K. (2017). Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives. *Journal of Midwifery & Women's Health*, *62*(3), 341–347. https://doi.org/10.1111/jmwh.12615

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., & ... (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. In *International journal of …*. Elsevier.

Pahwa, B., Goyal, S., & Chaurasia, B. (2022). Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles. In *… of Cerebrovascular and …*. synapse.koreamed.org.

Pollock, D., Davies, E. L., Peters, M. D. J., Tricco, A. C., Alexander, L., McInerney, P., Godfrey, C. M., Khalil, H., & Munn, Z. (2021). Undertaking a scoping review: A practical guide for nursing and midwifery students, clinicians, researchers, and academics. *Journal of Advanced Nursing*, *77*(4), 2102–2113. https://doi.org/10.1111/jan.14743

Reynolds, C. M. E., McMahon, L. E., O'Malley, E. G., O'Connell, M. P., Sheehan, S. R., & Turner, M. J. (2020). Trends in private maternity care in Ireland's capital during and after the Great Economic Recession 2009–2017. *Irish Journal of Medical Science (1971 -)*, *190*(3), 933–940. https://doi.org/10.1007/s11845-020-02415-z

Ruhmel, S., Ndirangu-Mugo, E., Mwizerwa, J., Sarki, A., & Pallangyo, E. (2022). Capacity building among nursing and midwifery professional associations in East Africa. *Global Health Action*, *15*(1), 2118173. https://doi.org/10.1080/16549716.2022.2118173

Shakpeh, J. K., Tiah, M. W., Kpangbala-Flomo, C. C., Matte, R. F., Lake, S. C., Altman, S. D., Tringali, T., Stalonas, K., Goldsamt, L., Zogbaum, L., & Klar, R. T. (2021). Normal physiologic birth continuing professional development: From a national health priority to expanded capacity. *Annals of Global Health*, *87*(1), 99. https://doi.org/10.5334/aogh.3247

Sleeman, K. E., de Brito, M., Etkind, S., Nkhoma, K., Guo, P., Higginson, I. J., Gomes, B., & Harding, R. (2019). The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions. *The Lancet Global Health*, *7*(7), e883–e892. https://doi.org/10.1016/S2214-109X(19)30172-X

Soytas, R. B. (2021). A bibliometric analysis of publications on covid-19 and older adults. In *Annals of Geriatric Medicine and Research* (Vol. 25, Issue 3, pp. 197–203). ncbi.nlm.nih.gov. https://doi.org/10.4235/agmr.21.0060

Syros, A., Perez, O. F., Luxenburg, D., Cohen, J. L., & ... (2022). The most influential studies concerning revision shoulder arthroplasty research. *Journal of …*.

Tickle, N., Sidebotham, M., Fenwick, J., & Gamble, J. (2016). Women's experiences of having a Bachelor of Midwifery student provide continuity of care. *Women and Birth*, *29*(3), 245–251. https://doi.org/10.1016/j.wombi.2015.11.002

Touriño, S., Suárez-Cotelo, M. D. C., Núñez-Iglesias, M. J., Domínguez-Martís, E. M., Mosteiro-Miguéns, D. G., López-Ares, D., & Novío, S. (2021). Knowledge, attitudes and practices of spanish midwives and midwifery students toward oral healthcare during pregnancy. *International Journal of Environmental Research and Public Health*, *18*(11), 6089. https://doi.org/10.3390/ijerph18116089

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Webster, P. C. (2013). Indonesia: the midwife and maternal mortality miasma. *CMAJ : Canadian Medical Association Journal = Journal de l'Association Medicale Canadienne*, *185*(2), e95–e96. https://doi.org/10.1503/cmaj.109-4347

Zhang, Y., Lim, D., Yao, Y., Dong, C., & Feng, Z. (2022). Global research trends in radiotherapy for gliomas: a systematic bibliometric analysis. *World Neurosurgery*.

REVISI 2

Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Fitriani Nur Damayanti
https://orcid.org/0000-0002-4592-4026
Universitas Muhammadiyah Semarang
fitriani@unimus.ac.id

Ariyani Lutfitasari
https://orcid.org/0000-0001-6058-0244
Universitas Muhammadiyah Semarang
ariyani_lutfitasari@unimus.ac.id

Budi Santosa
https://orcid.org/0000-0003-0354-0136
Universitas Muhammadiyah Semarang
budisantosa@unimus.ac.id

Sherkia Ichtiarsi Prakasiwi
https://orcid.org/0009-0000-8264-1482
Universitas Muhammadiyah Semarang
sherkiasalamah@gmail.com

Suparman
https://orcid.org/0000-0001-5526-6285
Universitas Ahmad Dahlan
suparman@pmat.uad.ac.id

Novita Nining Anggraini
https://orcid.org/ 0009-0008-4177-659X
Universitas Muhammadiyah Semarang
novitanovi@unimus.ac.id

Abstract

Midwifery policy is important in regulating services, and its significance cannot be overstated. Despite the ongoing efforts in formulating policy, there remains a need for further analysis. This is because evidence-based research in midwifery serves as a foundation for enhancing the professionalism of the service practices. Bibliometric analysis of publications pertaining to midwifery policy is absent, leaving a gap in understanding trends and concepts. Therefore, this research aimed to determine trends in the number of publications, and visualization of the relationship on the topic of midwifery policy through bibliometric analysis. The method used systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to midwifery policy were retrieved through dimensions.ai from 2010 to 2022 and the data was analyzed using Vosviewer. The results showed that, first, there was an annual exponential growth in the number of publications and citations on the topic. Second, there were 224 items, 8 clusters, and 10047 links with a strength of 63352 on the topic of midwifery policy. Third, trends of research related to the topic were focused on hospitals, behavior, and framework. Fourth, the research related to policy were topics with a low-density category, namely professional development, registration, and public health. Research results could identify trends and novelty in midwifery policy and recommend directions for further analysis.

Keywords: bibliometric analysis, midwifery policy, novelty, trends

Introduction

Health policy is implemented to formulate programs at both the central and local levels, enabling interventions to be made in the determinants of health (Oliver & Parolin, 2018). Furthermore, it has a substantial impact on both the global and national spheres, exerting a significant influence on the well-being of populations worldwide (Shakpeh et al., 2021). The concept is very important in arranging service midwifery (Ruhmel et al., 2022).

In this context, midwifery policy has been researched for various purposes concerning healthcare facilities (Mayra et al., 2021), education settings (Pollock et al., 2021), and service (McFadden et al., 2020). The professionalism of midwives represents a fundamental social contract, which is very important (Soytas, 2021). Current midwifery policy still requires research to be carried out because the evidence in the service can be used as an application to increase professionalism (C. A. Mattison et al., 2022).

Figure 1 shows that many countries are interested in the topic of midwifery policy. The United Arab Emirates showed a pronounced interest in the subject before Australia.

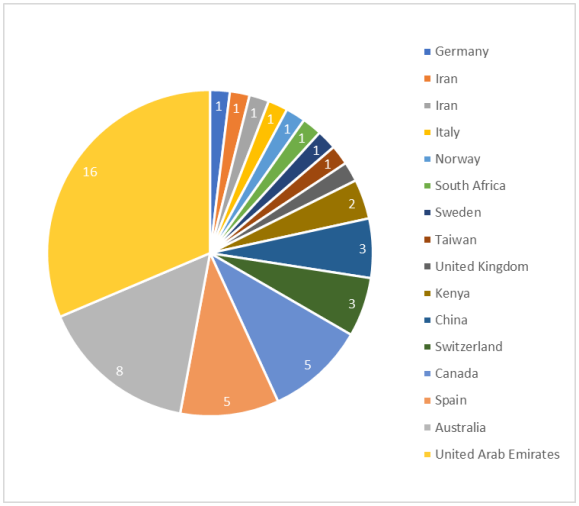


Figure 1: Interest according to the country to midwifery policy

(Source Data: Dimensions, 2023)

The data outline the interest in general policy related to the field of midwifery. For research considering the specifics of policy, it is important to access more specialized information. This includes scientific articles and seminars dedicated to the aspects of midwifery policy. In the field of research, acquiring insights into trends and innovations concerning the topics is essential. This challenge is prevalent since analysis of bibliometric on publications shows a lack of information on current trends and innovations. To address these gaps, a comprehensive research has been conducted to answer the following questions:

Q1. How many trends publications are on the topic of midwifery policy?

Q2. How many trends are cited on the topic of midwifery policy?

Q3. How can an individual facilitate network visualization pertaining to midwifery policy?

Q4. In what manner can visualization be overlaid on the subject of midwifery policy?

Q5. What is the methodology for conducting density visualization on the topic of midwifery policy?

Bibliometric analysis is a scientific and quantitative method for evaluating published articles. This method identifies trends, developments, and research hotspots within a specific field of research. Furthermore, it provides valuable insights to navigate and understand the evolving landscape of the field. This analysis determines the current state of research, offering a foundation for the advancement of the respective field (Lam et al., 2022). Bibliometric analysis identifies areas and directions within a specific

domain of research through the use of visualization tools. This method has been used to evaluate theoretical information stored in databases such as Scopus. The use of visualization tools enhances the interpretability of data, as an effective means to navigate and understand the complex dynamics of information (Anuar et al., 2022). These tools evaluate the migration and degradation environment (Zhang et al., 2022), and investigate trends in the research of radiotherapy glioma since 2011 (Abad-Segura et al., 2020).

The results obtained are highly valuable, warranting further development. This theme pertains to midwifery policy, catering to midwives and individuals requiring a comprehensive examination of past research periods and historical data. This is particularly pertinent for academics, research institutes, higher education institutions, and healthcare personnel (C. Mattison et al., 2021).

This research aims to investigate trends in publications, citation patterns, network visualization, overlay visualization, and density visualization concerning the topic of linear regression through bibliometric analysis.

To accomplish the objectives, the structure of this work is organized as follows. The first section outlines the background, issues, and research goals. The second section includes a comprehensive literature review on health systems and midwifery policy. The third section delineates the methods used, including data collection and analysis procedures. Subsequently, the fourth section presents the research results, followed by a detailed discussion. The fifth section offers conclusions, shows limitations, and provides recommendations for future research.

Research Literature

Health Systems

The health system shows considerable variation, particularly regarding the limitations within healthcare. According to the definition, a health system can be comprehended as "consisting of all organizations, institutions, and resources dedicated to producing health-related actions." In an extended definition, the concept includes all organizations, individuals, and activities primarily focused on promoting, restoring, or maintaining health (Jasper & Crossan, 2012).

The successful implementation of a health system requires the formulation of health policy to guide the entire process (Asamani et al., 2019). Policy health refers to goals and objectives, as instruments, processes, and styles of a decision by taker decision, including implementation as well as evaluation (Courtot et al., 2020). In policy and systems, health can conduct characteristic research interdisciplinary, taken from cross-knowledge of social and health (Innvaer et al., 2002). This comprises collaboration from various departments, particularly those contributing to interdisciplinary group knowledge in the field of health (A Nove et al., 2018).

Within the realm of health policy, distinct components include policy nursing, policy midwifery, policy medicine, and others.

Midwifery Policy

The role of a midwife holds significant importance as a key element in the frontline of maternal and child health services (Tickle et al., 2016). Midwives collaborate with other healthcare professionals in managing aspects of pregnancy, childbirth, postpartum care, newborn health, and reproductive health. The execution of their duties is governed by regulatory legislation, ensuring adherence to established standards and guidelines (Lopes et al., 2015).

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and development profession of midwives (Hoover, 2015). The implementation of midwifery practice includes a comprehensive understanding of the service delivery system, advocating for constitutional rights, and taking the initiative to enhance the quality of policy (Damayanti et al., 2019).

Midwives also require legal protection based on principles of justice. Professionals practicing obstetrics must adhere to conditions that uphold the values of justice, including fairness, equal opportunity, and the right to equality (Buchanan et al., 2022).

Midwifery policy serves as a proven framework for the ethical practice of obstetrics. The use is essential to enhance performance and ensure standards in practice (Chellappandi Ph Assistant Professor & Vijayakumar, 2018).

Methodology

There are five types of research metrics for data analysis, namely scientometrics, bibliometric, cybermetrics, informetrics, and altmetrics (Murugesu et al., 2022). Bibliometric analysis used is particularly well-suited for the dissemination of research papers, terms, and keywords. This methodology is instrumental in determining trends in the research. (Syros et al., 2022). Furthermore, analysis is a method of research used in knowledge libraries and information (Pahwa et al., 2022). Bibliometric analysis is very important in evaluating impact research based on the quote received (Page et al., 2021).

Data used in the research was based on an online search through https://app.dimensions.ai/ and was retrieved on May 30, 2023. The methodology used a systematic review, adhering to the stages outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram (van Eck & Waltman, 2010). The stages in PRISMA include identification, screening, and inclusion, as shown in Figure 5. During Stage 1 (Identification), 776 records were detected from dimensions.ai, considering every main term search for midwifery policy, specifying "type of document: articles and proceedings," and including "all published data in the range from 2010 to 2022." In Stage 2 (Screening), the option "title, abstract" was selected for each term search, producing 50 records. Finally, in Stage 3 (Inclusion), the sample was refined, resulting in 726 articles accessible for further analysis.

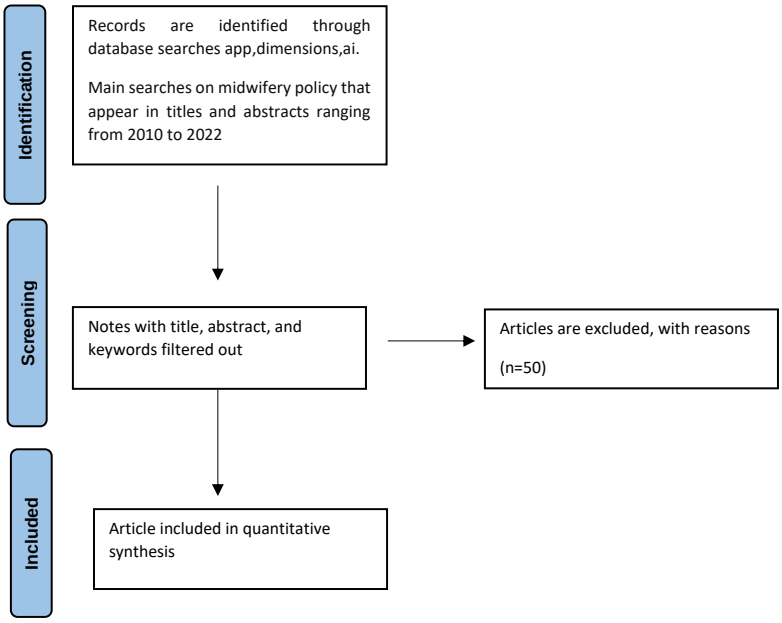


Figure 2 PRISMA (van Eck & Waltman, 2010)

The data analysis was conducted using VOSviewer, a computer program designed for creating and visualizing bibliometric maps. VOSviewer facilitates the mapping of bibliometric data, providing a visual representation that aids in analysis of relationships and patterns within the literature (Brocklehurst et al., 2012). In the research, this analysis was reviewed by co-occurrence and co-author.

The co-occurrence analysis procedure is outlined as follows. Data sources are selected to read information from reference manager files. The selected fields for extracting terms are the title and abstract fields. A threshold is set with a minimum number of occurrences for a term, which is determined to be 10. A total of 224 terms are selected for analysis based on these criteria.

The procedure for the analysis co-author has been as follows. The data type was selected, and a map was created based on bibliographic data. The option to generate a co-authorship folder based on bibliographic data was selected. The data source was determined and was read from reference manager files, specifically in the RIS file type. The type of analysis and counting method was specified, with co-authorship as analysis type and full counting as the selected method. The threshold was set by specifying the maximum number of documents, which was established at 2. Out of the 498 authors, 58 met the threshold. The selection was conducted by assessing the total strength of co-authorship links and those with the highest total link strength were selected.

Results and Discussion

Results

Analysis of Number Publications

Searches conducted from 2010 to 2022 have produced scientific articles on publication. The number of publications related to midwifery policy per year is shown in Figure 3. The most significant enhancement occurred in the year 2021, showing an increase of 103 publications. In contrast, the lowest increase was observed in 2010, with an increase of 93 publications.

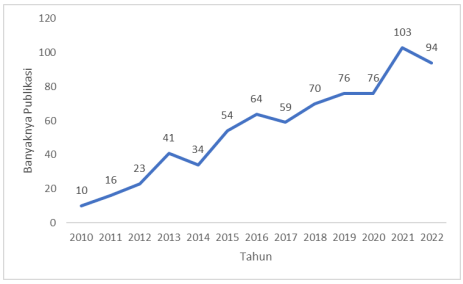


Figure 3 Amount publication midwifery policy from 2010 to 2022 (source: https://app.dimensions.ai/)

Analysis of Citation

The amount citation for midwifery policy per year from 2010 to 2022 is presented in Figure 4. The highest and lowest improvement occurred in 2022 and 2010, reflecting an increase of 2319 and 2317.

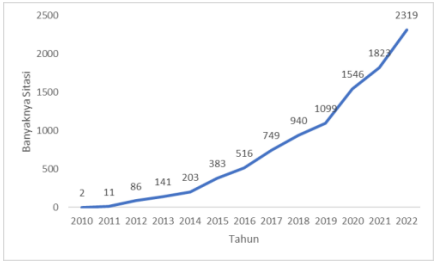


Figure 4 Amount citations For topic midwifery policy from 2010 to 2022

(source: https://app.dimensions.ai/)

Analysis of Networks

Figure 5 shows the Network visualization of 224 terms.

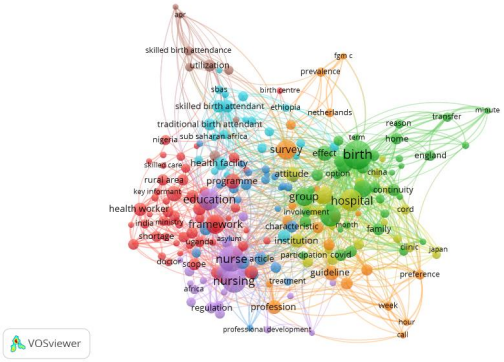


Figure 5 Network visualization (source: VOSviewer)

A total of 224 terms related to elections have been identified. The connection between two items is shown by a line, signifying that these two items appear together in the title and abstract of a document. Conversely, the absence of a line between two items shows that they do not appear together in the title and abstract. Figure 5 shows a comprehensive overview, featuring 224 items organized into 8 clusters. This is interconnected by 10047 links and the cumulative strength is recorded at 63352.

Analysis of Overlays

Visualization overlays served in Figure 6

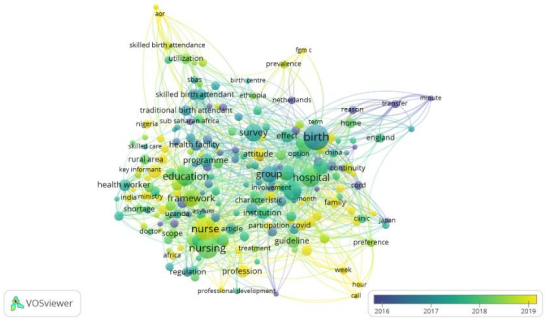


Figure 6 Overlay visualization (source: VOSviewer)

VOSviewer also offers map overlay visualization, which is applied to the 224 terms as shown in Figure 6. The overlay visualization facilitates analysis based on keywords related to midwifery policy from 2010 to 2022, allowing the observation of trends in the titles of research related to midwifery policy.

In the map overlay visualization presented in Figure 6, a yellow knot shows that the keyword is important in the research. For instance, trends during this period related to midwifery policy focuses on topics such as hospitals, attitudes, and frameworks.

Analysis of Density

Figure 7 shows the density visualization of 224 terms.

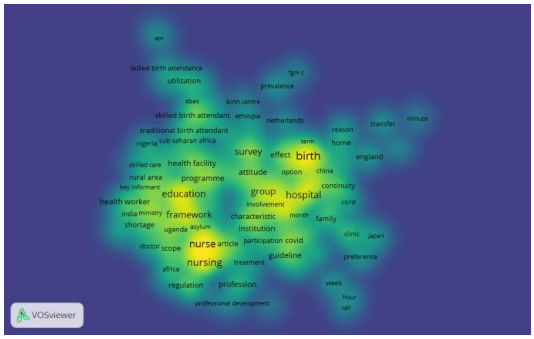


Figure 7 Density visualization (source: VOSviewer)

Figure 7 shows visualization density with lots of items such as pregnancy, birth, and education. Items with yellow-colored knots show that these topics have been frequently addressed in publications before. Therefore, the research topic related to midwifery-suggested policy is a subject with a low visualization density in categories such as professional development, registration, and public health. This suggests that there is a relatively lower concentration of research or visualizations within these specific areas, as compared to other topics in published journals.

Analysis of Co-Author

Figure 8 shows the network visualization for co-authors.

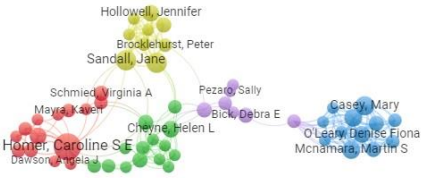


Figure 8 Network visualization For co-author (source: VOSviewer)

Figure 8 presents a collaborative map among the main writers based on co-authorship analysis. The visualization focuses on the thematic connections pushed by these writers and is associated with group network visualization. This analysis spans the period from 2010 to 2022, showing a specific dispersion in the association of writers based on the co-authorship method. The network visualization includes 58

research, showing 218 co-authorship links. The total count of co-authorships amounts to 498, and the network is categorized into 5 clusters, showing distinct thematic or collaborative groupings among the writers.

Discussion

Bibliometric analysis has been used in research focusing on the topic of midwifery policy. As depicted in Figure 3, the analysis aimed to derive insights regarding midwifery policy outcomes. The minimum number of publications occurred in 2010, while the maximum was observed in 2020, averaging 55, as shown in Figure 9. The number of publications shows an exponential increase each year over the specified time frame.

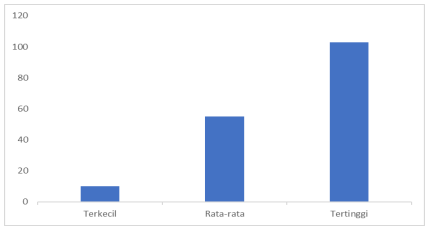


Figure 9 Histograms increase many publications smallest, average, and highest For the topic midwifery policy.

According to Figure 4, the ascent in citations for midwifery policy shows the lowest occurrence in 2010 and the highest in 2022, averaging 755 (figure 10). The number of citations also shows an exponential increase from year to year. Most articles lots citations articles entitled ‘Perinatal and maternal outcomes by planned place of birth for healthy women with low-risk pregnancies: ‘The Birthplace in England National Prospective Cohort Research by (Brocklehurst et al., 2012), accruing 629 citations. This is followed by an article entitled 'The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions (Sleeman et al., 2019) with a total of 308 citations.

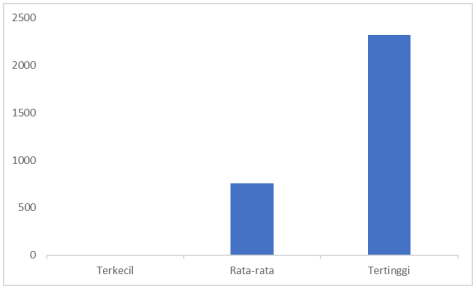


Figure 10 Histograms increase many citations smallest, average, and largest for the topic midwifery policy.

To generate images 5 and 6 using VOSviewer, the procedural steps are elucidated as follows. Firstly, the data type is selected to facilitate the creation of a map grounded in text data and the establishment of a term co-occurrence matrix derived from textual information. Subsequently, data sources are deliberately obtained to extract information from reference manager files, with a specific emphasis on the supported file type, namely, "ris." The applied threshold is set to a minimum number of occurrences of a term, established at 10. Consequently, 373 terms out of the total 9248 meet this defined threshold. For each of these 373 terms, a relevance score is calculated. Based on this score, the most pertinent terms are systematically selected and the default criterion is to select the top 60% of the most relevant terms.

Figure 5 shows that, among the 224 items, there exist 8 distinct clusters. Cluster 1, 2, 3, 4, 5, 6, 7, and 8 comprise 60, 40, 26, 26, 22, 22, 21, and 8 items, respectively. For a more comprehensive understanding of these clusters, additional details are provided in Table 1.

Table 1 Clusters For topic midwifery policy (Source: VOSviewer)

Cluster	Number of items	Member items cluster
1	60	Abortion, acceptability, accessibility, birth center, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker**
2	40	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, inclusion, labor, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience
3	26	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment
4	25	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage
5	22	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development,
6	22	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust
7	21	Ethnicity, prevalence, organization, **national policy**, organization, primary care midwife, profession, screening, survey
8	8	Antenatal care, aor, gap, **midwifery practice**, use, skill birth attendance

Figure 6 shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration.

A contribution to the topic focused on midwifery-related policy not only on service but the view of the facilities service obstetrics, system health, association profession, and internal stakeholders policy midwifery (Andrea Nove et al., 2018). Midwives show a proactive method and perceive shifts in the practice of midwifery as opportunities. They anticipate potential obstacles in the future, remain focused on identifying and enhancing suboptimal and moderate practices, and actively seek viable alternatives to carry out their work with maximum efficiency and effectiveness. Proactive midwives consistently rank the improvement of quality, the efficiency of their work, and the cultivation of a positive attitude to enhance the integrity of professional responsibilities (Moller et al., 2022).

Similarly, various research have analyzed policy governing midwifery (Touriño et al., 2021). This can have a global impact, providing valuable obstetric services for both the profession and society (Bukkfalvi-Cadotte, 2020). Several factors have been associated with the description of professional obstetrics and the enhancement of quality service midwifery over long periods (Glasper, 2017).

Various sub-periods from 2010 to 2022 have witnessed the development of scientific activities related to the topic, as evidenced by the accumulation of terms in titles, abstracts, and keywords in the sampled articles. VOSviewer has successfully identified diverse keywords, enabling the validation of the breadth of the research activity axis. Figure 7 shows that institutions, countries, and journals with the highest paper count or citation frequency predominantly originate from a specific country. This observation indicates the significance of exploring new experimental methods, as shown by the increasing attention given to certain methods in the research community (Osborne, 2017).

Several topic research related to midwifery suggested policy topic professional development, registration, public health, and preference. The topic presents a significant opportunity for researching midwifery policy. Previous research has extensively discussed linkages related to midwifery services, showing a rich area for exploration and research (Jolivet et al., 2021). Analysis opportunities can give several outlooks for practitioners' education to identify important directions (Webster, 2013). Through a comprehensive analysis, it becomes evident that attention is given to topics of this nature (Hall & Way, 2018).

The scope of the research was extensive, including a wide range of content and numerous research aspects, leading to a lack of focus. The research methodology covered a spectrum of methods, including qualitative, quantitative, and a combination of both. (Organization, 2021).

The research of related topics within midwifery policy has become a focal point in advancing knowledge in the field of midwifery. Bibliometric analysis results show that the characteristics of the field are broad and cross-disciplinary (Li et al., 2023).

Research of this nature will aid readers in comprehending the dynamic trends in topic development and the outcomes. This understanding identifies hot spots and focuses on research problems to pinpoint the most referenced and influential sources. Furthermore, it facilitates the selection of the most influential and relevant institutions for potential collaboration (Baruwa et al., 2021). The results of the analysis should show the main contributions of journals and their primary directions. This information can serve to inspire further research and encourage the development of scientific research in institutions, enhancing continued achievements in the field (Reynolds et al., 2020).

Figure 8 shows bibliometric analysis, capturing the evolution of research on midwifery policy over several years. The results analyze predominant topics and trends in research, including leading countries, organizations, and relevant sources such as journals (He et al., 2022).

The current results show that Australia holds a prominent global position in bibliometric analysis, primarily due to its substantial volume of publications and citations. This assessment includes collaborative writing, excerpts, bibliography compilation, and co-authorship analysis. The journal "BMC Pregnancy and Childbirth" has the highest number of publications and citations compared to others, signifying its

contribution to midwifery policy. In addition, the analysis of social network co-authorship distinguishes between strong and weak collaboration patterns, providing valuable insights into the collaborative dynamics. This evaluation proves essential for assessing the contributions of individual writers and the effectiveness of collaborative teams in advancing the research (Davidson et al., 2014). The results also show that establishing connections among writers within an analytical network leads to an increase in the quantity of cited papers.

The results show that Caroline SE Homer has garnered the highest number of citations, with a total of 338 across 16 publications. This assessment is grounded in a comprehensive examination of bibliographies, collaborative writing endeavors, and shared citations.

Conclusion

In conclusion, this research was reported to use bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. Among the numerous publications on the subject, a discernible upward trends were evident in the number of citations related to the topic. The link between midwifery policy and several other topics could be analyzed using VOSviewer, namely network, overlay, and density visualization.

This research showcased themes, trends, core journals, leading country ratings, and collaborations, as well as midwifery policy research groups. Furthermore, a systematic review of midwifery policy was provided over time. The research on trends of midwifery policy included hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration. Topics related to midwifery policy were professional development, registration, public health, preference, aor, and minute. There was a close relationship between midwifery policy and various other elements, namely policy markers, midwifery unit, patient safety, healthcare professionals, midwifery council, regulation, national policy, and midwifery practice.

Regarding the limitations of this research, the app.dimensional.ai database was subjected to continuous updates with new publications being added periodically. Therefore, midwifery policy bibliometric analysis could be reviewed in the next few years. The analysis only extracted scientific article data from the app.dimension.ai database. Further research should consider incorporating additional databases to achieve a broader understanding of midwifery policy.

Acknowledgment

The authors are grateful to the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software facilitates the process for writers to locate and analyze data pertinent to scientific articles, streamlining the research and analysis phases.

BIBLIOGRAPHY

Abad-Segura, E., González-Zamar, M. D., Gómez-Galán, J., & ... (2020). Management accounting for healthy nutrition education: meta-analysis. *Nutrients*. https://www.mdpi.com/908900

Anuar, A., Marwan, N. F., Smith, J., Siriyanun, S., & ... (2022). Bibliometric analysis of immigration and environmental degradation: evidence from past decades. *... Science and Pollution …*. https://doi.org/10.1007/s11356-021-16470-1

Asamani, J. A., Amertil, N. P., Ismaila, H., Francis, A. A., Chebere, M. M., & Nabyonga-Orem, J. (2019). Nurses and midwives demographic shift in Ghana - The policy implications of a looming crisis. *Human Resources for Health*, *17*(1), 32. https://doi.org/10.1186/s12960-019-0377-1

Baruwa, O. J., Amoateng, A. Y., & Mkwananzi, S. (2021). Association between type of birth attendants and neonatal mortality: Evidence from a National survey. *African Health Sciences*, *21*(4), 1870–1876. https://doi.org/10.4314/ahs.v21i4.45

Brocklehurst, P., Hardy, P., Hollowell, J., Linsell, L., Macfarlane, A., McCourt, C., Marlow, N., Miller, A., Newburn, M., Petrou, S., Puddicombe, D., Redshaw, M., Rowe, R., Sandall, J., Silverton, L., & Stewart, M. (2012). Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: The Birthplace in England national prospective cohort study. *BMJ (Online)*, *343*(7840), d7400. https://doi.org/10.1136/bmj.d7400

Buchanan, K., Newnham, E., Ireson, D., Davison, C., & Geraghty, S. (2022). Care ethics framework for midwifery practice: A scoping review. *Nursing Ethics*, *29*(5), 1107–1133. https://doi.org/10.1177/09697330221073996

Bukkfalvi-Cadotte, A. (2020). The professional identity of Lithuanian midwifery students: An exploratory study. *European Journal of Midwifery*, *4*(October), 1–4. https://doi.org/10.18332/ejm/127515

Chellappandi Ph Assistant Professor, P. D., & Vijayakumar, C. (2018). Bibliometrics, Scientometrics, Webometrics / Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research. *International Journal of Education*, *7*(1), 5–8.

Courtot, B., Hill, I., Cross-Barnet, C., & Markell, J. (2020). Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care. *Milbank Quarterly*, *98*(4), 1091–1113. https://doi.org/10.1111/1468-0009.12473

Damayanti, F. N., Absori, A., & Wardiono, K. (2019). *Legal Protection of Midwives Based on Professional Justice in Midwifery Practices.* repository.unimus.ac.id. http://repository.unimus.ac.id/5272/1/Legal Protection Of Midwives Based On Professional Justice In Midwifery Practices.pdf

Davidson, P. M., Newton, P. J., Ferguson, C., Daly, J., & ... (2014). Rating and ranking the role of bibliometrics and webometrics in nursing and midwifery. In *The Scientific World …*. hindawi.com. https://www.hindawi.com/journals/tswj/2014/135812/

Glasper, A. (2017). Professionalism in practice. *British Journal of Nursing*, *26*(12), 706–707. https://doi.org/10.12968/bjon.2017.26.12.706

Hall, D. J., & Way, D. S. (2018). A discussion paper: Do national maternity policy reviews take account of the education and training of the future midwifery workforce? An example from England. *Midwifery*, *62*, 278–280. https://doi.org/10.1016/j.midw.2018.03.019

Harris, J., Beck, S., Ayers, N., Bick, D., Lamb, B. W., & ... (2022). Improving teamwork in maternity

services: A rapid review of interventions. *Midwifery*. https://www.sciencedirect.com/science/article/pii/S0266613822000377

He, J., Wan, L., Yang, W., & Luo, B. (2022). Visual Analysis of Midwifery Research in China Based on Bibliometrics. *Journal of Midwifery & Women's …*. https://doi.org/10.1111/jmwh.13379

Hoover, C. Van. (2015). Innovation in health policy education: Project-based service learning at a distance for graduate midwifery students. *Journal of Midwifery & Women's Health*. https://doi.org/10.1111/jmwh.12264

Innvaer, S., Vist, G., Trommald, M., & ... (2002). Health policy-makers' perceptions of their use of evidence: a systematic review. *Journal of Health …*. https://doi.org/10.1258/135581902320432778

Jasper, M., & Crossan, F. (2012). What is strategic management? *Journal of Nursing Management*, *20*(7), 838–846. https://doi.org/10.1111/jonm.12001

Jolivet, R. R., Gausman, J., Kapoor, N., Langer, A., Sharma, J., & Semrau, K. E. A. (2021). Operationalizing respectful maternity care at the healthcare provider level: a systematic scoping review. *Reproductive Health*, *18*(1), 194. https://doi.org/10.1186/s12978-021-01241-5

Lam, W. H., Lam, W. S., Jaaman, S. H., & Lee, P. F. (2022). Bibliometric Analysis of Information Theoretic Studies. *Entropy*, *24*(10). https://doi.org/10.3390/e24101359

Li, T., Zeng, Y., Fan, X., Yang, J., Yang, C., Xiong, Q., & Liu, P. (2023). A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science. *Journal of Multidisciplinary Healthcare*, *16*, 677–692. https://doi.org/10.2147/JMDH.S398218

Lopes, S. C., Titulaer, P., Bokosi, M., Homer, C. S. E., & ten Hoope-Bender, P. (2015). The involvement of midwives associations in policy and planning about the midwifery workforce: A global survey. *Midwifery*, *31*(11), 1096–1103. https://doi.org/10.1016/j.midw.2015.07.010

Mattison, C. A., Bourret, K., & Dion, M. L. (2022). Leveling up evidence syntheses: filling conceptual gaps of the role of midwifery in health systems through a network analysis. *BMC Research Notes*, *15*(1), 216. https://doi.org/10.1186/s13104-022-06094-0

Mattison, C., Bourret, K., Hebert, E., Leshabari, S., Kabeya, A., Achiga, P., Robinson, J., & Darling, E. (2021). Health systems factors impacting the integration of midwifery: An evidence-informed framework on strengthening midwifery associations. *BMJ Global Health*, *6*(6), e004850. https://doi.org/10.1136/bmjgh-2020-004850

Mayra, K., Padmadas, S. S., & Matthews, Z. (2021). Challenges and needed reforms in midwifery and nursing regulatory systems in India: Implications for education and practice. *PLoS ONE*, *16*(5 May), e0251331. https://doi.org/10.1371/journal.pone.0251331

McFadden, A., Gupta, S., Marshall, J. L., Shinwell, S., Sharma, B., McConville, F., & MacGillivray, S. (2020). Systematic review of barriers to, and facilitators of, the provision of high-quality midwifery services in India. *Birth*, *47*(4), 304–321. https://doi.org/10.1111/birt.12498

Moller, A.-B., Welsh, J., Ayebare, E., Chipeta, E., Gross, M. M., Houngbo, G., Hounkpatin, H., Kandeya, B., Mwilike, B., Nalwadda, G., Petzold, M., Sognonvi, A., & Hanson, C. (2022). Are midwives ready to provide quality evidence-based care after pre-service training? Curricula assessment in four countries—Benin, Malawi, Tanzania, and Uganda. *PLOS Global Public Health*, *2*(9), e0000605. https://doi.org/10.1371/journal.pgph.0000605

Murugesu, G. V, Khalid, S. A., & ... (2022). Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective. *ASEANA Science and …*

Nove, A, Hoope-Bender, P. ten, Moyo, N. T., & Bokosi, M. (2018). The Midwifery services framework: What is it, and why is it needed? In *Midwifery*. Elsevier. https://www.sciencedirect.com/science/article/pii/S0266613817306307

Nove, Andrea, Moyo, N. T., Bokosi, M., & Garg, S. (2017). The Midwifery Services Framework: The process of implementation. *Midwifery*, *58*, 96–101. https://doi.org/10.1016/j.midw.2017.12.013

Nove, Andrea, Moyo, N. T., Bokosi, M., & Garg, S. (2018). The Midwifery Services Framework: The process of implementation. *Midwifery*, *58*, 96–101. https://doi.org/10.1016/j.midw.2017.12.013

Oliver, K., & Parolin, Z. (2018). Assessing the policy and practice impact of an international policy initiative: The State of the World's Midwifery 2014. *BMC Health Services Research*, *18*(1), 499. https://doi.org/10.1186/s12913-018-3294-4

Organization, W. H. (2021). *Global strategic directions for nursing and midwifery 2021-2025*. apps.who.int. https://apps.who.int/iris/bitstream/handle/10665/344562/9789240033863-eng.pdf

Osborne, K. (2017). Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives. *Journal of Midwifery & Women's Health*, *62*(3), 341–347. https://doi.org/10.1111/jmwh.12615

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., & ... (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. In *International journal of …*. Elsevier.

Pahwa, B., Goyal, S., & Chaurasia, B. (2022). Understanding anterior communicating artery aneurysms: A bibliometric analysis of top 100 most cited articles. In *… of Cerebrovascular and …*. synapse.koreamed.org.

Pollock, D., Davies, E. L., Peters, M. D. J., Tricco, A. C., Alexander, L., McInerney, P., Godfrey, C. M., Khalil, H., & Munn, Z. (2021). Undertaking a scoping review: A practical guide for nursing and midwifery students, clinicians, researchers, and academics. *Journal of Advanced Nursing*, *77*(4), 2102–2113. https://doi.org/10.1111/jan.14743

Reynolds, C. M. E., McMahon, L. E., O'Malley, E. G., O'Connell, M. P., Sheehan, S. R., & Turner, M. J. (2020). Trends in private maternity care in Ireland's capital during and after the Great Economic Recession 2009–2017. *Irish Journal of Medical Science (1971 -)*, *190*(3), 933–940. https://doi.org/10.1007/s11845-020-02415-z

Ruhmel, S., Ndirangu-Mugo, E., Mwizerwa, J., Sarki, A., & Pallangyo, E. (2022). Capacity building among nursing and midwifery professional associations in East Africa. *Global Health Action*, *15*(1), 2118173. https://doi.org/10.1080/16549716.2022.2118173

Shakpeh, J. K., Tiah, M. W., Kpangbala-Flomo, C. C., Matte, R. F., Lake, S. C., Altman, S. D., Tringali, T., Stalonas, K., Goldsamt, L., Zogbaum, L., & Klar, R. T. (2021). Normal physiologic birth continuing professional development: From a national health priority to expanded capacity. *Annals of Global Health*, *87*(1), 99. https://doi.org/10.5334/aogh.3247

Sleeman, K. E., de Brito, M., Etkind, S., Nkhoma, K., Guo, P., Higginson, I. J., Gomes, B., & Harding, R. (2019). The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions. *The Lancet Global Health*, *7*(7), e883–e892. https://doi.org/10.1016/S2214-109X(19)30172-X

Soytas, R. B. (2021). A bibliometric analysis of publications on covid-19 and older adults. In *Annals of Geriatric Medicine and Research* (Vol. 25, Issue 3, pp. 197–203). ncbi.nlm.nih.gov. https://doi.org/10.4235/agmr.21.0060

Syros, A., Perez, O. F., Luxenburg, D., Cohen, J. L., & ... (2022). The most influential studies concerning revision shoulder arthroplasty research. *Journal of …*.

Tickle, N., Sidebotham, M., Fenwick, J., & Gamble, J. (2016). Women's experiences of having a Bachelor of Midwifery student provide continuity of care. *Women and Birth*, *29*(3), 245–251. https://doi.org/10.1016/j.wombi.2015.11.002

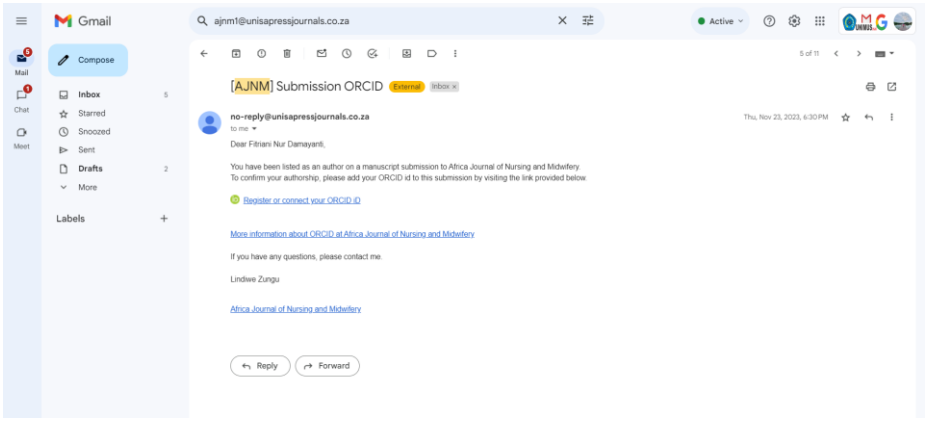
Touriño, S., Suárez-Cotelo, M. D. C., Núñez-Iglesias, M. J., Domínguez-Martís, E. M., Mosteiro-Miguéns, D. G., López-Ares, D., & Novío, S. (2021). Knowledge, attitudes and practices of spanish midwives and midwifery students toward oral healthcare during pregnancy. *International Journal of Environmental Research and Public Health*, *18*(11), 6089. https://doi.org/10.3390/ijerph18116089

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Webster, P. C. (2013). Indonesia: the midwife and maternal mortality miasma. *CMAJ : Canadian Medical Association Journal = Journal de l'Association Medicale Canadienne*, *185*(2), e95–e96. https://doi.org/10.1503/cmaj.109-4347

Zhang, Y., Lim, D., Yao, Y., Dong, C., & Feng, Z. (2022). Global research trends in radiotherapy for gliomas: a systematic bibliometric analysis. *World Neurosurgery*.

5. IN PRESS



6. ARTIKEL SUDAH PUBLISH

Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Fitriani Nur Damayanti
Universitas Muhammadiyah Semarang

Ariyani Lutfitasari
Universitas Muhammadiyah Semarang

Budi Santosa
Universitas Muhammadiyah Semarang

Sherkia Ichtiarsi Prakasiwi
Universitas Muhammadiyah Semarang

Suparman
Universitas Ahmad Dahlan
https://orcid.org/0000-0001-5526-6285

PDF

Published
2024-02-08

How to Cite
Nur Damayanti, Fitriani, Ariyani Lutfitasari, Budi Santosa, Sherkia Ichtiarsi Prakasiwi, Suparman, and Novita Nining Anggraini. "Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy". *Africa Journal of Nursing and Midwifery*, 20 pages.

Article

Bibliometric Analysis of Research Trends and Novelty of Midwifery Policy

Fitriani Nur Damayanti
https://orcid.org/0000-0002-4592-4026
Universitas Muhammadiyah Semarang, Indonesia
fitriani@unimus.ac.id

Ariyani Lutfitasari
https://orcid.org/0000-0001-6058-0244
Universitas Muhammadiyah Semarang, Indonesia
ariyani_lutfitasari@unimus.ac.id

Budi Santosa
https://orcid.org/0000-0003-0354-0136
Universitas Muhammadiyah Semarang, Indonesia
budisantosa@unimus.ac.id

Sherkia Ichtiarsi Prakasiwi
https://orcid.org/0009-0000-8264-1482
Universitas Muhammadiyah Semarang, Indonesia
sherkiasalamah@gmail.com

Suparman
https://orcid.org/0000-0001-5526-6285
Universitas Ahmad Dahlan, Indonesia
suparman@pmat.uad.ac.id

Novita Nining Anggraini
https://orcid.org/ 0009-0008-4177-659X
Universitas Muhammadiyah Semarang, Indonesia
novitanovi@unimus.ac.id

Abstract

Midwifery policy is important in regulating services, and its significance cannot be overstated. Despite the ongoing efforts in formulating policy, there remains a need for further analysis. This is because evidence-based research in midwifery serves as a foundation for enhancing the professionalism of the service practices. Bibliometric analysis of publications pertaining to midwifery policy is absent, leaving a gap in understanding trends and concepts. Therefore, this research aimed to determine trends in the number of publications, and visualisation of the relationship on the topic of midwifery policy through bibliometric analysis. The method used systematic reviews with the stages following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. Scientific publication data related to midwifery policy was retrieved through dimensions.ai from 2010 to 2022 and the data was analysed using VOSviewer. The results showed that first, there was an annual

UNISA
Africa Journal of Nursing and Midwifery
#14031 | 20 pages

https://doi.org/10.25159/2520-5293/14031
ISSN 2520-5293 (Online)

exponential growth in the number of publications and citations on the topic. Second, there were 224 items, 8 clusters, and 10047 links with a strength of 63352 on the topic of midwifery policy. Third, trends of research related to the topic were focused on hospitals, behaviour, and framework. Fourth, the research related to policy were topics with a low-density category, namely professional development, registration, and public health. Research results could identify trends and novelty in midwifery policy and recommend directions for further analysis.

Keywords: bibliometric analysis; midwifery policy; novelty; trends

Introduction

Health policy is implemented to formulate programs at both the central and local levels, enabling interventions to be made in the determinants of health (Oliver and Parolin 2018). Furthermore, it has a substantial impact on both the global and national spheres, exerting a significant influence on the well-being of populations worldwide (Shakpeh et al. 2021). The concept is very important in arranging service midwifery (Ruhmel et al. 2022).

In this context, midwifery policy has been researched for various purposes concerning healthcare facilities (Mayra et al. 2021), education settings (Pollock et al. 2021), and service (McFadden et al. 2020). The professionalism of midwives represents a fundamental social contract, which is very important (Soytas 2021). Current midwifery policy still requires research to be carried out because the evidence in this service can be used as an application to increase professionalism (Mattison et al. 2021).

Figure 1 shows that many countries are interested in the topic of midwifery policy. The United Arab Emirates showed a pronounced interest in the subject before Australia.

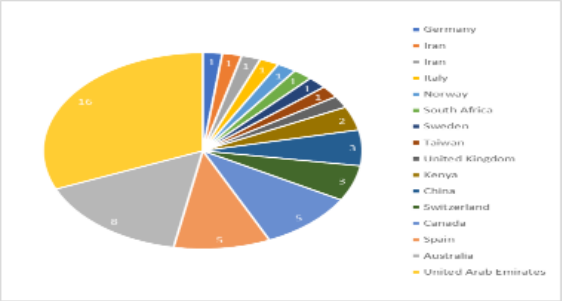


Figure 1: Interest according to the country to midwifery policy (Data: Dimensions 2023)

The data outlines the interest in general policy related to the field of midwifery. For research considering the specifics of policy, it is important to access more specialised information. This includes scientific articles and seminars dedicated to the aspects of midwifery policy. In the field of research, acquiring insight into trends and innovations concerning the topics is essential. This challenge is prevalent since analysis of bibliometrics on publications shows a lack of information on current trends and innovations. To address these gaps, comprehensive research has been conducted to answer the following questions:

- How many trends publications are on the topic of midwifery policy?
- How many trends are cited on the topic of midwifery policy?
- How can an individual facilitate network visualisation pertaining to midwifery policy?
- In what manner can visualisation be overlaid on the subject of midwifery policy?
- What is the methodology for conducting density visualisation on the topic of midwifery policy?

Bibliometric analysis is a scientific and quantitative method for evaluating published articles. This method identifies trends, developments, and research hotspots within a specific field of research. Furthermore, it provides valuable insights to navigate and understand the evolving landscape of the field. This analysis determines the current state of research, offering a foundation for the advancement of the respective field (Lam et al. 2022). Bibliometric analysis identifies areas and directions within a specific domain of research through the use of visualisation tools. This method has been used to evaluate theoretical information stored in databases such as Scopus. The use of visualisation tools enhances the interpretability of data, as an effective means to navigate and understand the complex dynamics of information (Anuar et al. 2022). These tools evaluate the migration and degradation environment (Zhang et al. 2022) and investigate trends in the research of radiotherapy glioma since 2011 (Abad-Segura et al. 2020).

The results obtained are highly valuable, warranting further development. This theme pertains to midwifery policy, catering to midwives and individuals requiring a comprehensive examination of past research periods and historical data. This is particularly pertinent for academics, research institutes, higher education institutions, and healthcare personnel (Mattison et al. 2021).

This research aims to investigate trends in publications, citation patterns, network visualisation, overlay visualisation, and density visualisation concerning the topic of linear regression through bibliometric analysis.

To accomplish the objectives, the structure of this work is organised as follows. The first section outlines the background, issues, and research goals. The second section

includes a comprehensive literature review on health systems and midwifery policy. The third section delineates the methods used, including data collection and analysis procedures. Subsequently, the fourth section presents the research results, followed by a detailed discussion. The fifth section offers conclusions, shows limitations, and provides recommendations for future research.

Research Literature

Health Systems

The health system shows considerable variation, particularly regarding the limitations within healthcare. According to the definition, a health system can be comprehended as "consisting of all organisations, institutions, and resources dedicated to producing health-related actions." In an extended definition, the concept includes all organisations, individuals, and activities primarily focused on promoting, restoring, or maintaining health (Jasper and Crossan 2012).

The successful implementation of a health system requires the formulation of health policy to guide the entire process (Asamani et al. 2019). Policy health refers to goals and objectives, as instruments, processes, and styles of a decision by taker decision, including implementation as well as evaluation (Courtot et al. 2020). In policy and systems, health can conduct characteristic research interdisciplinary, taken from cross-knowledge of health (Innvaer et al. 2002). This comprises collaboration from various departments, particularly those contributing to interdisciplinary group knowledge in the field of health (Nove et al. 2018). Within the realm of health policy, distinct components include policy nursing, policy midwifery, policy medicine, and others.

Midwifery Policy

The role of a midwife holds significant importance as a key element in the frontline of maternal and child health services (Tickle et al. 2016). Midwives collaborate with other healthcare professionals in managing aspects of pregnancy, childbirth, postpartum care, newborn health, and reproductive health. The execution of their duties is governed by regulatory legislation, ensuring adherence to established standards and guidelines (Lopes et al. 2015).

Policy in midwifery is part of the International Confederation of Midwives (ICM) which is the main promoter in the recognition and professional development of midwives (Hoover 2015). The implementation of midwifery practice includes a comprehensive understanding of the service delivery system, advocating for constitutional rights, and taking the initiative to enhance the quality of policy (Damayanti et al. 2019). Midwives also require legal protection based on principles of justice. Professionals practising obstetrics must adhere to conditions that uphold the values of justice, including fairness, equal opportunity, and the right to equality (Buchanan et al. 2022).

Midwifery policy serves as a proven framework for the ethical practice of obstetrics. The use is essential to enhance performance and ensure standards in practice (Chellappandi Vijayakumar 2018).

Methodology

There are five types of research metrics for data analysis, namely scientometrics, bibliometric, cybermetrics, informetrics, and altmetrics (Murugesu et al. 2022). The bibliometric analysis used is particularly well-suited for the dissemination of research papers, terms, and keywords. This methodology is instrumental in determining trends in the research. (Syros et al. 2022). Furthermore, analysis is a method of research used in knowledge libraries and information (Pahwa et al. 2022). Bibliometric analysis is very important in evaluating impact research based on the quote received (Page et al. 2021).

Data used in the research was based on an online search through https://app.dimensions.ai/ and was retrieved on May 30, 2023. The methodology used a systematic review, adhering to the stages outlined in the PRISMA flow diagram (van Eck and Waltman 2010). The stages in PRISMA include identification, screening, and inclusion, as shown in Figure 5. During Stage 1 (Identification), 776 records were detected from dimensions.ai, considering every main term search for midwifery policy, specifying "type of document: articles and proceedings", and including all "published data in the range from 2010 to 2022." In Stage 2 (Screening), the option "title and abstract" was selected for each term search, producing 50 records. Finally, in Stage 3 (Inclusion), the sample was refined, resulting in 726 articles accessible for further analysis.

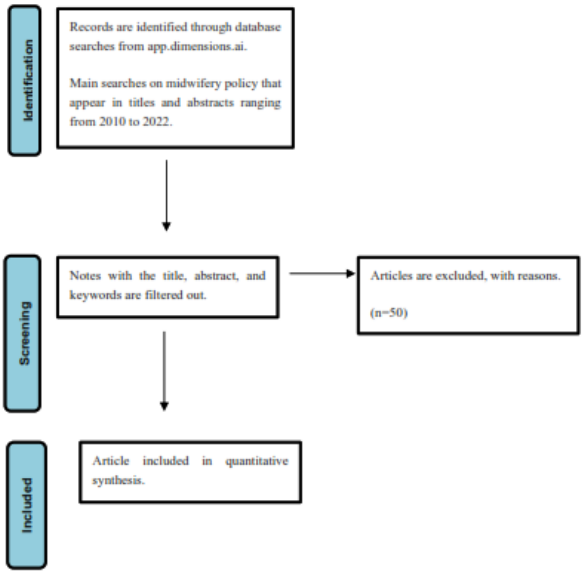


Figure 2: PRISMA (van Eck and Waltman 2010)

The data analysis was conducted using VOSviewer, a computer program designed for creating and visualising bibliometric maps. VOSviewer facilitates the mapping of bibliometric data, providing a visual representation that aids in the analysis of relationships and patterns within the literature (Brocklehurst et al. 2012). In this research, this analysis was reviewed by co-occurrence and co-author.

The co-occurrence analysis procedure is outlined as follows. Data sources are selected to read information from reference manager files. The selected fields for extracting terms are the title and abstract fields. A threshold is set with a minimum number of

occurrences for a term, which is determined to be 10. A total of 224 terms are selected for analysis based on these criteria.

The procedure for the analysis co-author has been as follows. The data type was selected, and a map was created based on bibliographic data. The option to generate a co-authorship folder based on bibliographic data was selected. The data source was determined and was read from reference manager files, specifically in the RIS file type. The type of analysis and counting method was specified, with co-authorship as the analysis type and full counting as the selected method. The threshold was set by specifying the maximum number of documents, which was established at two. Out of the 498 authors, 58 met the threshold. The selection was conducted by assessing the total strength of co-authorship links and those with the highest total link strength were selected.

Results and Discussion

Analysis of Number Publications

Searches conducted from 2010 to 2022 have produced scientific articles on publication. The number of publications related to midwifery policy per year is shown in Figure 3. The most significant enhancement occurred in the year 2021, showing an increase of 103 publications. In contrast, the lowest increase was observed in 2010, with an increase of 93 publications.

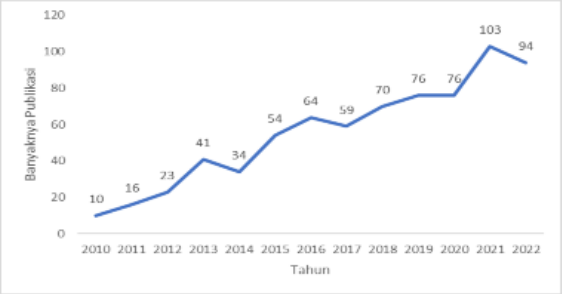


Figure 3: Amount of publication of midwifery policy from 2010 to 2022 (app.dimensions.ai)

Analysis of Citation

The number of citations for midwifery policy per year from 2010 to 2022 is presented in Figure 4. The highest and lowest improvement occurred in 2022 and 2010, reflecting an increase of 2319 and 2317.

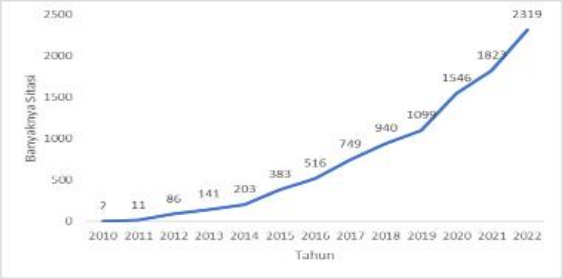


Figure 4: The number of citations for the topic of midwifery policy from 2010 to 2022 (app.dimensions.ai).

Analysis of Networks

Figure 5 shows the Network visualisation of 224 terms.

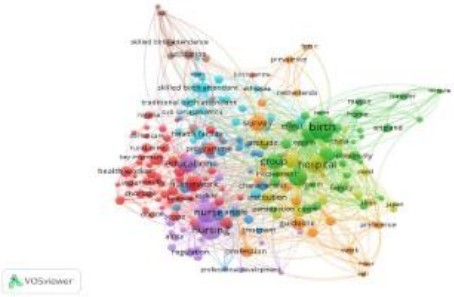


Figure 5: Network visualisation (VOSviewer)

A total of 224 terms related to elections have been identified. The connection between two items is shown by a line, signifying that these two items appear together in the title and abstract of a document. Conversely, the absence of a line between two items shows that they do not appear together in the title and abstract. Figure 5 shows a comprehensive overview, featuring 224 items organised into eightclusters. This is interconnected by 10047 links and the cumulative strength is recorded at 63352.

Analysis of Overlays

Visualisation overlays seen in Figure 6

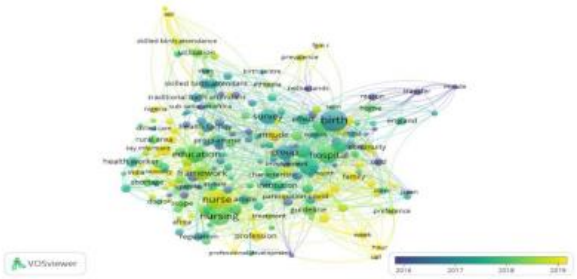


Figure 6: Overlay visualisation (VOSviewer)

VOSviewer also offers map overlay visualisation, which is applied to the 224 terms as shown in Figure 6. The overlay visualisation facilitates analysis based on keywords related to midwifery policy from 2010 to 2022, allowing the observation of trends in the titles of research related to midwifery policy.

In the map overlay visualisation presented in Figure 6, a yellow knot shows that the keyword is important in the research. For instance, trends during this period related to midwifery policy focuses on topics such as hospitals, attitudes, and frameworks.

Analysis of Density

Figure 7 shows the density visualisation of 224 terms.

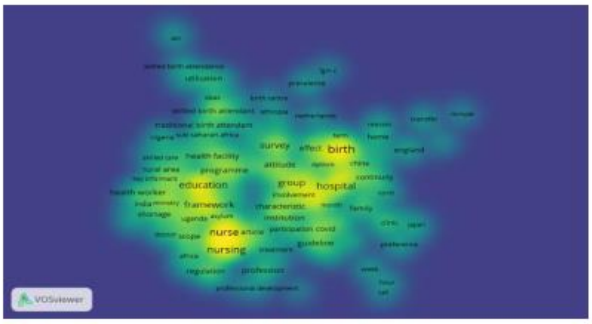


Figure 7: Density visualisation (VOSviewer)

Figure 7 shows visualisation density with a lot of items such as pregnancy, birth, and education. Items with yellow-coloured dots show that these topics have been frequently addressed in publications before. Therefore, the research topic related to midwifery-suggested policy is a subject with a low visualisation density in categories such as professional development, registration, and public health. This suggests that there is a relatively lower concentration of research or visualisations within these specific areas, as compared to other topics in published journals.

Analysis of Co-Author

Figure 8 shows the network visualisation for co-authors.

Figure 8: Network visualisation for co-author (VOSviewer)

Figure 8 presents a collaborative map among the main writers based on co-authorship analysis. The visualisation focuses on the thematic connections pushed by these writers and is associated with group network visualisation. This analysis spans the period from 2010 to 2022, showing a specific dispersion in the association of writers based on the co-authorship method. The network visualisation includes 58 research, showing 218 co-authorship links. The total count of co-authorships amounts to 498, and the network is categorised into 5 clusters, showing distinct thematic or collaborative groupings among the writers.

Discussion

Bibliometric analysis has been used in research focusing on the topic of midwifery policy. As depicted in Figure 3, the analysis aimed to derive insights regarding midwifery policy outcomes. The minimum number of publications occurred in 2010, while the maximum was observed in 2020, averaging 55, as shown in Figure 9. The number of publications shows an exponential increase each year over the specified time frame.

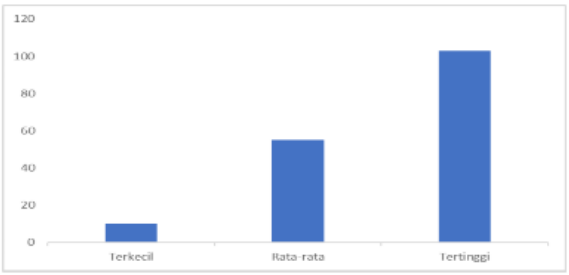


Figure 9: Histograms increase many publications from the smallest, average, and highest for the topic of midwifery policy.

According to Figure 4, the ascent in citations for midwifery policy shows the lowest occurrence in 2010 and the highest in 2022, averaging 755 (Figure 10). The number of citations also shows an exponential increase from year to year. Most articles lost citations articles entitled "Perinatal and Maternal Outcomes by Planned Place of Birth for Healthy Women with Low-Risk Pregnancies: The Birthplace in England National Prospective Cohort Research" by Brocklehurst et al. 2012, accruing 629 citations. This is followed by an article entitled "The Escalating Global Burden of Serious Health-

Related Suffering Projections to 2060 by World Regions, Age Groups, and Health Conditions" by Sleeman et al. 2019, with a total of 308 citations.

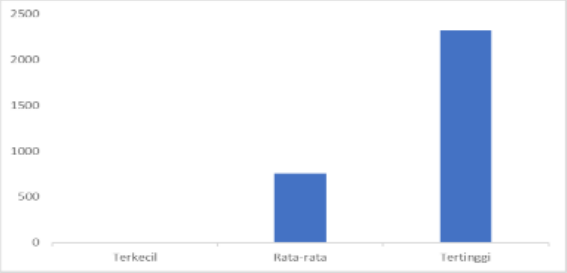


Figure 10: Histograms increase many citations from the smallest, average, and largest for the topic of midwifery policy.

To generate images 5 and 6 using VOSviewer, the procedural steps are elucidated as follows. Firstly, the data type is selected to facilitate the creation of a map grounded in text data and the establishment of a term co-occurrence matrix derived from textual information. Subsequently, data sources are deliberately obtained to extract information from reference manager files, with a specific emphasis on the supported file type, namely, "ris." The applied threshold is set to a minimum number of occurrences of a term, established at 10. Consequently, 373 terms out of the total 9248 meet this defined threshold. For each of these 373 terms, a relevance score is calculated. Based on this score, the most pertinent terms are systematically selected, and the default criterion is to select the top 60% of the most relevant terms.

Figure 5 shows that among the 224 items, there exist 8 distinct clusters. Cluster 1, 2, 3, 4, 5, 6, 7, and 8 comprise 60, 40, 26, 26, 22, 22, 21, and 8 items, respectively. For a more comprehensive understanding of these clusters, additional details are provided in Table 1.

Table 1: Clusters for the topic of midwifery policy (VOSviewer)

Cluster	Number of items	Member items cluster
1	**60**	Abortion, acceptability, accessibility, birth centre, Cambodia, community health work, community midwife, condition, consequence, depth interview, distribution, doctor, document, facilitator, framework, gender, health professional, health system, health worker, health workforce, human resource, India, initiative, integration, **policy marker.**
2	**40**	Anxiety, baby, birth, continuity, covid, decision, decision making, effect, England, family, group, inclusion, labour, man, midwifery continuity, **midwifery unit**, minute, month, mother, option, satisfaction, stress, term, women experience.
3	**26**	Actor, article, clinical practice, concept, contribution, culture, effectiveness, midwifery student, **patient safety**, phase, researcher, specialist, systematic review, treatment.
4	**25**	abuse, attitude, belief, control, **healthcare professional**, hospital, institution, measure, public hospital, stage.
5	**22**	Africa, association, capacity, collaboration, education, improvement, leadership, **midwifery council**, midwifery education, midwifery workforce, professional association, professional development.
6	**22**	Health facility, inclusion, indicator, **regulation**, skills birth attendant, trust.
7	**21**	Ethnicity, prevalence, organization, **national policy**, organisation, primary care midwife, profession, screening, survey.
8	**8**	Antenatal care, AOR, gap, **midwifery practice**, use, skill birth attendance.

Figure 6 shows trending keywords entered between others like hospital, attitude, framework, experience, health system, stakeholder, profession, quality research, association, and integration.

A contribution to the topic focused on midwifery-related policy not only on service but also the view of the facilities' service on obstetrics, system health, association profession, and internal stakeholders' policy midwifery (Andrea Nove et al. 2017). Midwives show a proactive method and perceive shifts in the practice of midwifery as opportunities. They anticipate potential obstacles in the future, remain focused on identifying and enhancing suboptimal and moderate practices, and actively seek viable alternatives to carry out their work with maximum efficiency and effectiveness. Proactive midwives consistently rank the improvement of quality, the efficiency of their work, and the cultivation of a positive attitude to enhance the integrity of professional responsibilities (Moller et al. 2022).

Similarly, various research has analysed the policy governing midwifery (Touriño et al. 2021). This can have a global impact, providing valuable obstetric services for both the profession and society (Bukkfalvi-Cadotte 2020). Several factors have been associated with the description of professional obstetrics and the enhancement of quality service midwifery over long periods (Glasper 2017).

Various sub-periods from 2010 to 2022 have witnessed the development of scientific activities related to the topic, as evidenced by the accumulation of terms in titles, abstracts, and keywords in the sampled articles. VOSviewer has successfully identified diverse keywords, enabling the validation of the breadth of the research activity axis. Figure 7 shows that institutions, countries, and journals with the highest paper count or citation frequency predominantly originate from a specific country. This observation indicates the significance of exploring new experimental methods, as shown by the increasing attention given to certain methods in the research community (Osborne 2017).

Several topics of research related to midwifery suggested policy topics like professional development, registration, public health, and preference. These topics present a significant opportunity for researching midwifery policy. Previous research has extensively discussed linkages related to midwifery services, showing a rich area for exploration and research (Jolivet et al. 2021). Analysis opportunities can give several outlooks for practitioners' education to identify important directions (Webster 2013). Through a comprehensive analysis, it becomes evident that attention is given to topics of this nature (Hall and Way 2018).

The scope of the research was extensive, including a wide range of content and numerous research aspects, leading to a lack of focus. The research methodology covered a spectrum of methods, including qualitative, quantitative, and a combination of both. (World Health Organization 2021).

The research of related topics within midwifery policy has become a focal point in advancing knowledge in the field of midwifery. Bibliometric analysis results show that the characteristics of the field are broad and cross-disciplinary (Li et al. 2023).

Research of this nature will aid readers in comprehending the dynamic trends in topic development and the outcomes. This understanding identifies hot spots and focuses on research problems to pinpoint the most referenced and influential sources. Furthermore, it facilitates the selection of the most influential and relevant institutions for potential collaboration (Baruwa et al. 2021). The results of the analysis should show the main contributions of journals and their primary directions. This information can serve to inspire further research and encourage the development of scientific research in institutions, enhancing continued achievements in the field (Reynolds et al. 2020).

Figure 8 shows bibliometric analysis, capturing the evolution of research on midwifery policy over several years. The results analyse predominant topics and trends in research, including leading countries, organisations, and relevant sources such as journals (He et al. 2022).

The current results show that Australia holds a prominent global position in bibliometric analysis, primarily due to its substantial volume of publications and citations. This assessment includes collaborative writing, excerpts, bibliography compilation, and co-authorship analysis. The journal "BMC Pregnancy and Childbirth" has the highest number of publications and citations compared to others, signifying its contribution to midwifery policy. In addition, the analysis of social network co-authorship distinguishes between strong and weak collaboration patterns, providing valuable insights into the collaborative dynamics. This evaluation proves essential for assessing the contributions of individual writers and the effectiveness of collaborative teams in advancing the research (Davidson et al. 2014). The results also show that establishing connections among writers within an analytical network leads to an increase in the quantity of cited papers.

The results show that Caroline SE Homer has garnered the highest number of citations, with a total of 338 across 16 publications. This assessment is grounded in a comprehensive examination of bibliographies, collaborative writing endeavours, and shared citations.

Conclusion

In conclusion, this research was reported to use bibliometric analysis of midwifery policy publications through app.dimension.ai from 2010 to 2022. Among the numerous publications on the subject, discernible upward trends were evident in the number of citations related to the topic. The link between midwifery policy and several other topics could be analysed using VOSviewer, namely network, overlay, and density visualisation.

This research showcased themes, trends, core journals, leading country ratings, and collaborations, as well as midwifery policy research groups. Furthermore, a systematic review of midwifery policy was provided over time. The research on trends of midwifery policy included hospitals, attitude, framework, experience, health system, stakeholders, profession, quality research, association, and integration. Topics related to midwifery policy were professional development, registration, public health, preference, AOR, and minutes. There was a close relationship between midwifery policy and various other elements, namely policy makers, midwifery units, patient safety, healthcare professionals, midwifery councils, regulations, national policy, and midwifery practices.

Regarding the limitations of this research, the app.dimensional.ai database was subjected to continuous updates with new publications being added periodically. Therefore, midwifery policy bibliometric analysis could be reviewed in the next few years. The analysis only extracted scientific article data from the app.dimension.ai database. Further research should consider incorporating additional databases to achieve a broader understanding of midwifery policy.

Acknowledgement

The authors are grateful to the software creators VOSvierwer, Publish or Perish, https://app.dimensions.ai/, https://trends.google.co.id/, and Mendeley. This software facilitates the process for writers to locate and analyse data pertinent to scientific articles, streamlining the research and analysis phases.

References

Abad-Segura, E., M. D. González-Zamar, J. Gómez-Galán, and C. Bernal-Bravo. 2020. "Management Accounting for Healthy Nutrition Education: Meta-Analysis." *MDPI Journal* 12(12):3715. https://doi.org/10.3390/nu12123715

Anuar, A., N. F. Marwan, J. Smith, and S. Siriyanun. 2022. "Bibliometric Analysis of Immigration and Environmental Degradation: Evidence from Past Decades." *Environmental Science and Pollution Research* 29 1–13. https://doi.org/10.1007/s11356-021-16470-1

Asamani, J. A., H. Amertil, A. A. Ismaila, M. Francis, M. Chebere, and J. Nabyonga-Orem. 2019. "Nurses and Midwives Demographic Shift in Ghana - The Policy Implications of a Looming Crisis." *Human Resources for Health* 17(1): 32. https://doi.org/10.1186/s12960-019-0377-1

Baruwa, O. J., A. Y. Amoateng, and S. Mkwananzi. 2021. "Association Between Type of Birth Attendants and Neonatal Mortality: Evidence from a National Survey." *African Health Sciences* 21(4): 1870–1876. https://doi.org/10.4314/ahs.v21i4.45

Brocklehurst, P., P. Hardy, J. Hollowell, L. Linsell, A. Macfarlane, C. McCourt, N. Marlow, A. Miller, M. Newburn, S. Petrou, D. Puddicombe, M. Redshaw, R. Rowe, J. Sandall, L. Silverton, and M. Stewart. 2012. "Perinatal and Maternal Outcomes by Planned Place of Birth for Healthy Women with Low Risk Pregnancies: The Birthplace in England National Prospective Cohort Study." *BMJ* 343(7840): d7400. https://doi.org/10.1136/bmj.d7400

Buchanan, K., E. Newnham, D. Ireson, C. Davison, and S. Geraghty. 2022. "Care Ethics Framework for Midwifery Practice: A Scoping Review." *Nursing Ethics* 29(5): 1107–1133. https://doi.org/10.1177/09697330221073996

Bukkfalvi-Cadotte, A. 2020. "The Professional Identity of Lithuanian Midwifery Students: An Exploratory Study." *European Journal of Midwifery* 4(43): 1–4. https://doi.org/10.18332/ejm/127515

Chellappandi P., and C. Vijayakumar. 2018. "Bibliometrics, Scientometrics, Webometrics/ Cybermetrics, Informetrics and Altmetrics-An Emerging Field in Library and Information Science Research." *International Journal of Education* 7(1): 5–8.

Courtot, B., I. Hill, C. Cross-Barnet, and J. Markell. 2020. "Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care." *Milbank Quarterly* 98(4): 1091–1113. https://doi.org/10.1111/1468-0009.12473

Damayanti, F. N., A. Absori, and K. Wardiono. 2019. "Legal Protection of Midwives Based on Professional Justice in Midwifery Practices." Accessed May 30, 2023. http://repository.unimus.ac.id/5272/.

Davidson, P. M., P. J. Newton, C. Ferguson, J. Daly. 2014. "Rating and Ranking the Role of Bibliometrics and Webometrics in Nursing and Midwifery." *The Scientific World Journal* 2014 135812. https://doi.org/10.1155/2014/135812

Glasper, A. 2017. "Professionalism in Practice." *British Journal of Nursing* 26(12): 706–707. https://doi.org/10.12968/bjon.2017.26.12.706

Hall, D. J., and D. S. Way. 2018. "A Discussion Paper: Do National Maternity Policy Reviews Take Account of the Education and Training of the Future Midwifery Workforce? An Example from England." *Midwifery* 62 278–280. https://doi.org/10.1016/j.midw.2018.03.019

Harris, J., S. Beck, N. Ayers, D. and Bick, B. W. 2022. "Improving Teamwork in Maternity Services: A Rapid Review of Interventions." *Midwifery* 108 103285. https://doi.org/10.1016/j.midw.2022.103285

He, J., L. Wan, W. Yang, and B. Luo. 2022. "Visual Analysis of Midwifery Research in China Based on Bibliometrics." *Journal of Midwifery and Women's Health* 67(4): 478–487. https://doi.org/10.1111/jmwh.13379

Innvaer, S., G. Vist, M. Trommald. 2002. "Health Policy-Makers' Perceptions of Their Use of Evidence: A Systematic Review." *Journal of Health Services Research and Policy* 7(4): 239–244. https://doi.org/10.1258/135581902320432778

Jasper, M., and F. Crossan. 2012. "What is Strategic Management?" *Journal of Nursing Management* 20(7): 838–846. https://doi.org/10.1111/jonm.12001

Jolivet, R. R., J. Gausman, N. Kapoor, A. Langer, J. Sharma, and K. E. A. Semrau. 2021. "Operationalizing Respectful Maternity Care at the Healthcare Provider Level: A Systematic Scoping Review." *Reproductive Health* 18(1): 194. https://doi.org/10.1186/s12978-021-01241-5

Lam, W. H., W. S. Lam, S. H. Jaaman, and P. F. Lee. 2022. "Bibliometric Analysis of Information Theoretic Studies." *Entropy* 24(10). https://doi.org/10.3390/e24101359

Li, T., Y. Zeng, X. Fan, J. Yang, C. Yang, Q. Xiong, and P. Liu. 2023. "A Bibliometric Analysis of Research Articles on Midwifery Based on the Web of Science." *Journal of Multidisciplinary Healthcare* 2023(16): 677–692. https://doi.org/10.2147/JMDH.S398218

Lopes, S. C., P. Titulaer, M. Bokosi, C. S. E. Homer, and P Hoope-Bender. 2015. "The Involvement of Midwives Associations in Policy and Planning About the Midwifery Workforce: A Global Survey." *Midwifery* 31(11): 1096–1103. https://doi.org/10.1016/j.midw.2015.07.010

Mattison, C. A., K. Bourret, and M. L. Dion. 2022. "Leveling Up Evidence Syntheses: Filling Conceptual Gaps of the Role of Midwifery in Health Systems Through a Network Analysis." *BMC Research Notes* 15(1): 216. https://doi.org/10.1186/s13104-022-06094-0

Mattison, C., K. Bourret, E. Hebert, S. Leshabari, A. Kabeya, P. Achiga, J. Robinson, and E. Darling. 2021. "Health Systems Factors Impacting the Integration of Midwifery: An Evidence-Informed Framework on Strengthening Midwifery Associations." *BMJ Global Health* 6(6): e004850. https://doi.org/10.1136/bmjgh-2020-004850

Mayra, K., S. S. Padmadas, and Z. Matthews. 2021. "Challenges and Needed Reforms in Midwifery and Nursing Regulatory Systems in India: Implications for Education and Practice." *PLoS ONE* 16: e0251331. https://doi.org/10.1371/journal.pone.0251331

McFadden, A., S. Gupta, J. L. Marshall, S. Shinwell, B. Sharma, F. McConville, and S. MacGillivray. 2020. "Systematic Review of Barriers to, and Facilitators of the Provision of High-Quality Midwifery Services in India." *Birth* 47(4): 304–321. https://doi.org/10.1111/birt.12498

Moller, A. B., J. Welsh, E. Ayebare, E. Chipeta, M. M. Gross, G. Houngbo, H. Hounkpatin, B. Kandeya, B. Mwilike, G. Nalwadda, M. Petzold, A. Sognonvi, and C. Hanson. 2022. "Are Midwives Ready to Provide Quality Evidence-Based Care After Pre-Service Training? Curricula Assessment in Four Countries—Benin, Malawi, Tanzania, and Uganda." *PLOS Global Public Health* 2(9): e0000605. https://doi.org/10.1371/journal.pgph.0000605

Murugesu, G. V., S. N. Khalid, and H. Shareef. 2022. "Bibliometric Analysis on Microbial Fuel Cell Research Trend in Electronic Engineering Perspective." *ASEANA Science and Education Journal* 2(2):1-10. https://doi.org/10.1109/ACCESS.2022.3227433

Nove, A., P. Hoope-Bender, N. T. ten, Moyo, and M. Bokosi. 2018. "The Midwifery Services Framework: What is it, and Why is it Needed?" *Midwifery* 57 54-58. https://doi.org/10.1016/j.midw.2017.11.003

Nove, A., N. T. Moyo, M. Bokosi, and S. Garg. 2017. "The Midwifery Services Framework: The Process of Implementation." *Midwifery* 58 96–101. https://doi.org/10.1016/j.midw.2017.12.013

Oliver, K., and Z. Parolin. 2018. "Assessing the policy and practice impact of an international policy initiative: The State of the World's Midwifery 2014." *BMC Health Services Research* 18(1): 499. https://doi.org/10.1186/s12913-018-3294-4

World Health Organization. 2021. "Global strategic directions for nursing and midwifery 2021–2025." Accessed May 30, 2023. https://www.who.int/publications/i/item/9789240033863.

Osborne, K. 2017. "Regulation of Controlled Substance Prescribing: An Overview for Certified Nurse-Midwives and Certified Midwives." *Journal of Midwifery and Women's Health* 62(3): 341–347. https://doi.org/10.1111/jmwh.12615

Page, M. J., J. E. McKenzie, P. M. Bossuyt, and I. Boutron. 2021. "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews." *International Journal of Surgery* 88 105906.

Pahwa, B., S. Goyal, and B. Chaurasia. 2022. "Understanding Anterior Communicating Artery Aneurysms: A Bibliometric Analysis of Top 100 Most Cited Articles." *J Cerebrovasc Endovasc Neurosurg* 24(4):325–334. https://doi.org/10.7461/jcen.2022.E2022.01.001

Pollock, D., E. L. Davies, M. D. J. Peters, A. C. Tricco, L. Alexander, P. McInerney, C. M. Godfrey, H. Khalil, and Z. Munn. 2021. "Undertaking a Scoping Review: A Practical Guide for Nursing and Midwifery Students, Clinicians, Researchers, and Academics." *Journal of Advanced Nursing* 77(4): 2102–2113. https://doi.org/10.1111/jan.14743

Reynolds, C. M. E., L. E. McMahon, E. G. O'Malley, M. P. O'Connell, S. R. Sheehan, and M. J. Turner. 2020. "Trends in Private Maternity Care in Ireland's Capital During and After the Great Economic Recession 2009–2017." *Irish Journal of Medical Science* (1971 -) 190(3): 933–940. https://doi.org/10.1007/s11845-020-02415-z

Ruhmel, S., E. Ndirangu-Mugo, J. Mwizerwa, A. Sarki, and E. Pallangyo. 2022. "Capacity Building Among Nursing and Midwifery Professional Associations in East Africa." *Global Health Action* 15(1): 2118173. https://doi.org/10.1080/16549716.2022.2118173

Shakpeh, J. K., M. W. Tiah, C. C. Kpangbala-Flomo, R. F. Matte, S. C. Lake, S. D. Altman, T. Tringali, K. Stalonas, L. Goldsamt, L. Zogbaum, and R. T. Klar. 2021. "Normal Physiologic Birth Continuing Professional Development: From a National Health Priority to Expanded Capacity." *Annals of Global Health* 87(1): 99. https://doi.org/10.5334/aogh.3247

Sleeman, K. E., M. de Brito, S. Etkind, K. Nkhoma, P. Guo, I. J. Higginson, B. Gomes, and R. Harding. 2019. "The Escalating Global Burden of Serious Health-Related Suffering: Projections to 2060 by World Regions, Age Groups, and Health Conditions." *The Lancet Global Health* 7(7): e883–e892. https://doi.org/10.1016/S2214-109X(19)30172-X

Soytas, R. B. 2021. "A Bibliometric Analysis of Publications on Covid-19 and Older Adults." *Annals of Geriatric Medicine and Research* 25(3): 197–203. https://doi.org/10.4235/agmr.21.0060

Syros, A., Perez, O. F. Luxenburg, D. and J. L. Cohen. 2022. "The Most Influential Studies Concerning Revision Shoulder Arthroplasty Research." *Journal of Orthopaedics* 33 349–356. https://doi.org/10.1016/j.jor.2022.09.019

Tickle, N., M. Sidebotham, J. Fenwick, and J. Gamble. 2016. "Women's Experiences of Having a Bachelor of Midwifery Student Provide Continuity of Care." *Women and Birth* 29(3): 245–251. https://doi.org/10.1016/j.wombi.2015.11.002

Touriño, S., M. D. C. Suárez-Cotelo, M. J. Núñez-Iglesias, E. M. Domínguez-Martís, D. G. Mosteiro-Miguéns, D. López-Ares, and S. Novío. 2021. "Knowledge, Attitudes and Practices of Spanish Midwives and Midwifery Students Toward Oral Healthcare During Pregnancy." *International Journal of Environmental Research and Public Health* 18(11): 6089. https://doi.org/10.3390/ijerph18116089

van Eck, N. J., and L. Waltman. 2010. "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping." *Scientometrics* 84(2): 523–538. https://doi.org/10.1007/s11192-009-0146-3

Van Hoover, C. 2015. "Innovation in Health Policy Education: Project-Based Service Learning at a Distance for Graduate Midwifery Students." *Journal of Midwifery and Women's Health* 60(5): 554–560. https://doi.org/10.1111/jmwh.12264

Webster, P. C. 2013. "Indonesia: The Midwife and Maternal Mortality Miasma." *Canadian Medical Association Journal* 185(2): e95–e96. https://doi.org/10.1503/cmaj.109-4347

Zhang, Y., D. Lim, Y. Yao, C. Dong, and Z. Feng. 2022. "Global Research Trends in Radiotherapy for Gliomas: A Systematic Bibliometric Analysis." *World Neurosurgery* 161: e355-e362. https://doi.org/10.1016/j.wneu.2022.02.001