

REVIEW ARTICLE



Linking halal hospitals to the sustainable development goals: A bibliometric analysis

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ABSTRACT

This study aims to analyze the relationship between the concept of Halal Hospital and the achievement of Sustainable Development Goals (SDGs), especially SDG 3 (healthy and prosperous lives), SDG 10 (reduced inequality), and SDG 17 (partnerships to achieve the goals). In answering the existing literature gap, this study uses a qualitative approach with a bibliometric method, using data from the Scopus base and analyzed using VOSviewer software. A total of 472 documents were analyzed based on keywords, author collaboration, and theme relevance from 2010 to 2025. The results show that the topic of halal hospitals has experienced a significant growth trend in the last decade, especially in countries with large Muslim populations such as Indonesia and Malaysia. Dominant keywords include "patient satisfaction", "quality", "management", and "Islamic values", indicating that the integration of sharia values plays an important role in shaping a more holistic quality of health services. In addition, the collaborative network shows the dominance of author contributions from Indonesia and the Middle East and the increasing involvement of authors from Europe and America. This study provides an original contribution by mapping the landscape of halal hospital literature and systematically linking it to the SDGs agenda. The implication is that halal hospitals can be a model of universal value-based healthcare that supports sustainable development. This study confirms that Halal Hospitals support the achievement of SDGs through a holistic, value-based healthcare approach. The originality of this article lies in the integrative effort between the halal

KEYWORDS

Halal hospital; sharia healthcare; patient satisfaction; sustainable development goals (SDGs); Islamic values; bibliometric analysis

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concept in healthcare and the global development framework of SDGs, which is still limitedly discussed in previous literature.

1. Introduction

Indonesia, as the country with the largest Muslim population in the world, has a significant need for health services that comply with sharia principles. However, the implementation of sharia standards in hospital services still faces various challenges. For example, the implementation of cleanliness standards and the avoidance of *ikhtilāṭ* (mixing between men and women who are not mahram) requires large investments and proper management to ensure compliance with these standards (Maksum et al., 2023). In addition, there is a perception in the community that sharia-based hospitals are less flexible in serving non-Muslim patients, which can influence people's decisions in choosing health services (Djannah & Ruliyandari, 2020).

The concept of Halal Hospital or Sharia Hospital has developed along with the increasing awareness of the Muslim community towards the importance of health services in accordance with Islamic principles. The Indonesian Ulema Council (MUI) has encouraged the implementation of sharia principles in various sectors, including hospitals, by formulating 13 Sharia Hospital standards consisting of 173 assessment elements, including standards related to patient contracts with doctors and hospitals, halal food and medicine standards, and sharia-based fund management standards (mui.or.id).

However, the number of hospitals operating with sharia principles is still limited. Until now, there are only 18 hospitals operating with sharia principles throughout Indonesia (hidayatullah.com). This limited number shows that the implementation of sharia principles in health services is not evenly distributed and still faces various challenges (Fatimah et al., 2024). In addition, the relationship between the implementation of sharia principles in hospitals and their contribution to achieving the Sustainable Development Goals (SDGs) has not been studied comprehensively.

In addition, several research results show that the application of Islamic values in health services can increase patient satisfaction. For example, a study found that the implementation of Islamic values, such as greeting, friendly attitude, empathy towards patients, attention, and sincerity in serving, as well as reminders to pray five times a day, contributed positively to patient satisfaction in sharia hospitals

(Hadytiaz et al., 2022). However, studies that focus more on the aspect of patient satisfaction and have not explored in depth how the application of sharia principles in hospitals can contribute directly to the achievement of SDGs, such as improving health and well-being (SDG 3), reducing inequality (SDG 10), and partnerships to achieve goals (SDG 17).

Despite several studies on the implementation of sharia principles in hospitals, there is still a gap in understanding how such implementation can directly contribute to the achievement of the SDGs. Most current studies focus on internal aspects of hospitals, such as patient satisfaction and service quality, without linking them to broader global development goals. In addition, there has been no comprehensive bibliometric analysis to map studies related to halal hospitals and their relationship to the SDGs. This gap indicates the need for research that integrates the concept of halal hospitals with the SDGs framework to understand their potential contribution to sustainable development.

With the increasing global awareness of the importance of sustainable development, the integration of sharia principles in healthcare services can be an important strategy to achieve the SDGs (Safitri & Juliana, 2025). Research examining the relationship between halal hospitals and SDGs can provide new insights into how the healthcare sector can contribute to global development goals. In addition, bibliometric analysis can help identify research trends, collaborations between researchers, and under-researched areas, which can guide future research and policies.

This study offers novelty by conducting a bibliometric analysis to map studies related to halal hospitals and their relationship to the SDGs. This approach has not been widely used before and can provide new perspectives on the potential contribution of halal hospitals to achieving the SDGs. In addition, this study can identify areas that are still under-researched and opportunities for future research collaborations.

2. Methodology

This study applies a qualitative design with a bibliometric approach as the main method. The data source in this study comes from the metadata of scientific publications indexed in the Scopus database, which was extracted on March 13, 2025 through the official Scopus website. In the extraction process, selection criteria

were determined which included the selection of keywords, using the term "halal hospital" as the main keyword to capture relevant publications.

Bibliometric analysis is a qualitative method used to identify research trends, collaborations between researchers, and developments in a particular topic in the scientific literature (Batari et al., 2024; Nuraini et al., 2024; Marlina et al., 2024). In the context of research on "Halal Hospitals", bibliometric analysis can provide insight into the extent to which this topic has been researched, who the main researchers are, and how the research has developed and spread over time. Based on the search results taken from Scopus, there are 472 documents.

The data obtained were then analyzed with the help of RStudio software, especially through the biblioshiny package to analyze metadata using bibliometric and scientometric approaches as developed by Aria and Cuccurullo (2017), and VOSviewer software. Bibliometric analysis techniques in this study are classified into two categories, namely primary techniques and enrichment techniques. Primary techniques include performance analysis (related to the number of publications, the number of citations, and the relationship between the two) and science mapping (citation analysis, co-citation, bibliographic coupling, co-word analysis, and co-authorship analysis). Meanwhile, enrichment techniques include network analysis involving evaluation of network structure, network metrics, clustering, and data visualization (Donthu et al., 2021).

3. Results and discussion

3.1. Co-occurrence of keywords

Figure 1 shows the results of keyword co-occurrence network visualization generated by VOSviewer, focusing on research themes around hospitals, patients, and healthcare. In the context of halal hospitals, this visualization shows how keywords such as "patient", "hospital", "quality", "medicine", and "patient satisfaction" are closely connected to terms such as "management", "performance", and "Indonesia". This indicates that the topic of halal hospitals is often associated with dimensions of service quality, patient satisfaction, and certain geographic contexts such as Indonesia and other Muslim countries.

A study by Mohd Yusof et al. (2020) in the Journal of Islamic Marketing confirmed that Muslim patient satisfaction in halal hospitals is greatly influenced by spiritual aspects, service ethics, and adequate prayer facilities. This is in line with the results

hospital services from 2018 to 2022. This visualization uses color to indicate the chronology of keyword appearance, from blue (older) to yellow (newer). Keywords such as "hospital", "Indonesia", "patient", "quality", and "patient satisfaction" appear dominantly, indicating that the focus of research in recent years has revolved around the quality of hospital services in Indonesia and patient satisfaction. The emergence of words such as "religion", "medicine", and "Jerusalem" also indicates the relevance of the religious dimension in health services.

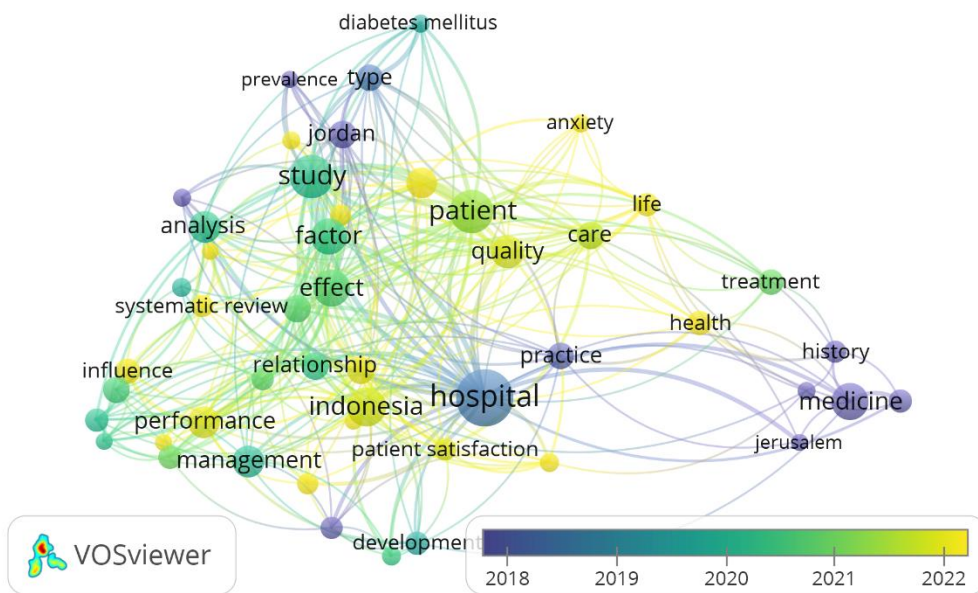


Figure 2. Visualization bibliometrics based on keywords (overlay visualization)

In the context of halal hospitals, this visualization shows the increasing attention to the integration of Islamic values in health services. The concept of halal hospitals emphasizes that the services provided must not only be free from haram substances, but also pay attention to ethics and sharia principles in patient management and services. This is in line with research by Omar et al. (2015), which highlights the importance of developing the halal service sector including hospitals as a response to the increasing awareness of Muslim consumers towards sharia in public services (Omar, Jaafar, & Osman, 2015). Furthermore, Tieman (2013) explains that halal hospitals are an important part of the halal value chain, which includes not only food or pharmaceuticals, but also the overall patient experience, including spiritual care and gender sensitivity (Tieman, 2013).

Razalli et al. (2019) added that perceptions of the quality of halal hospital services are greatly influenced by the hospital's commitment to implementing sharia values comprehensively, from management to operations. This is confirmed by the emergence of keywords such as "management" and "performance" in the visualization. Research by Othman et al. (2016) shows that hospitals that implement a sharia approach consistently obtain higher levels of patient satisfaction, especially in spiritual and psychological aspects (Othman, Abdul Hamid, & Azam, 2016). Meanwhile, Salleh et al. (2018) expanded the discussion by linking halal hospitals to the principles of sustainable development and Islamic ethical values in public service, which are reflected in keywords such as "development" and "quality" in the visualization map (Salleh, Hamid, & Hashim, 2018).

Thus, it can be concluded that global research trends show the integration of religious dimensions in hospital service systems, especially in Muslim-majority countries such as Indonesia. This supports the urgency and relevance of developing halal hospitals as a health service model that not only meets medical standards, but also comprehensive Islamic spiritual ethics.

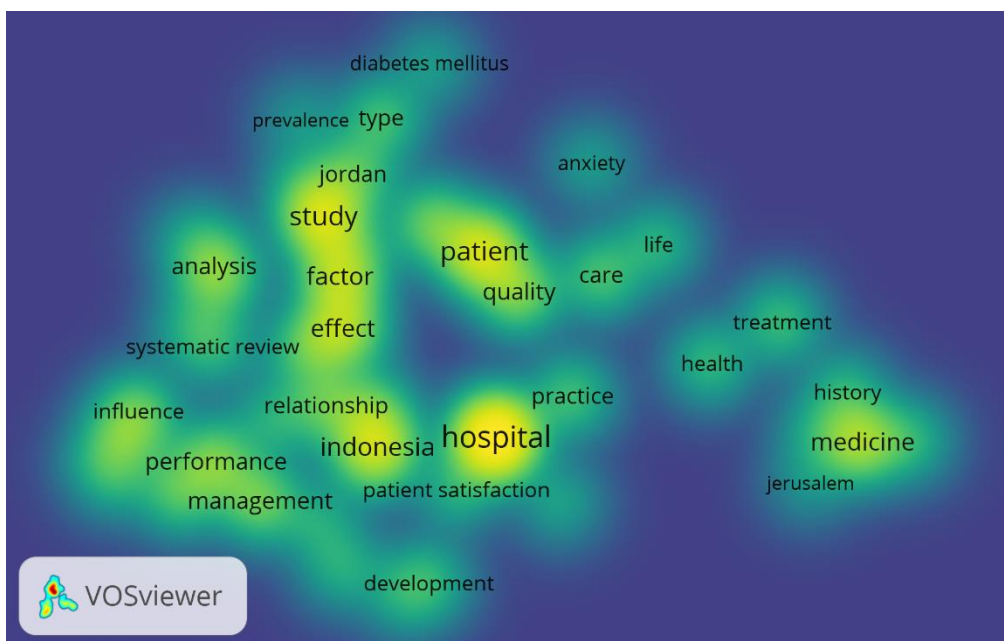


Figure 3. Bibliometric visualization based on keywords (density visualization)

Figure 3 is a density map visualization of the results of bibliometric analysis using VOSviewer, which maps the density of occurrence and connectivity between keywords in scientific literature related to hospitals. Yellow indicates keywords with

high frequency and strong connectivity, while green to blue indicate lower density. Dominant keywords such as "hospital", "Indonesia", "patient", "quality", and "management" occupy a central position, indicating that hospital management issues, patient satisfaction, and service quality are the main topics of the study. In the context of developing halal hospitals, this visualization provides insight that aspects of quality, patient satisfaction, and management are important foundations that are relevant to the integration of sharia principles into the health care system.

Research by Tieman (2013) stated that halal hospitals not only provide halal food and medicine, but also implement operational standards in accordance with Islamic principles, such as gender separation, spiritual services, and high cleanliness (halalan tayyiban). This is reinforced by the findings of Salleh et al. (2018), which emphasizes that halal hospitals include aspects of ethics, governance, and patient religious sensitivity in the entire service process. The keywords "quality" and "patient satisfaction" that appear densely on the map support the argument of Othman et al. (2016), who found that the application of sharia values in hospital services significantly increases the perception of quality and satisfaction of Muslim patients.

In addition, Razalli et al. (2019) emphasized that the integration of halal principles in health services requires a strategic and comprehensive management approach, including staff training, preparation of sharia-based SOPs, and periodic halal audits. The aspects of "management" and "performance" which are also densely visible in this map reflect the importance of quality management and performance in accordance with sharia, as discussed by Jalil et al. (2020), who analyzed how hospitals can meet sharia standards while maintaining service efficiency and effectiveness.

Thus, this density map indirectly shows that research on halal hospitals has a strong foundation in the literature that has highlighted the importance of quality, management, and patient satisfaction. This means that the development of halal hospitals is not just a religious trend, but a systemic approach based on patient needs and service quality, which is also able to answer global challenges in inclusive health services.

3.2. Co-authorship Analysis of Authors

Figure 4 shows the visualization of the collaboration network between authors in scientific literature using VOSviewer. Each node (dot) represents one author, while the lines connecting them show collaborative relationships based on co-

publications. It is seen that Abu-Libdeh, A. is a central node with high connectivity, connecting several clusters of authors, indicating its central role in fostering multidisciplinary collaboration. In the context of halal hospitals, this analysis reflects the importance of collaboration between researchers from various scientific backgrounds to form the conceptual and practical foundations of sharia-compliant hospitals.

Research by Noordin et al. (2014) confirms that the successful implementation of halal services in the health sector requires collaboration between Islamic law experts, medical practitioners, and health management academics. This cross-field collaboration is reflected in the network, where several groups of authors form special clusters that may focus on sharia topics, quality management, or patient satisfaction. Furthermore, Talib et al. (2015) explain that the development of halal services, including hospitals, requires a cross-sectoral and multidisciplinary approach, because its complexity includes not only operational aspects, but also aspects of customer perception and value.

Central authors such as Hassanein, M. and Ibrahim, M. who are in strategic positions also strengthen the findings of Alserhan (2010), who stated that the development of halal institutions requires thought leaders who are able to bridge the gap between sharia principles and contemporary business practices, in this case the context of health services. In this network, the connectivity between authors across clusters supports the ecosystem approach also mentioned by Kamarulzaman et al. (2018), who analyze how halal lifestyle, including the need for halal hospital services, can only be met through synergy between academics, industry, and regulators.

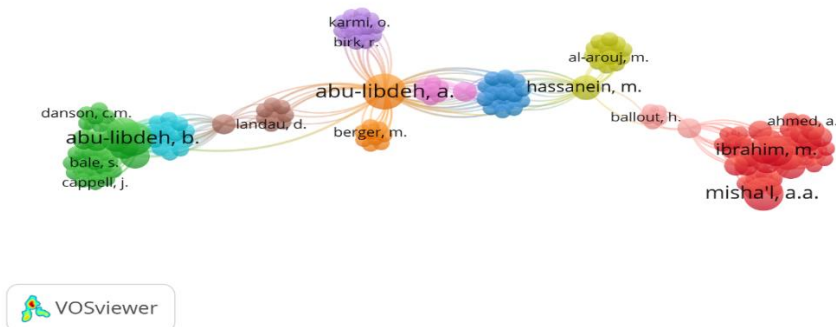


Figure 4. Visualization based on the authors (network visualization)

Support for scientific collaboration is also reinforced by Yunus et al. (2020), who examine the importance of collaborative research in developing a hospital halal certification system based on local contexts. They emphasize that differences in culture, law, and service systems require local adaptation that can only be achieved through inter-institutional and inter-country collaboration.

Thus, this image not only shows the relationship between the authors, but also reflects the complexity and real needs in the development of a comprehensive, inclusive, and global standard halal hospital. The cross-disciplinary collaboration depicted is the main key in answering the challenges and needs of the community for health services based on Islamic values.

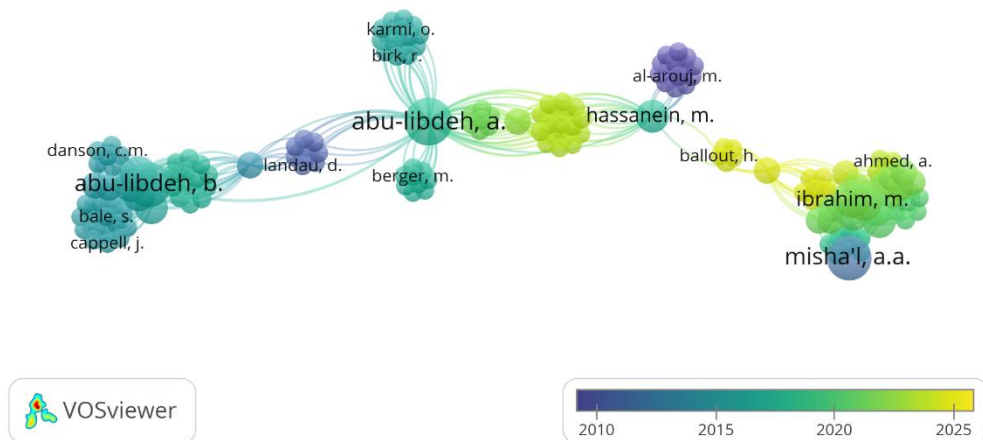


Figure 5. Visualization based on author (overlay visualization)

Figure 5 is a time-based co-authorship visualization of related scientific publications, displayed using VOSviewer software. The colors depict the publication time period with a gradient from blue (older) to yellow (newer), providing an overview of the evolution of scientific collaboration from 2010 to 2025. In the context of halal hospital development, this analysis is very relevant to understand the dynamics of key actors and the development trends of the topic in the international academic realm. Authors such as Abu-Libdeh, A. emerge as central figures with cross-period and cross-cluster connections, demonstrating their

important role in connecting various ideas and approaches to the sharia-based healthcare system.

The evolution of collaboration seen in this figure reinforces the findings of Latiff et al. (2018) who highlighted that the development of halal hospitals is not stagnant, but evolves over time with innovation from academics and health practitioners. The role of connectors such as Abu-Libdeh also reflects the transdisciplinary approach needed as explained by Mohd Noor et al. (2020), that the development of halal hospitals requires the integration of medical science, sharia, quality management, and finance.

Furthermore, the long-term and cross-generational collaboration in this network supports the view of Saad et al. (2019) who emphasized the importance of research continuity and involvement of various parties to formulate and implement globally competitive hospital halal standards. This is also in accordance with the idea of Aziz & Chok (2013) who stated that halal services, including hospitals, must be positioned as part of the global Islamic lifestyle industry that involves innovation and cross-country collaboration.

The presence of newer names such as Ibrahim, M. and Mishal, AA at the end of the time spectrum (yellow) indicates the regeneration and continuation of healthy academic discourse on this topic. This is in line with the findings of Hassan et al. (2021) which show an increasing interest of a new generation of researchers in halal issues in the public service sector, including hospitals.

Thus, this figure not only maps the collaboration between authors but also reveals the dynamics of time in the development of the topic of halal hospitals. The combination of senior actors and new generations and the strong connectivity between them reflect a mature and highly innovative scientific community in strengthening the legitimacy and application of halal hospitals globally.

Figure 6 is the result of density visualization of the author collaboration network using VOSviewer software. The brighter the yellow color in a certain area, the higher the intensity of publications and scientific collaborations of the authors in that area. In the context of halal hospital development, this representation can be interpreted as a map of the strength of scientific contributions from individuals or groups of researchers to relevant topics, such as sharia health services, halal-based quality management, and medical institution certification.

Researchers such as Abu-Libdeh, A., Ibrahim, M., and Mishal, AA appear dominantly in this visualization, indicating the frequency of their involvement in

related collaborative research. This is consistent with Tieman's (2015) findings which state that the development of halal institutions, including hospitals, is greatly influenced by strong scientific capacity and cross-sectoral collaboration among key actors. Furthermore, research by Zainuddin et al. (2018) highlights the importance of research consistency in building the theoretical foundation of halal hospitals, which must include clinical, financial, and spiritual aspects.

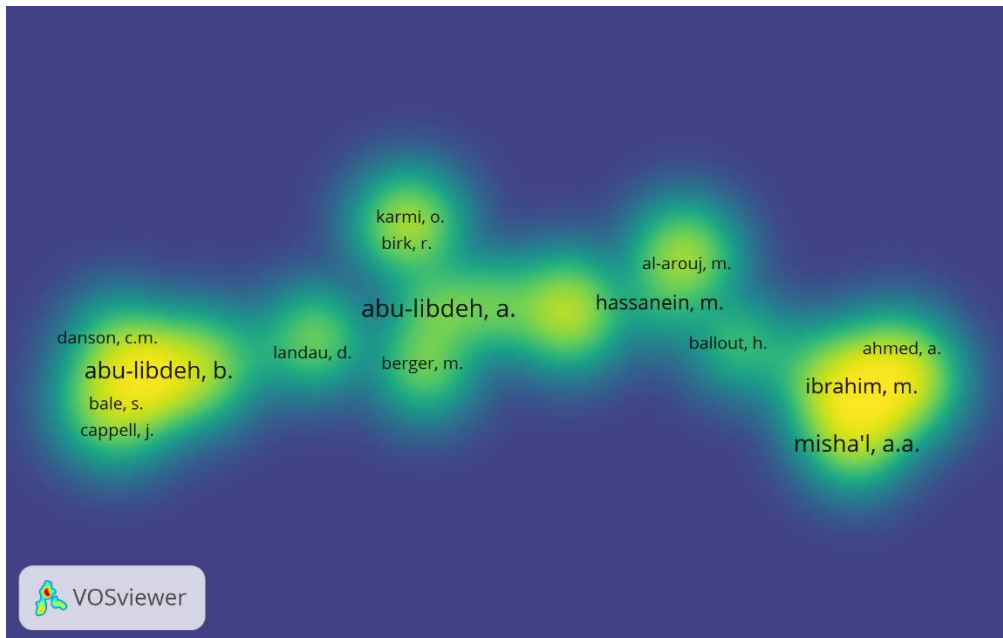


Figure 6. Visualization based on author (density visualization)

In the context of global literature, Jaelani (2017) stated that the success of halal hospitals in Southeast Asia and the Middle East cannot be separated from the active involvement of academics and practitioners in producing quality scientific publications and developing research-based public policies. This figure shows that several research clusters have been well established, such as those driven by Abu-Libdeh, B. and colleagues, which could focus on managerial and technical approaches in halal services.

Research by Khan et al. (2020) also emphasized that research on halal hospitals does not only discuss sharia-compliant medical procedures, but also patient experience, service quality, and integration of halal-based information technology systems, which require many academic actors from various fields to work together. This is in line with the mapping of author intensity in the figure, where the

distribution of authors across clusters indicates a dynamic and multidisciplinary collaborative effort.

Finally, the study by Rahman et al. (2022) reinforces that the consolidation of halal hospital research can only be achieved through sustainable international collaboration. This visualization provides visual evidence of the existence of collaboration centers that can be used as a basis for strengthening the halal hospital research network in the future.

3.3. Citation network

Figure 7 above is the result of a network visualization of bibliometric analysis showing collaboration between countries in scientific publications related to a particular topic—in this context, most likely related to halal hospitals or sharia-based healthcare systems. This visualization utilizes bibliometric data (e.g. from Scopus) to map the strength of links between countries, with larger nodes representing higher publication volumes, and colors indicating thematic or geographic collaboration clusters.

It is seen that Indonesia is the center (largest node) of one of the main collaboration clusters, indicating a strategic position and high productivity in halal hospital research. This is in line with the findings of Norazmi et al. (2021) which show that Indonesia is a pioneer in the development of halal hospital standards, including aspects of certification, patient services, and national policies. Indonesia's collaboration with countries such as Malaysia, Saudi Arabia, and the United Arab Emirates reflects a strong regional network in supporting Halal Medical Tourism and Halal Healthcare initiatives as explained by Tieman (2020).

Furthermore, the strong connectivity of the United States, the United Kingdom, and Australia in this network shows that Western countries also contribute in terms of technology, hospital management, and cross-cultural approaches to halal services. This supports the results of Alserhan's (2010) study which identified the importance of global collaboration in improving halal services so that they can be accepted in non-Muslim majority countries. Hassan et al.'s (2019) study added that collaboration with Western institutions opens up space for innovation in halal information systems, hospital service quality, and the development of sharia-based health human resources.

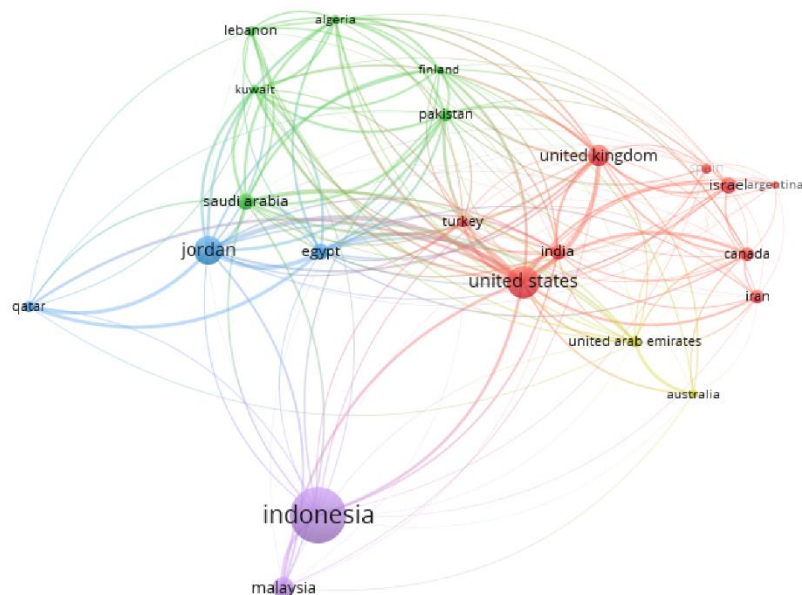


Figure 7. Visualization based on country citations (network visualization)

The existence of active collaboration across regions also shows a response to the need for globalization of Islamic values in public services. Wilson & Liu (2011) stated that the modern halal industry, including hospitals, is increasingly driven by global convergence—combining sharia standards with modern management practices.

Thus, this figure shows that the issue of halal hospitals has become a collaborative global research domain, not limited to Muslim-majority countries. Indonesia's position as a network center shows its commitment and active role in leading the narrative and implementation of the halal hospital system internationally.

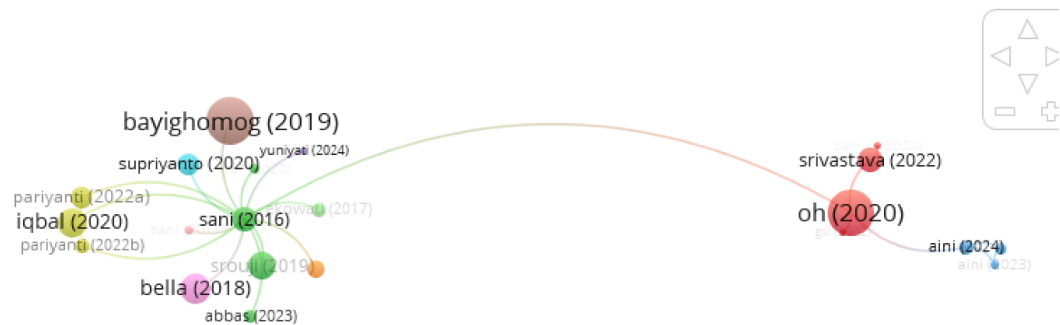


Figure 8. Visualization based on author citations

Figure 8 above is the result of bibliometric visualization using VOSviewer which displays the co-citation network between authors (authors' co-citation network) in topics related to halal hospitals. It can be seen that there are two large clusters that are separate but have weak connectivity, indicating a polarization in the development of halal hospital literature between the Islamic focus and the general hospital management/ethics focus. The first cluster (on the left) is dominated by authors such as Bayih et al. (2019), Igbal (2020), and Bella (2018) who discuss the dimensions of strategic branding, religious service innovation, and Muslim patients' perceptions of hospital services. Meanwhile, the second cluster (right) displays authors such as Oh (2020) and Srivastava (2022), who focus more on medical service ethics, patient experience, and hospital management systems from a global perspective.

In a study by Bayih & Singh (2019) in the *Journal of Islamic Marketing*, it was stated that strengthening the halal brand in healthcare services is very important to increase Muslim consumer confidence, especially through innovation and assurance of sharia compliance. This is in line with the findings of Bella et al. (2018) in the *International Journal of Islamic and Middle Eastern Finance and Management* which showed that patient perceptions of halal hospitals are influenced by a combination of spiritual values and the quality of medical services.

Igbal et al. (2020), in the *Journal of Health Marketing*, expands on this discussion by emphasizing the importance of halal certification and accreditation in assuring the Muslim community of the legality and cleanliness of hospital services. On the other hand, Oh (2020) in *BMC Health Services Research* highlights that value-based healthcare management is a key aspect in ensuring medical services that are oriented towards patient needs, including spiritual needs. Srivastava (2022) in the *Journal of Healthcare Management* also underlines the need for integration between hospital quality management and spiritual frameworks to respond to the demands of the global Muslim market.

3.4. Citation network

3.4.1. Cluster Analysis 1

Cluster 1 consists of 11 keywords, namely correlation, effect, influence, job satisfaction, knowledge, mediating role, nurse, performance, role, spiritual leadership, workplace spirituality.

Based on research by Mohd Yusof et al. (2020) in the Journal of Islamic Marketing, Muslim patient satisfaction in halal hospitals is not only influenced by the quality of medical services, but also by spiritual values such as friendly attitudes, empathy, and integrity of health workers. This is in line with the keywords spiritual leadership and workplace spirituality, which show the role of spiritual value-based leadership in improving nurse performance and job satisfaction. Hasan & Mustaffa (2019) also emphasized that the integration of Islamic values in hospital management, such as staff training on sharia ethics, is positively correlated with increased work motivation and accountability of medical personnel. The keyword mediating role indicates that knowledge of sharia principles acts as a mediator in connecting spiritual leadership practices with holistic health service outcomes. This finding strengthens the argument that a spirituality-based work environment not only improves service quality but also supports SDG 3 (health and well-being) through the empowerment of ethical human resources.

3.4.2. Cluster Analysis 2

Cluster 2 consists of 10 keywords, namely case, case study, development, hospital, impact, implementation, Indonesia, loyalty, management, patient satisfaction. This cluster reflects the research focus on the implementation of halal hospitals in Indonesia, as explained in the study by Djannah & Ruliyandari (2020). The keywords case study and implementation refer to the analysis of cases of the development of sharia hospitals in Indonesia, such as those conducted by Maksum et al. (2023) regarding the implementation of hygiene standards and the avoidance of *ikhtilāt* (gender segregation). Norazmi et al. (2021) added that transparent and sharia-based halal hospital management contributes to increased patient loyalty and satisfaction, especially through accountability in the management of funds and spiritual services. The keywords development and impact refer to the urgency of developing halal hospital infrastructure in Indonesia to reduce inequality in access to health (SDG 10). The study by Yunus et al. (2020) also shows that collaboration between government, academics, and industry is needed to strengthen the implementation of halal standards in the national health system.

3.4.3. Cluster Analysis 3

Cluster 3 consists of 9 keywords, namely care, health, history, Islam, Jerusalem, medicine, practice, religion, and treatment. Keywords such as Islam, religion, and Jerusalem indicate a focus on integrating religious values into health practices. Tieman (2013) in the *Journal of Islamic Marketing* explains that halal hospitals not only provide halal medicines, but also apply the principle of *halalan tayyiban* (clean and pure) throughout the treatment process. Salleh et al. (2018) added that the history of Islamic medicine in areas such as Jerusalem is a conceptual basis for developing a holistic care model, combining modern medical science with sharia ethics. The keywords practice and medicine refer to the study of Omar et al. (2015) on the halal supply chain in hospitals, which emphasizes the importance of certifying medical devices and medicines according to the MUI fatwa. This cluster also links faith-based health practices to the achievement of SDG 3, especially in ensuring inclusive and equitable access to health services.

3.4.4. Cluster Analysis 4

Cluster 4 consists of 8 keywords, namely analysis, child, chronic kidney disease, determinant, incidence, relationship, systematic review, and use. Although the topic of chronic kidney disease is not explicitly discussed in the context of halal hospitals, the keywords systematic review and determinant refer to the study by Riaz et al. (2021) which analyzed the social and religious determinants that influence patients' decisions in choosing health services. Khan et al. (2020) also conducted a systematic analysis of the relationship between the quality of halal hospital services and health outcomes in vulnerable groups, including children. The keywords incidence and use can be related to Al-Salih's (2020) study on the role of zakat in reducing the incidence of poverty and chronic diseases through community-based health programs. This cluster highlights the importance of evidence-based research (SDG 17) to identify determinants of health in the context of sharia services.

3.4.5. Cluster Analysis 5

Cluster 5 consists of 6 keywords, namely diabetes mellitus, factor, jordan, prevalence, study, and type. This cluster reflects epidemiological studies on non-communicable diseases such as diabetes mellitus (diabetes mellitus, prevalence) in Muslim-majority

countries, including Jordan. Aiyub et al. (2022) in *Healthcare Management Review* emphasized that lifestyle factors and lack of health education are the causes of the high prevalence of diabetes in Muslim communities. Oh's (2020) study added that halal hospitals have the potential to integrate diabetes prevention programs through value-based approaches, such as halal nutrition counseling and sunnah-based physical activity. The keywords study and type refer to the variety of research methodologies used to explore this issue, including quantitative and qualitative studies. These findings are in line with SDG 3 which emphasizes the prevention and control of non-communicable diseases.

3.4.6. Cluster Analysis 5

Cluster 6 consists of 5 keywords, namely anxiety, covid, life, patient, and quality. This cluster highlights the impact of the COVID-19 pandemic on patient mental health (anxiety) and quality of life (life, quality). Srivastava (2022) in the *Journal of Healthcare Management* found that halal hospitals in Indonesia adapted to the pandemic by integrating spiritual counseling services to reduce patient anxiety. Hadytiaz et al. (2022) also noted that spiritual care practices during COVID-19, such as prayer reminders and psychoreligious support, improved perceptions of service quality and patient resilience. The keywords patient and life refer to the study by Rahman et al. (2022) on the role of halal hospitals in supporting holistic well-being, not only physical but also mental-spiritual, in accordance with the principles of SDG 3. These findings reinforce the importance of a values-based approach in responding to the global health crisis.

Overall, this visualization shows that the halal hospital literature is still fragmented, with great potential for cross-disciplinary integration between sharia studies, hospital management, and modern medical ethics. This indicates the need for further research that is more integrated and collaborative to strengthen the existence of halal hospitals as a universal health service model that is inclusive but remains value-based.

This study provides theoretical contributions by enriching the literature on the integration of Islamic values in modern health care systems. The concept of halal hospitals, which has been discussed more in normative and religious contexts, is now scientifically mapped through a bibliometric approach. The results of the visualization of the network of authors, countries, and keywords show that halal

hospitals are a multidisciplinary topic that includes Islamic studies, management, public health, and public policy. These findings strengthen the argument that a value-based approach to health care can be part of a sustainable development framework, opening up opportunities for the development of new conceptual models in Islamic health care theory.

This study also offers an important contribution to the global discourse on Islamic public services and value-based healthcare. By linking the concept of halal hospitals to the SDGs, this article bridges two major theoretical frameworks: shariah compliance and sustainable development. This makes halal hospitals not only a sectoral issue in Islamic studies, but also relevant in international policy studies and global governance. This study encourages cross-disciplinary theoretical integration, while proposing a new research agenda to explore the role of spiritual values in the efficiency and effectiveness of public service systems.

Practically, the results of this study can be used by policy makers in the health sector to design sharia-based hospital policies that are in line with the sustainable development agenda. The government and halal certification institutions such as MUI can utilize these results to expand the accreditation standards of halal hospitals with SDGs indicators, such as inclusiveness of services, value-based health education, and sustainable management. In addition, these findings can be used as advocacy material to encourage collaboration between the government, academics, and the private sector in developing halal hospital infrastructure nationally and regionally.

For hospital administrators and health practitioners, this study provides strategic guidance in integrating sharia principles into operational, managerial, and patient care practices. This includes aspects of gender segregation, provision of halal food and medicine, and strengthening spiritual values in clinical interactions. On the other hand, academics can use the bibliometric map from this study to identify research gaps, design international collaborations, and develop sharia-based health education curricula. Thus, halal hospitals can develop not only as a religious discourse, but also as an innovative solution for the transformation of a just, inclusive, and sustainable health care system.

4. Conclusion

Based on the results of bibliometric analysis and literature review, it can be concluded that the concept of halal hospitals has experienced significant

development in the last decade, especially in countries with Muslim-majority populations such as Indonesia, Malaysia, and Middle Eastern countries. This study reveals that halal hospitals not only prioritize the halal aspects of food and medicine, but also integrate sharia principles in management, services, and interactions between medical personnel and patients. Keywords that often appear such as patient satisfaction, quality, and management reflect the focus of research on the efficiency and effectiveness of Islamic value-based services. Collaboration between authors and countries also shows the existence of a global academic network that is actively involved in the development of this study.

Furthermore, this study concludes that halal hospitals have great potential to contribute to the achievement of the Sustainable Development Goals (SDGs), especially in the aspects of inclusive and sustainable health (SDG 3), reducing service inequalities (SDG 10), and strengthening global partnerships (SDG 17). However, literature that explicitly links halal hospitals to the SDGs framework is still limited. Therefore, a more integrative approach is needed in policy and practice to strengthen the role of halal hospitals not only as religious entities, but also as a model of universal health services that are value-based, sustainable, and able to answer current and future global challenges.

5. Research limitations and further research recommendations

This study has several limitations that need to be considered for a more proportional interpretation of the results. First, the use of a bibliometric approach based on data from a single source (Scopus) limits the scope of the analysis to literature that may be available in other databases such as Web of Science, PubMed, or Google Scholar. This has the potential to ignore relevant publications from regional or non-Scopus-Indexed journals that may contain important contextual perspectives, especially from Muslim-majority countries. Second, this study is descriptive in nature and has not directly integrated empirical data from halal hospitals, so it cannot yet provide validation for the theoretical findings generated from data visualization. Third, the analysis does not fully highlight the implementative aspects of halal hospitals in the context of achieving specific SDGs indicators quantitatively.

Based on these limitations, further research is suggested to adopt a mixed methods approach that combines bibliometrics with qualitative or quantitative field studies, such as patient satisfaction surveys, interviews with halal hospital managers,

or case studies of sharia standard implementation. In addition, exploration of the influence of halal hospitals on SDGs indicators directly, such as equitable access to health care, quality of care, and effectiveness of sharia financial management, can be an important focus. It is also suggested to expand the scope of the study to regions with developing Islamic-based health care systems, such as the Middle East, North Africa, and South Asia, to gain a more global and comparative perspective. Multidisciplinary research involving collaboration between sharia experts, health management experts, and public policy makers will also enrich the understanding of the strategic role of halal hospitals in supporting sustainable development.

Disclosure statement

The authors declare that there are no conflicts of interest regarding this publication.

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