Bibliometric Analysis of Research Trends on Food Taboos during Pregnancy in a Socio-Cultural Context

Sri Susanti[1,2], Oman Sukmana[2], Rahmad K. Dwi Susilo[2]
[1]Department of Midwifery, Politeknik Kesehatan 'Aisyiyah Banten, Indonesia
[2]Department of Sosiologi, Universitas Muhammadiyah Malang , Indonesia

Correspondence author: Sri Susanti
Email: santi@poltekkes-aisyiyahbanten.ac.id
Address: Jln Raya Cilegon Pejaten, Kramatwatu, Serang, Banten, Indonesia Telp. 081311674128
DOI: https://doi.org/10.56359/gj.v6i1.482

ABSTRACT

Introduction: Food taboos during pregnancy are common cultural practices in many developing countries. While intended to protect maternal and fetal health, these taboos often contradict recommended nutritional guidelines and may contribute to maternal undernutrition.

Objective: This study aims to analyze global research trends on food taboos among pregnant women using a bibliometric approach to identify knowledge gaps and emerging themes.

Method: A bibliometric analysis was conducted using data retrieved from the Scopus database covering publications from 2000 to 2024. The data were analyzed using VOSviewer software to map publication patterns, keyword co-occurrence, and thematic clusters.

Results: A total of 55 relevant articles were identified. The number of publications began to increase significantly in 2013, peaking in 2019. Most research originated from developing countries, notably Ethiopia and Nigeria, with a disciplinary focus on medicine, agricultural and biological sciences, nursing, and social sciences. The bibliometric mapping identified three main thematic clusters: (1) food taboos and dietary preferences, (2) health knowledge and attitudes, and (3) maternal nutritional status linked to socioeconomic factors. Emerging keywords included nutrition, anemia, diet, and undernutrition. However, key issues such as socioeconomic dimensions and dietary diversity remain underexplored.

Conclusion: Research on food taboos in pregnancy is growing but remains geographically and thematically concentrated. Future studies should adopt interdisciplinary and culturally sensitive approaches to address the nutritional implications of food taboos during pregnancy. These findings provide valuable insights for policymakers and researchers in designing effective maternal health interventions.

Keywords: anemia, diet, food taboos, maternal health, nutrition, pregnancy

Introduction

Food taboos, or culturally rooted dietary restrictions, are commonly observed across various societies and are often passed down through generations as part of hereditary beliefs (Ekwochi et al., 2016). These taboos typically restrict the consumption of certain foods—particularly among women and children—based on traditional views rather than scientific evidence (Chakona & Shackleton, 2017). During pregnancy, these prohibitions frequently contradict established nutritional guidelines, potentially compromising maternal and fetal health.

Food taboos practiced by pregnant women reflect deeply ingrained cultural norms within communities (Dhelia, 2002). Common restrictions often include nutrient-rich foods such as eggs, fish, or meat, which are avoided due to unverified beliefs about their harmful effects on pregnancy outcomes (Aubel et al., 2024). These misconceptions may lead to inadequate nutrient intake, increasing the risk of maternal and fetal malnutrition (Kruger & Gericke, 2023). Such beliefs are often accepted without question due to strong intergenerational transmission and reinforcement by familial and community norms (Intan, 2018).

The persistence of food taboos is closely tied to socio-cultural factors and is influenced by social norms, religious beliefs, and family traditions. From a medical perspective, however, these taboos often lack scientific validation and may have negative nutritional implications (Kartikowati & Hindir, 2014). Socio-economic status further exacerbates the issue, as limited access to education, health services, and nutritious food constrains the ability of pregnant women to make informed dietary choices (Kavle & Landry, 2018; Dewey & Begum, 2011). Economic barriers may reinforce harmful dietary practices, particularly among lower-income populations.

Cultural practices that ignore the specific nutritional needs of pregnancy have been shown to increase the risk of undernutrition and complications (Oni & Tukur, 2012; Hartini, 2005). Therefore, understanding the intersection between food taboos and socio-economic determinants is essential for developing inclusive, evidence-based maternal health interventions (Bhutta, 2013). Mapping global research trends through bibliometric analysis offers valuable insights into the extent and focus of scholarly attention on this issue (Mustopa et a., 2024). Such analysis not only highlights existing research gaps but also informs more culturally sensitive and sustainable maternal nutrition policies.

Objective

This study aims to analyze global research trends on food taboos among pregnant women using a bibliometric approach to identify knowledge gaps and emerging themes.

Method

This study employs bibliometric analysis as a systematic method to map the intellectual landscape, development, and research trends within the domain of food taboos during pregnancy. Bibliometric analysis enables a structured evaluation of the scientific literature by examining citation patterns, co-authorship networks, and keyword co-occurrence, thereby revealing dominant research themes, influential works, and existing knowledge gaps (Donthu et al., 2021). In the context of socio-cultural influences on maternal dietary practices, this method offers valuable insights into how traditional beliefs shape food taboos and their potential implications for maternal and fetal health.

The Scopus database was selected as the primary data source due to its broad disciplinary coverage, high indexing standards, and reliability in bibliometric research (Aziz et al., 2023). Through this platform, the study identifies key scholarly contributions, clusters of thematic focus, and emerging directions in the field. The findings contribute to a deeper understanding of the cultural determinants of maternal nutrition and provide an evidence base to support the formulation of contextually relevant health policies and interventions.

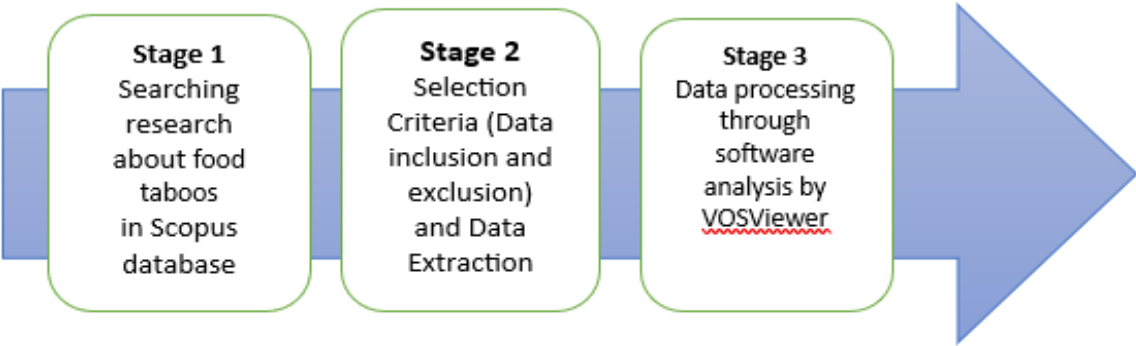The bibliometric analysis was conducted in several structured stages, as illustrated in Figure 1 below.

Stage 1
Searching research about food taboos in Scopus database

Stage 2
Selection Criteria (Data inclusion and exclusion) and Data Extraction

Stage 3
Data processing through software analysis by VOSViewer

Figure 1. The Stage of Research

Identification of food taboos Scopus database

Identification

Records identified from Databases scopus. 290 → Abstract -Title-Keyword :food taboos

Screening

Selected for further analysis N: 236 →
Inclusion Criteria
• Abstract -Title-Keyword :food taboos
• Time Frame 2000 – 2024 (date gathered on januari 2025)

Included

Articles assessed for inclution via screening full text N.: 58 →
Exclusion
Bassed on issues in the medicine, Environmental science, Biochemistry , Genetics and molecular Biology, Art and Humanis, Nouroscience and health professions

A Bibliometric analysis by VOSViewer and data analysis by Microsoft Exel →
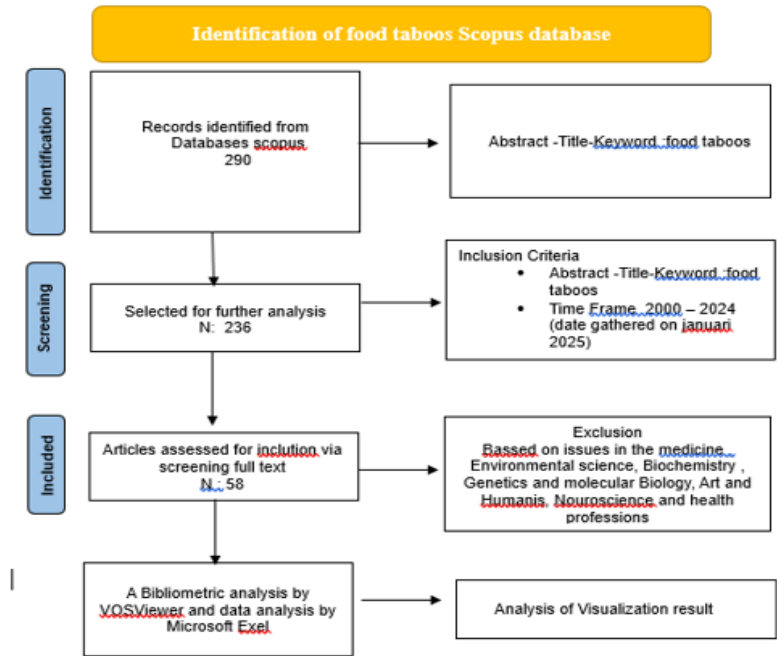Analysis of Visualization result

Figure 2. PRISMA Scheme in this Research

Figure 2 outlines the steps of the article selection process, which adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) principles. The bibliometric data in this study was collected in the period 2000 – 2024. After carrying out various inclusions and exclusions, there were a total of 58 documents. As explained in figure 2.

Furthermore, the PRISMA flow diagram in this study is organized into three main stages. Stage 1 involves the identification process, where relevant literature on food taboos was retrieved using the Scopus database. Stage 2 comprises the screening process, including the application of inclusion and exclusion criteria and the extraction of relevant data in CSV and RIS file formats. The inclusion criteria required articles to contain relevant abstracts, titles, and keywords related to food taboos, published between 2000 and 2024, with data collection finalized in January 2025. The exclusion criteria omitted studies not directly aligned with the topic, such as those related to medicine, environmental science, biochemistry, genetics and molecular biology, arts and humanities, neuroscience, and other health professions. This selection process ensures a focused bibliometric analysis on research trends and publication patterns specifically addressing food taboos.

For data analysis, the VOSviewer software was employed to process bibliometric data. One of the key features utilized is co-occurrence analysis, which examines the relationships between keywords across a collection of academic papers (Van Eck & Waltman, 2014). The closer and more frequently two keywords appear together, the stronger their link is considered, visually represented by the proximity and size of nodes. These co-occurrences also help form thematic clusters, distinguished by different colors (Widuri et al., 2022). After processing, the results are presented in the form of diagrams and graphs for descriptive interpretation.

In addition, this section presents annual publication output based on Scopus data, which serves as a key indicator of scholarly activity. This output reflects research intensity, thematic developments, and shifts in scholarly attention over time. Through visualizations of this data, readers can gain insights into the growth trajectory, topic distributions, and future research directions in the field of food taboos.
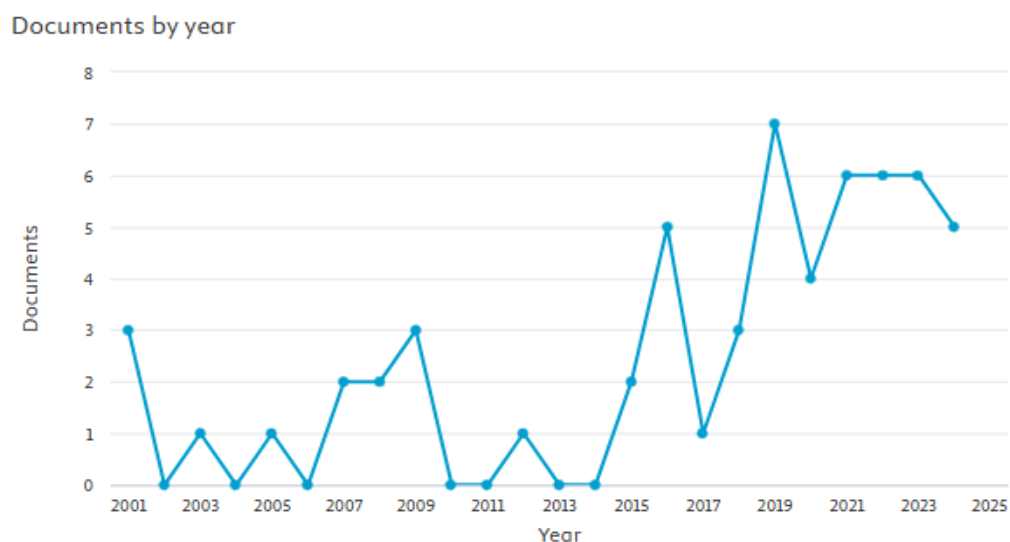

Figure 3. Number of Publications Annually

Based on the "Documents by Year" graph, the publication trend on food taboos showed notable fluctuations during the 2001–2010 period, characterized by relatively low and

inconsistent output, including several years with no documented publications. However, a noticeable upward trend began in 2013, indicating increased scholarly attention to the topic.

The peak occurred in 2019, with seven publications recorded, reflecting heightened research interest in food taboos during that year. Subsequently, the trend stabilized, averaging approximately five publications annually between 2021 and 2023. In 2024, a slight decline was observed, potentially signaling a saturation point or a shift in focus toward other emerging research themes. This trajectory suggests that while interest in the subject has been sustained in recent years, its growth may be plateauing, necessitating further investigation into evolving research priorities.
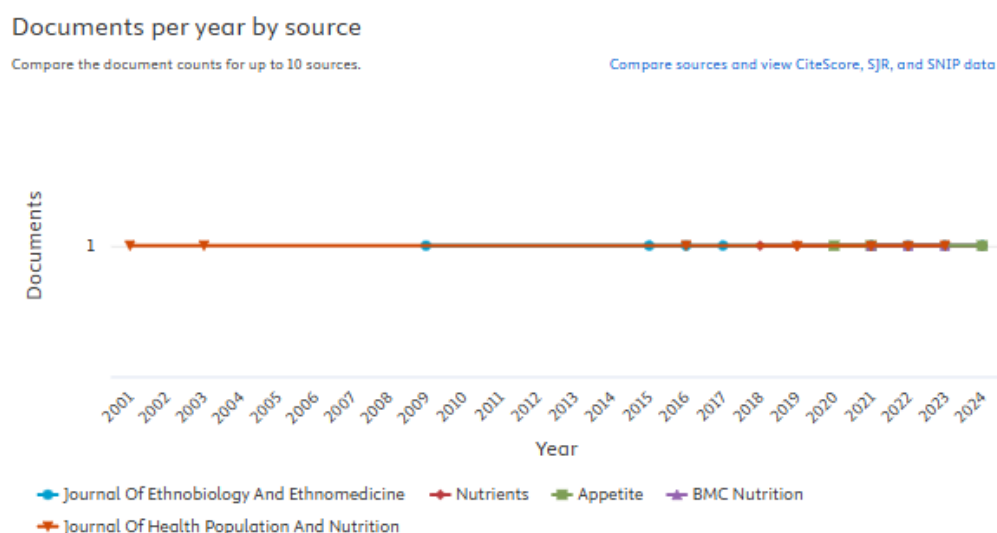
Figure 4. Number of Documents by year by source

Based on the "Documents per Year by Source" graph, it is evident that research publications related to food taboos are distributed across multiple journal sources, including the *Journal of Ethnobiology and Ethnomedicine*, *Nutrients*, *Appetite*, *BMC Nutrition*, and the *Journal of Health, Population and Nutrition*. Although publications began appearing as early as 2001, the volume from each journal remained consistently low, with only one document published per year throughout the period from 2001 to 2024.

This pattern suggests a steady but limited contribution from each source, with no significant surges or fluctuations observed over time. The consistent low volume may indicate that while the topic holds academic relevance, it remains a niche area within broader disciplines such as nutrition, public health, and ethnomedicine. The limited number of publications per journal could also reflect the specialized nature of the research, which may be intended for a more targeted scholarly audience.
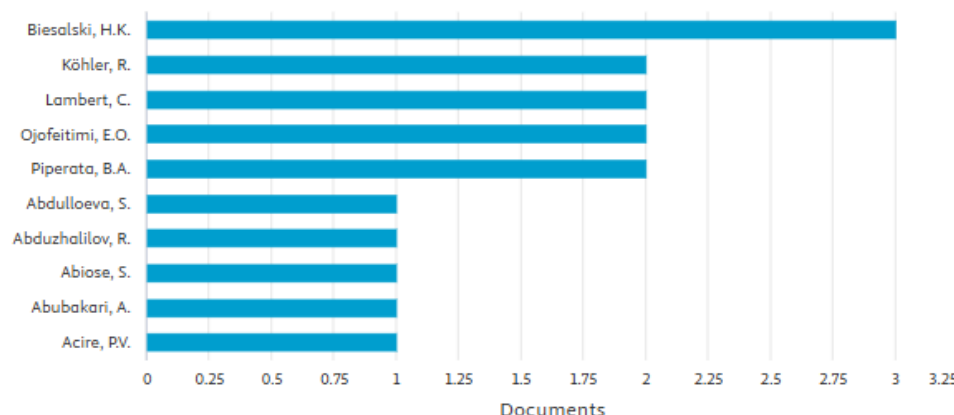
Figure 5. Number of Documents by Authors

The "Documents by Author" chart reveals a diverse distribution of research contributions among individual scholars within the field. The author with the highest number of publications is Biesalski, H.K., who has contributed three documents, indicating a potentially influential role in advancing knowledge on food taboos. Following closely are Köhler, R., Lambert, C., Ojofeitimi, E.O., and Piperata, B.A., each with two publications. A broader group of authors—including Abdulloeva, S., Abduzhalilov, R., Abiose, S., Abubakari, A., and Acire, P.V.—have each contributed one publication.

This distribution suggests that while a few key figures may demonstrate consistent engagement with the topic, the majority of contributions are dispersed across numerous scholars. Such a pattern highlights both the interdisciplinary appeal and collaborative nature of research in this domain. It also reflects the ongoing global interest in exploring socio-cultural determinants of maternal nutrition through the lens of food taboos.
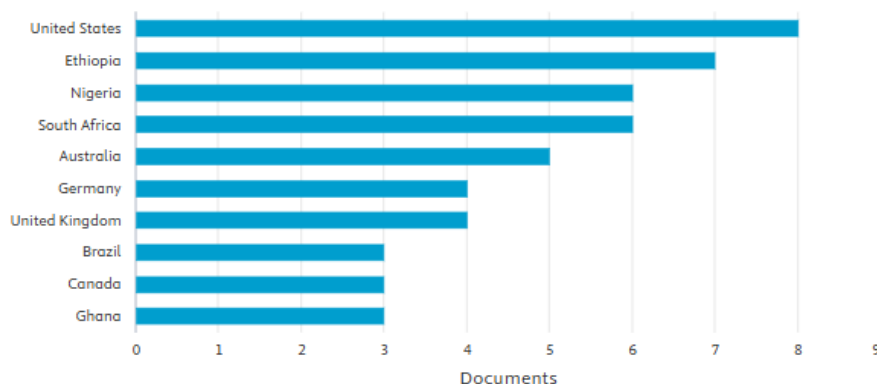

Figure 6. Number of Documents by country or territory

Based on the data presented, article publications on food taboos originate from multiple countries. As shown in Figure 6, the United States leads with eight publications, followed by Ethiopia with seven. Nigeria and South Africa contribute significantly as well, with six and five publications respectively. Australia ranks next with five articles, while Germany and the United Kingdom each have four. Iran, Brazil, Canada, and Ghana follow, each contributing three publications.

This distribution suggests that research on food taboos is notably more prevalent in developing countries than in developed ones. Several factors may contribute to this trend. Primarily, cultural and traditional practices remain deeply rooted in many developing regions. Countries such as Ethiopia, Nigeria, and Ghana possess rich cultural heritages in which dietary taboos are strongly upheld, often influenced by religious, spiritual, or indigenous health beliefs. These practices shape community norms and influence maternal health behaviors.

Overall, the geographic spread of publications highlights the significance of studying food taboos through a multidisciplinary lens—encompassing cultural, health, and socio-environmental perspectives—especially in regions where such practices continue to impact nutritional outcomes.
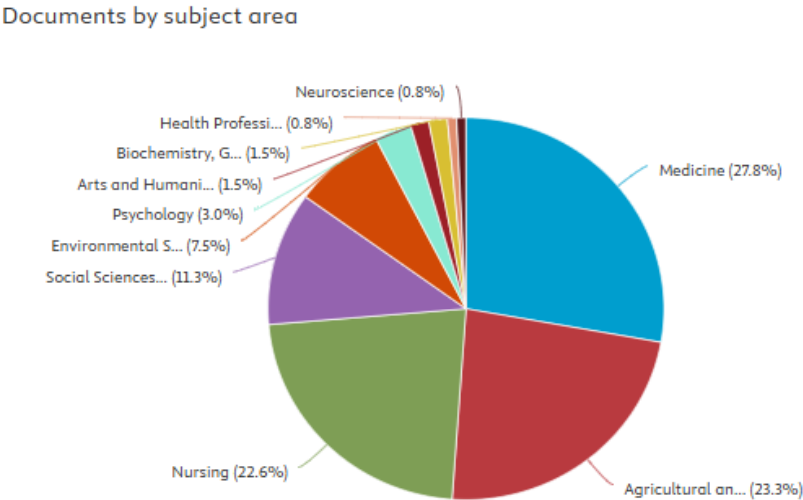

Figure 7. Number of Documents by Subject Area

Based on the data related to subject areas, the involvement of higher education institutions in publishing scientific articles on food taboos is notably significant. The majority of contributions come from the field of *Medicine* (27.8%), followed by *Agricultural and Biological Sciences* (23.3%), *Nursing* (22.6%), and *Social Sciences* (11.3%). Additional subject areas include *Arts and Humanities* (1.5%), *Biochemistry, Genetics and Molecular Biology* (1.5%), *Health Professions* (0.8%), and *Neuroscience* (0.8%).

This distribution illustrates that research on food taboos is inherently interdisciplinary. The strong presence of medicine, agriculture, and nursing reflects the vital concern for nutritional health, food security, and maternal well-being. Simultaneously, contributions from the social sciences and humanities emphasize the need to contextualize food taboos within

cultural, historical, and societal frameworks. Such a holistic research approach ensures a more nuanced understanding of food taboos, facilitating the development of culturally sensitive health interventions and policies that address both the biomedical and socio-cultural dimensions of nutrition.
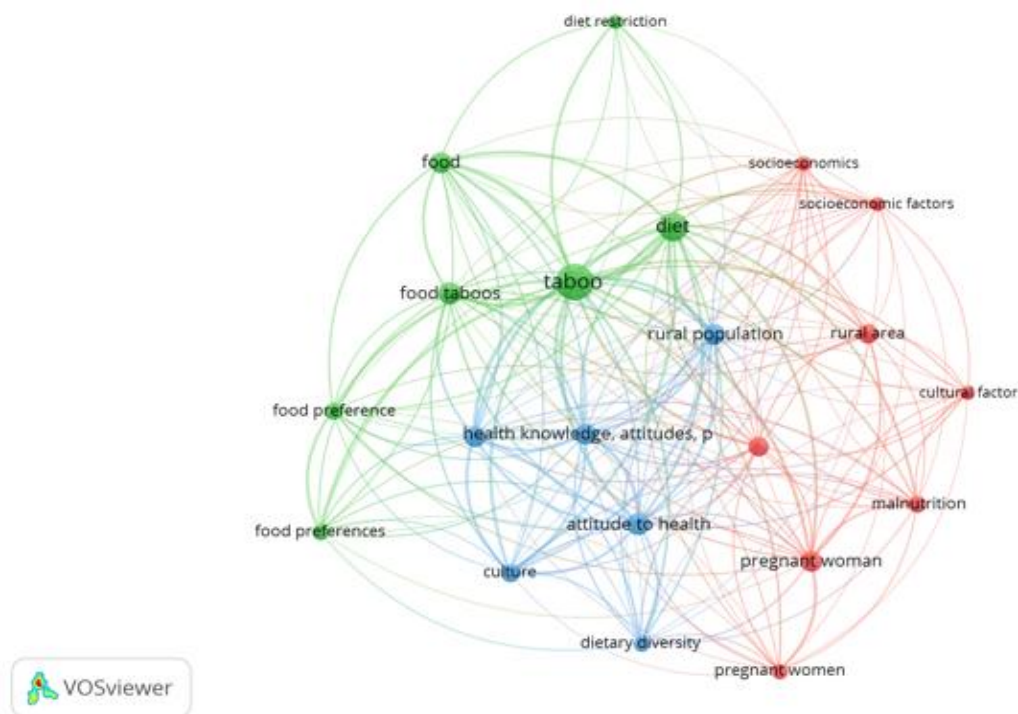

Figure 8. Cluster Analysis by VOSViewer

The VOSviewer shows three main clusters that are interconnected. The first cluster, marked in green, focuses on taboos that include elements such as dietary restrictions, food preferences, and dietary restrictions. The second cluster, which is colored blue, highlights the importance of health knowledge, attitudes, attitudes towards health, and culture. marked in red, focuses on pregnant women, nutritional status, socio-economic and malnutrition,
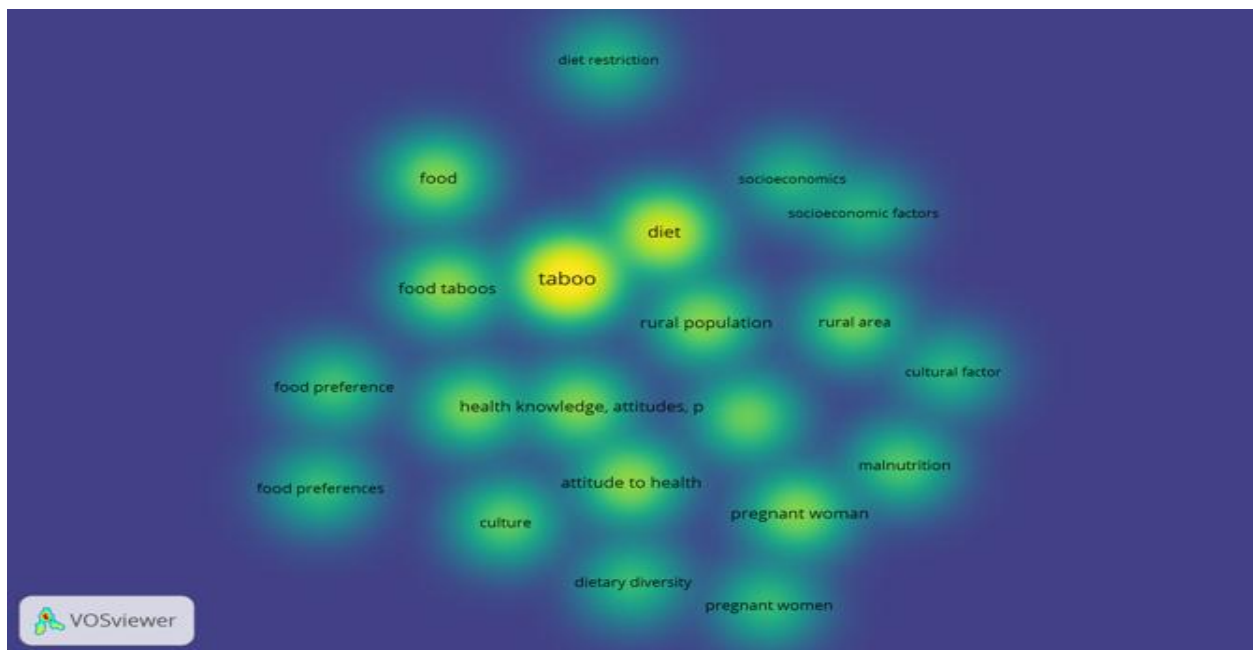
Figure 9. Cluster Analysis by VOSViewer based Density visualization

Based on the connection intensity and keyword positioning observed in the bibliometric visualization, keywords with central placement and lighter color intensity—such as *"taboo,"* *"diet,"* and *"food"*—demonstrate high frequency and strong interconnectivity with other terms. This centrality suggests that these topics have been consistently emphasized in the literature and serve as foundational themes in research related to food taboos.

Conversely, keywords located in peripheral positions, marked by darker or duller color tones and limited linkages—such as *"socioeconomics,"* *"dietary diversity,"* and *"pregnant women"*—reflect areas that have received comparatively less scholarly attention or are not yet well-integrated into the core body of research. These visual indicators—color intensity, positional centrality, and connectivity—serve as key metrics for identifying dominant research themes and highlighting underexplored topics that may warrant further investigation.

Discussion

The study of food taboos represents a multidimensional intersection of cultural, health, and socioeconomic factors, making it a critical area for bibliometric exploration. Utilizing Scopus-indexed data and VOSviewer analysis, this study provides a comprehensive overview of global research trends, thematic developments, and scholarly contributions related to food taboos. The fluctuating annual publication trends from 2001 to 2010 indicate a relatively limited academic focus on this topic during that period, with certain years showing no publications at all. However, beginning in 2013, there was a marked increase in publication frequency, peaking in 2019 with seven documents. This increase suggests a growing academic interest in food taboos, likely driven by greater recognition of their implications for maternal and child health. From 2021 to 2023, the number of publications stabilized at around five per year, with a slight decline observed in 2024. This stabilization may reflect a maturing field where scholars are consolidating existing research rather than initiating new lines of inquiry.

In terms of publication sources, research on food taboos appears across various journals, including *Journal of Ethnobiology and Ethnomedicine*, *Nutrients*, *Appetite*, *BMC Nutrition*, and *Journal of Health, Population and Nutrition*. Each journal tends to publish only a limited number of articles per year on this topic, suggesting that the research is specialized and targets a focused readership. The limited distribution may also reflect the interdisciplinary nature of the topic, requiring integration across multiple fields such as public health, anthropology, and nutrition sciences. Geographical analysis indicates that developing countries—particularly Ethiopia, Nigeria, and Ghana—contribute more significantly to this field than developed nations. This may be attributed to the strong presence of traditional and cultural beliefs in these regions, where food taboos are often deeply embedded in daily practices and societal norms. These cultural practices are frequently tied to religious or spiritual beliefs and significantly influence dietary behavior, particularly among women during pregnancy.

The disciplinary distribution of the publications underscores the interdisciplinary character of the field. The most substantial contributions come from medicine (27.8%), agricultural and biological sciences (23.3%), and nursing (22.6%). Additional input from social sciences (11.3%), arts and humanities (1.5%), and other health professions reinforces the necessity of examining food taboos from both biomedical and sociocultural perspectives. This interdisciplinary nature not only enriches the scientific discourse but also ensures that practical interventions are contextually relevant and culturally sensitive.

Keyword co-occurrence analysis using VOSviewer reveals three major thematic clusters. The first cluster, marked in green, includes concepts related to food preferences, dietary restrictions, and taboos. This cluster emphasizes how food-related prohibitions are influenced by cultural traditions that shape individual and communal dietary behavior. The second cluster, colored blue, encompasses terms related to health knowledge, attitudes, and cultural perceptions of nutrition. It highlights the need for educational interventions to improve public understanding and behavior regarding dietary choices. The third cluster, marked in red, focuses on issues surrounding pregnant women, nutritional status, socioeconomic conditions, and malnutrition. This indicates the critical impact of economic constraints on maternal nutrition, particularly in rural and underserved populations.

The bibliometric visualization further supports these findings, as keywords like "taboo," "diet," and "food" are centrally located with high frequency and light color intensity, reflecting their centrality in existing research. In contrast, terms such as "socioeconomics," "dietary diversity," and "pregnant women" are positioned peripherally and exhibit duller colors, suggesting they are less frequently explored or insufficiently integrated into the mainstream literature. These patterns indicate that while cultural and behavioral aspects of food taboos are well studied, the socioeconomic and gender-specific dimensions remain relatively underexplored, presenting opportunities for future research.

The findings underscore the importance of adopting an interdisciplinary and culturally informed approach to public health interventions. Healthcare professionals should incorporate culturally sensitive strategies into nutrition counseling, recognizing and respecting local beliefs to enhance the effectiveness of dietary recommendations. Policymakers are encouraged to develop health promotion campaigns that integrate traditional values while advancing evidence-based maternal nutrition practices. Moreover, involving community leaders and traditional birth attendants in program implementation may improve acceptance and adherence to nutritional interventions, particularly among vulnerable populations.

Conclusion

The importance of topics such as "taboos" and "diet" demonstrate established research momentum, while additional topics highlight gaps in integrating socio-economic and health knowledge into mainstream literature. This gap represents an opportunity to enrich the field with new perspectives and solutions. Keywords such as socioeconomics and socioeconomic factors are in a less connected area than main keywords such as taboo or diet. This shows that research on how socio-economic status influences food taboos is still rarely explored. With the research direction, examining the relationship between food taboos and social stratification (social class, occupation, income). Studying how socio-economic changes (urbanization, modernization) influence the sustainability of food taboos in certain societies. The keyword culture shows a strong connection with taboo, but in-depth analysis of cultural dynamics—for example cultural conflicts between older and younger generations in maintaining food taboos—is still minimal. New Research Directions Analyzing how food taboos are changing amidst globalization and shifting local cultural values. Sociological study of how young people respond to food taboos in the context of modernization and urbanization.

References

1. Aubel, J., Toure, I., & Diagne, M. (2024). Senegalese grandmothers promote improved maternal and child nutrition practices: the guardians of tradition are not averse to change. *..Social Science & Medicine*, *59*(5), 945–959.
2. Aziz, et al. (2023). Research Trends of Creative Industries in Indonesia: A Bibliometric Analysis. *Journal of the Knowledge Economy*, 1–8. https://doi.org/https://doi.org/10.1007/s13132-023-01299-5

3. Bhutta, Z. A., et al. (2013). Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *The Lancet, 382*, 452-477.

4. Chakona, G., & Shackleton, C. (2017). Minimum Dietary Diversity Scores for Women Indicate Micronutrient Adequacy and Food Insecurity Status in South African Towns. *Nutrients, 9*(8). https://doi.org/https://doi.org/10.3390/nu9080812

5. Dewey, K. G., & Begum, K. (2011). Long-term consequences of stunting in early life. *Maternal & Child Nutrition*, *7*, 5–18.

6. Dhelia. (2002). *Pamali: Pantangan Makan Masa Kehamilan Pada Orang Jawa dan Sunda di Lampung .* Fakultas Ilmu Sosial Dan Ilmu Politik Universitas Lampung Bandar.

7. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct abibliometric analysis: An overview and guidelines. *Journal of Business Research*, 285–296. https://doi.org/https://doi.org/10.1016/j.jbusres.2021.04.070

8. Ekwochi, U., Osuorah, C. D. I., Ndu, I. K., Ifediora, C., Asinobi, I. N., & Eke, C. B. (2016). Food taboos and myths in South Eastern Nigeria: The belief and practice of mothers in the region. *Journal of Ethnobiology and Ethnomedicine*, *12*(1). https://doi.org/https://doi.org/10.1186/s13002-016-0079-x

9. Hartini, T. N. S., et al. (2005). Food taboos among pregnant women in Madura, Indonesia:A qualitative study. *BMC Public Health*, *5*(1), 5–8.

10. Intan, T. (2018). Fenomena Tabu Makanan pada Perempuan Indonesia dalam Perspektif Antropologi Feminis. *Palastren Jurnal Studi Gender*, *11*(2), 233–258.

11. Kavle,J.A & Landry, M. (2018). Addressing barriers to maternal nutrition: Evidence and program considerations. *Maternal & Child Nutrition*, *14*(1 e12508).

12. Kruger, R., & Gericke, G. J. (2023). A qualitative exploration of rural feeding and weaning practices, knowledge and attitudes on nutrition. *Public Health Nutrition*, *6*(2), 217–223.

13. Mustopa, A.H., Saryono, S., Setiawan, H. and Masruah, I.I., 2024. Trends in the Use of Digital Stethoscopes in Healthcare: A Bibliometric Analysis. *Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)*, *10*(2).

14. Oni, O. A., & Tukur, J. (2012). Identifying pregnant women who adhere to food taboos in a rural community: a community-based study. *African Journal of Reproductive Health*, *16*(3), 68–76.