

HASIL CEK_Halal Pharmaceutical Trend: A Bibliometric Analysis

*by Dyah A Perwitasari, Nurkhasanah Halal Pharmaceutical Trend: A
Bibliometric Analysi*

Submission date: 09-Oct-2023 11:25AM (UTC+0700)

Submission ID: 2189952541

File name: SJHSS_87_203-208.pdf (679.84K)

Word count: 3311

Character count: 19111

Halal Pharmaceutical Trend: A Bibliometric Analysis

Ahmad Azrul Zunianto^{1*}, Dyah A Perwitasari², Nurkhasanah²

¹Universitas YPIB Majalengka, West Java, Indonesia

²Pharmacy Doctoral Study Program, Universitas Ahmad Dahlan, Yogyakarta, Indonesia



DOI: [10.36348/sjhss.2023.v08i07.001](https://doi.org/10.36348/sjhss.2023.v08i07.001)

Received: 26.05.2023 | Accepted: 01.07.2023 | Published: 05.07.2023

*Corresponding author: Ahmad Azrul Zunianto
Universitas YPIB Majalengka, West Java, Indonesia

Abstract

Halal pharmaceuticals involve drugs, medicinal ingredients, traditional medicines, and cosmetics that contain permitted ingredients and are produced according to Islamic rules and regulations. The purpose of this research was to identify the types and sources of halal pharmaceutical documents published in PubMed from 2001 to 2021, as well as the most productive halal pharmaceutical authors and the keywords and topics associated with this field. The method used is bibliometric analysis with the VOS viewer application evaluated studies with halal pharmaceutical keywords. After analyzing all of the 369 documents, it was found that 44.15% of them were articles, 39.3% reviews, 7.3% meta-analyses, and 5.7% systematic reviews. The most significant documents were from *Advancer in Experimental Medicine and Biology*, followed by *Molecules*, *Life Sciences*, and *Phytotherapy Research*. Publications increased significantly, reaching 157 in 2020 and 101 in 2021. The most published authors were Sahebkar with 221 documents, Jamialahmadit with 63 papers, and Sathyapalan with 41 documents. The most common keywords were human, animal, and male, while the trending topics were COVID-19, degenerative diseases, and curcumin.

Keywords: Halal; Pharmaceutical; Medicine; Islam.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Pharmaceutical products range from medicinal ingredients and traditional medicines to cosmetics (M. of H. of the 4. Indonesia. 1998). Drugs are materials used to investigate physiological systems or pathological conditions to establish a diagnosis, prevention, healing, recovery, health promotion, or contraception for humans (Director General of Pharmacy and Alkes 2019). Traditional medicine has been used for generations as a means of treatment following the norms set by society. It comprises plant material, animal material, mineral material, extracts (galenic), or a mixture of these materials (Director General of Pharmacy and Alkes 2019). Cosmetics are substances applied to the body, typically for cleansing, changing appearance, improving body odor, and keeping the body in good condition (R. of Indonesia 2010).

According to the State of the Global Islamic Economy Report 2018/2019, Muslims worldwide spent USD 2.1 trillion on food and halal lifestyle products in 2017. This amount is expected to increase to over USD 3 trillion by 2023 (The and Economy 2019). The cosmetic and pharmaceutical industries have

significantly grown globally in recent years. Pharmaceuticals have exhibited faster growth in developing countries because they closely follow macroeconomic indicators than cosmetics. This puts Indonesia in third place among the ten countries with the fastest growing pharmaceutical industry markets (Development 2019).

The Euromonitor Consumer Health Report showed that the pharmaceutical market share was valued at IDR 55,874.9 billion in 2019. Furthermore, there has been significant growth in the sales of analgesic products, vitamins, dietary supplements, and herbal products. In 2017, vitamin and supplement products accounted for nearly half of all health product sales (Euromonitor, 2019). According to current data, Indonesia ranks fourth in pharmaceutical consumption and second for cosmetics after India. The pharmaceutical and cosmetic markets are both expected to grow significantly, with the former estimated to reach USD 131 billion and the latter USD 90 billion by 2023 (Development 2019).

Islam religion has significant concern for everything consumed (Aliyanti 2018): food, drink, or medicine (Marfuah 2020). It also considers two key

items: the material or substance and the acquisition method. This implies that the wealth consumed should be obtained lawfully and legally (Edwin and Aprianto 2017) this religion strictly forbids acquiring property through illegal means such as theft and corruption. Food must also meet two criteria: halal and thayyib (INAIS 2020), with the former representing religious dogma and the latter safety (Sholeh 2015). The Qur'an commands that:

يَا أَيُّهَا النَّاسُ كُلُوا مِمَّا فِي الْأَرْضِ حَلَالًا طَيِّبًا وَلَا تَتَّبِعُوا خُطُوَاتِ الشَّيْطَانِ ۖ إِنَّهُ لَكُمْ عَدُوٌّ مُبِينٌ
 "O humanity! Eat from what is lawful and good on the earth and do not follow Satan's footsteps. He is truly your sworn enemy" (QS. Al Baqarah [2]: 168) (Ministry of Religion n.d.).

Islam views health as a critical aspect of human life. In line with this belief, the Prophet Muhammad taught about healthy living practices and regularly encouraged Muslims to pray for good health (Hadi 2020). Furthermore, health care professionals always emphasize the importance of nutritious food. A healthy and balanced diet helps the body stay strong and resistant to diseases (Marfuah 2020).

A solid and healthy body is less likely to contract diseases (Dr. Dimas Rahadian Aji Muhammad S.T.P. n.d.). Health problems generally occur when someone is physically weak and unable to fight infection (Sholeh 2015). The Qur'an emphasizes the importance of consuming only halal foods and avoiding those that are haram. This point is also stressed in several hadiths, for instance, according to HR Muslim, both halal and haram things are explicit. However, between these two, some things are subject to doubt. The Prophet observed that whoever is careful to avoid these doubtful matters has saved their religion and honor (Prihasmono 2007). He also emphasized the need to seek medical treatment and warned against using forbidden methods. Furthermore, he attested that Allah sent down disease and medicine for every ailment. Therefore, people should seek treatment but avoid forbidden things (Narrated by Abu Dawud) (Al-Abani 2010).

Approximately 1.6 billion people worldwide are Muslim, representing almost a quarter of the global population (Christian and Christian 2014). As the Muslim population grows, the awareness of halal medicines also grows (K. Sakinah 2018). Furthermore, halal products are becoming increasingly popular and well-regarded for their quality and safety (Saha 2019). Currently, the focus on halal products is not only limited to food but extends to all products, including medicines (Pen, Ekspor, and Juli 2015). These medicines only contain permissible ingredients and are manufactured according to Islamic law and guidelines (J. Fikri 2019). The assessment of a drug's safety and

efficacy depends on both the source of the active ingredients and the synthetic process used to create the finished product (Ranasasmita 2014). If the source material is permissible under Islamic law and no prohibited substances are used in its production, the product can be halal. For example, ethanol is used to process some synthetic pharmaceutical products. A product is only acceptable if it is in a solid state; this process involves several stages, including heating and crystallization. However, if the final product is in liquid form, it is considered a "subhat" due to uncertainty regarding the presence of ethanol (Abdalbasit Adam Mariod 2013).

The demand for halal products is expected to continue growing steadily, as Muslims are anticipated to make up 2.2 billion of the world population by 2030 (Religion and Life 2011). According to Gross Domestic Product at Purchase Price Parity, countries where Muslims are a minority, such as the United States, Russia, Britain, France, and Germany, still have significant purchasing power (Hunter 2012). Pharmaceutical companies, such as Novartis and GlaxoSmithKline, are looking to the potential profits from the Muslim market by making vaccines halal. With an estimated value of \$50 billion from blockbuster drugs that will soon be coming off patented (Norazmi and Lim 2015), halal vaccines could significantly boost company profits .

A quantitative method was used to assess the types and sources of halal pharmaceutical documents published in PubMed from 2001 to 2021. Therefore, the research aimed to analyze the increasing trend of published documents, the most productive authors, the emergence of keywords, and trends in halal pharmaceutical topics.

METHODS

The first step involved identifying the topic of analysis by addressing four items: the number of publications on halal pharmaceuticals, countries that have the most authors and publications on halal pharmaceuticals from 2001 to 2021, the growth of publications regarding halal pharmaceuticals, and the trend in halal pharmaceutical topics. The next step involved selecting the keywords and timeframe for analysis. The selected keywords were 'halal' and 'pharmaceutical,' and the period covered was 2001 to 2021. The third step was about selecting data, where articles were taken from the PubMed database and then exported into Pubmed-set-Notepad for further analysis. The next step involved analyzing bibliometric data using VOSviewer to obtain document types, sources, years published, authors, author productivity per year, the geographical distribution of authors, keywords, and topic trends. Finally, data was displayed in the form of tables and figures.

RESULTS

A. Document Type and Source

Table 1: Document Type and Its Frequency

Document Type	Frequency	% (N 369)
Review	145	39,3
Article	163	44,15
Editorial	3	0,8
Meta-Analysis	27	7,3
Systematic Review	21	5,7
Clinical Trial	5	1,4
Published Erratum	3	0,8
Letter	2	0,55
Total	369	100

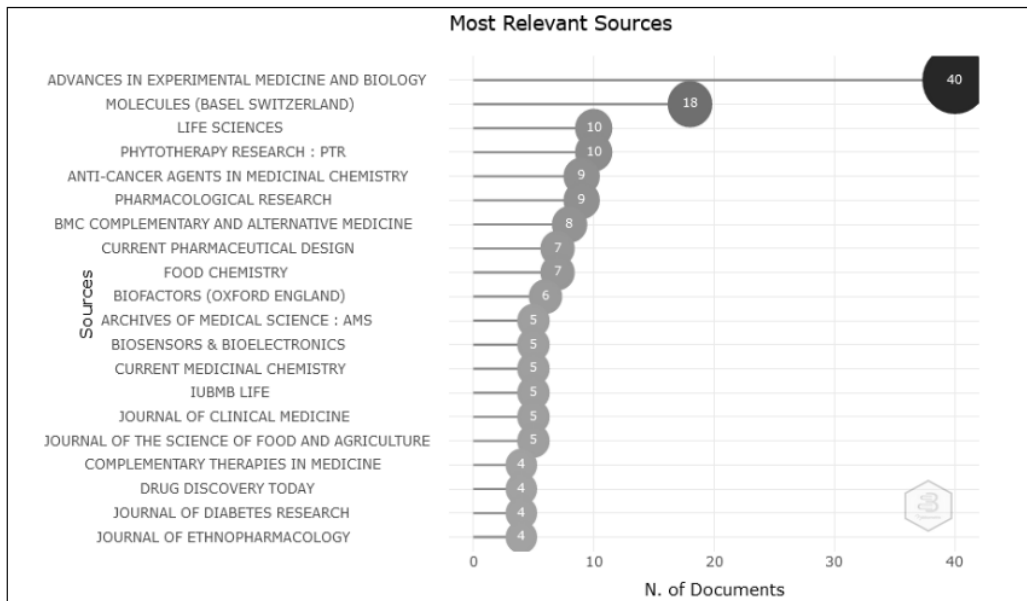


Figure 1: Document Source Name and Frequency (20 largest)

B. Publication Years

Table 2: Article Publication Year and Frequency

Year	Frequency	% (N= 369)
2011	2	0,54
2012	2	0,54
2013	2	0,54
2014	7	1,89
2015	11	2,98
2016	11	2,98
2017	10	2,71
2018	20	5,42
2019	46	12,46
2020	157	42,55
2021	101	30,08

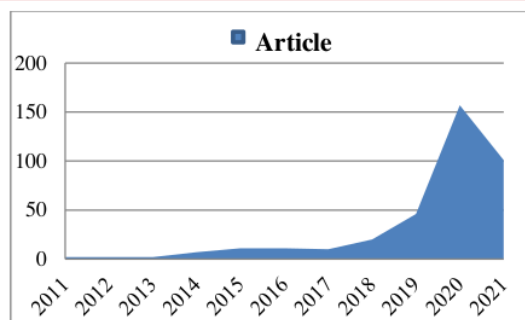


Figure 2: Number of Articles per Year

DISCUSSION

A total of 369 documents on halal pharmaceuticals were downloaded in PubMed file format, based on the requirements of VOSviewer.

A. Document Type and Source

After analyzing all of the 369 documents, it was found that 44.15% of them were articles, 39.3% reviews, 7.3% meta-analyses, and 5.7% systematic reviews. The most current articles were about degenerative diseases, hypercholesterolemia (Mashayekhi-Sardoo *et al.* 2021), cardiovascular (Yaribeygi *et al.* 2021), and diabetes mellitus (Yaribeygi *et al.* 2020). The systematic reviews compared the treatment options for respiratory tract infections (Shokri-Mashhadi *et al.* 2021) and the detection of cosmetic additives (Atiqah Ab Aziz *et al.* 2021). A meta-analysis conducted found that patients with kidney damage and who had been infected with COVID-19 did not meet the criteria for Acute Kidney Injury (AKI) (Jafari-Oori *et al.* 2021).

A total of 369 documents were published across 169 different journals on PubMed. *Advancer In Experimental Medicine and Biology* is a journal specializing in publishing halal pharmaceuticals. Since its inception in 1967, it has published 40 articles. The most recent document discusses the potential of curcumin nanomaterials for therapy (Mohajeri *et al.* 2021). *Molecules* journal, based in Basel, Switzerland, has published 18 articles on halal pharmaceuticals, with the last being a review article on encapsulating with spray drying (Mohammed *et al.* 2020). This journal was the first to publish an article titled "Tentative Identification of Volatile Flavor Compounds in Commercial Budu, A Malaysian Fish Sauce, Using GC-MS" (Mohamed *et al.* 2012). Furthermore, the journal *Food Chemistry* entitled "The use of Fourier transform mid-infrared (FT-MIR) spectroscopy for detection and quantification of adulteration in virgin coconut oil" (Rohman and Che Man 2011). Figure 1 presents the 20 journals that most frequently publish halal pharmaceuticals.

B. Publication Years

Although the data was collected from PubMed over a 20-year period, the first halal pharmaceutical publication occurred in 2011. According to the PubMed database, research on halal products began in 2002 with 5 publications (Ahmed M Halal 1 2002). This field has been widely studied in recent years, with 20 articles published in 2018 and 157 articles in 2020. In 2021, there was a slight decrease in the number of articles published due to the COVID-19 pandemic. This increase is consistent with the growing awareness and increasing global Muslim population, triggering the demand for halal drugs even though the pharmaceutical market share is currently crowded (The and Economy 2021). Furthermore, the increase in demand could be associated with the fact that Muslim consumers have special needs in medical care that are different from those of non-Muslims (Ali 2016).

CONCLUSION

After analyzing all of the 369 documents, it was found that 4.15% of them were articles, 39.3% reviews, 7.3% meta-analyses, and 5.7% systematic reviews. The most significant documents were from *Advancer In Experimental Medicine and Biology*, followed by *Molecules*, *Life Sciences*, and *Phytotherapy Research*. Publications increased significantly, reaching 157 in 2020 and 101 in 2021. The most published authors were Sahebkar with 221 documents, Jamialahmadit with 63 papers, and Sathyapalan with 41 documents. The most common keywords were human, animal, and male, while the trending topics were COVID-19, degenerative diseases, and curcumin.

REFERENCES

- Mariod, A. A., & Fadul, H. (2013). Gelatin, source, extraction and industrial applications. *Acta Scientiarum Polonorum Technologia Alimentaria*, 12(2), 135-147.
- Halal, A.M., Cobb, C.F. (2002). Anaplastic Thyroid Carcinoma: An Update.

- Al-Abani, M. N. (2010). Shahih Sunan Abu Daud (Seleksi Hadits Shahih dari Kitab Sunan Abu Daud). *Shahih Sunan Abu Daud*, 1–861.
- Ali, M. (2016). Konsep makanan halal dalam tinjauan syariah dan tanggung jawab produk atas produsen industri halal. *AHKAM: Jurnal Ilmu Syariah*, 16(2), 291-306.
- Aliyanti, F. E. (2018). Gaya Hidup Halal Sebagai Usaha Untuk Mendekatkan Diri Kepada Allah. *Mutiara Hikmah*.
- Aziz, A. A., Nordin, F. N. M., Zakaria, Z., & Abu Bakar, N. K. (2022). A systematic literature review on the current detection tools for authentication analysis of cosmetic ingredients. *Journal of Cosmetic Dermatology*, 21(1), 71-84.
- Christian, Orthodox, and Other Christian. (2014). "2014 RELIGIOUS LANDSCAPE STUDY (RLS-II) TOPLINE Note : Figures May Not Sum to 100 , and Nested Figures May Not Sum to Subtotals Indicated, Due to Rounding . Some Questions Previously Released or Held for Future Release , as Indicated below . See Questi." *Pew Research Center*: 215–65.
- Development, Ministry of National Planning. (2019). *Indonesian Sharia Economy 2019-2024*. 2018th ed. ed. Deputi Bidang Ekonomi. Jakarta: Kementerian Perencanaan Pembangunan Nasional. https://www.mendeley.com/catalogue/16d709cc-1151-3d0a-becb-024578b90a04/?utm_source=desktop&utm_medium=1.19.8&utm_campaign=open_catalog&userDocumentId=%7Bf7bd999-1e37-44b0-9e95-67f2413ff522%7D.
- Director General of Pharmacy and Alkes. (2019). Ministry of Health *Pharmaceutical Service Standards Technical Guidelines in Pharmacy*. Jakarta: Indonesian Ministry of Health.
- Dr. Dimas Rahadian Aji Muhammad S.T.P., M.Sc. (2020). *Pola Makan Sehat Dan Bergizi Untuk Meningkatkan Imunitas Saat Terserang Covid-19 Title*. <https://uns.ac.id/id/uns-opinion/pola-makan-sehat-dan-bergizi-untuk-meningkatkan-imunitas-saat-terserang-covid-19.html>.
- Aprianto, N. E. K. (2017). Konsep harta dalam tinjauan maqashid syariah. *Journal of Islamic Economics Lariba*, 3(2), 65-74.
- Euromonitor. (2019). "Consumer Health in Indonesia." <https://www.euromonitor.com/consumer-health-in-indonesia/report#>.
- Hadi, A. (2020). Konsep Dan Praktek Kesehatan Berbasis Ajaran Islam. *Al-Risalah: Jurnal Studi Agama dan Pemikiran Islam*, 11(2), 53-70.
- Hunter, M. (2012). The emerging Halal cosmetic and personal care market. *Personal Care*, 3(19), 34-39.
- INAIS. (2020). "Halal Dan Thayyib Sebagai Syarat Makanan Islami (Menyikapi Berita Klepon Bukan Makanan Islami)." *Inais*: 4–7. <https://inais.ac.id/halal-dan-thayyib-sebagai-syarat-makanan-islami/>.
- Indonesia., Ministry of Health of the Republic. (1998). "Government Regulation of the Republic of Indonesia Number 72 of 1998 Concerning Security for Pharmaceutical Preparations and Medical Devices. Ministry of Health. 1998;1–24."
- Indonesia, Republic of. (2010). Ministry of Health of the Republic of Indonesia *Cosmetics Production Permit 1175/MENKES/PER/VIII/2010*. https://www.mendeley.com/catalogue/a65d4be5-6ace-31de-a311-28c8805e0cb3/?utm_source=desktop&utm_medium=1.19.8&utm_campaign=open_catalog&userDocumentId=%7B859f0166-aa60-42fc-8f86-922b5a0d8c89%7D.
- Fikri, J., & Suryani, S. (2019). "Makanan, Obat-Obatan Serta Kosmetik Ilegal Dalam Efektivitas Hukum Islam Dan UUUJPH Di Aceh." *Jurnal Ilmu Syariah, Perundang-Undangan Dan Ekonomi*, 11(1), 23–43.
- Jafari-Oori, M., Fiorentino, M., Castellano, G., Ebadi, A., Rahimi-Bashar, F., Guest, P. C., ... & Sahebkar, A. (2021). Acute kidney injury and covid-19: a scoping review and meta-analysis. *Advances in experimental medicine and biology*, 1321, 309–24.
- Sakinah, K., & Maharani, E. (2018). "Riset Ungkapkan Permintaan Produk Halal Meningkat." *Khazanah*, 1–5.
- Marfuah, Siti Nur Awwalu Lathifatul. (2020). "Tubuh Sehat Dengan Makanan Bergizi Sesuai Ajaran Islam." *Fakultas Kedokteran Universitas Islam Indonesia (Tubuh Sehat Dengan Makanan Bergizi Sesuai Ajaran Islam)*, 1–4.
- Mashayekhi-Sardoo, H., Atkin, S. L., Montecucco, F., & Sahebkar, A. (2021). Potential alteration of statin-related pharmacological features in diabetes mellitus. *BioMed Research International*, 2021.
- Ministry of Religion. *Al Qur'anul Karim and Translation*.
- Mohajeri, M., Behnam, B., Tasbandi, A., Jamialahmadi, T., & Sahebkar, A. (2021). Carbon-based Nanomaterials and Curcumin: A Review of Biosensing Applications. *Studies on Biomarkers and New Targets in Aging Research in Iran: Focus on Turmeric and Curcumin*, 55-74.
- Mohamed, H. N., Man, Y. C., Mustafa, S., & Manap, Y. A. (2012). Tentative identification of volatile flavor compounds in commercial budu, a Malaysian fish sauce, using GC-MS. *Molecules*, 17(5), 5062-5080.
- Mohammed, N. K., Tan, C. P., Manap, Y. A., Muhiyaldin, B. J., & Hussin, A. S. M. (2020). Spray drying for the encapsulation of oils—A review. *Molecules*, 25(17), 3873.
- Norazmi, M. N., & Lim, L. S. (2015). Halal pharmaceutical industry: opportunities and

- challenges. *Trends in pharmacological sciences*, 36(8), 496-497.
- Ditjen, P., Ekspor, W., & Juli, E. (2015). "Hidup Sehat Dengan Produk Halal." *Warta Ekspor*, 1–20.
 - Prihasmoro, H., & Efendi, S. (2007). Ringkasan Kitab Hadits Shahih Imam Bukhari. *Yogyakarta: Pustaka Pelajar*, 40–41.
 - Ranasasmita, R. (2014). Kehalalan produk obat-obatan, terutama obat herbal. *Prosiding Simposium Penelitian Bahan Obat Alami XIV*.
 - Religion Forum on Public Life. (2011). "The Future Of The Global Muslim Population." (202).
 - Rohman, A., & Man, Y. B. C. (2011). The use of Fourier transform mid infrared (FT-MIR) spectroscopy for detection and quantification of adulteration in virgin coconut oil. *Food Chemistry*, 129(2), 583-588.
 - Tushar, S. (2019). *Prospects of Halal Pharmaceuticals Hospital Pharmacy Management and Futuristic Approach with Newer Ideas View Project Hospital Pharmacy Management System and Future Development Approaches in Bangladeshi Hospital View Project*. <https://www.researchgate.net/publication/332671712>.
 - Shokri-Mashhadi, N., Kazemi, M., Saadat, S., & Moradi, S. (2021). Effects of select dietary supplements on the prevention and treatment of viral respiratory tract infections: a systematic review of randomized controlled trials. *Expert review of respiratory medicine*, 15(6), 805-821.
 - Ni'am Sholeh, A. (2015). Jaminan halal pada produk obat: kajian fatwa mui dan penyerapannya dalam uu jaminan produk halal. *Jurnal Syariah*, 3(Jaminan Halal Pada Produk Obat): 70–87.
 - The Driving Islamic Economy. (2019). "State of the Global Islamic Economy Report." *State Of The Global Islamic Economy Report*, 20, 1–178.
 - Standard, D. (2020). State of the global islamic economy report 2020/2021. *Dinar Standard, Dubai Islamic Economic Development Center, and Salam Gateway*.
 - Yaribeygi, H., Rashidy-Pour, A., Atkin, S. L., Jamialahmadi, T., & Sahebkar, A. (2021). GLP-1 mimetics and cognition. *Life Sciences*, 264, 118645.
 - Yaribeygi, H., Maleki, M., Sathyapalan, T., Jamialahmadi, T., & Sahebkar, A. (2020). Anti-inflammatory potentials of incretin-based therapies used in the management of diabetes. *Life Sciences*, 241, 117152.

HASIL CEK_Halal Pharmaceutical Trend: A Bibliometric Analysis

ORIGINALITY REPORT

8%

SIMILARITY INDEX

8%

INTERNET SOURCES

2%

PUBLICATIONS

6%

STUDENT PAPERS

PRIMARY SOURCES

1	www.saudijournals.com Internet Source	4%
2	repository.unpas.ac.id Internet Source	2%
3	Submitted to University of South Alabama Student Paper	1%
4	www.easpublisher.com Internet Source	1%
5	Dutinasri Marunduri, Rukmaini Rukmaini, Febry Mutiariami Dahlan. "The Effectiveness Of Provisioning Red Belt Leaves And Soursop Leaves On Flour Albous In Women Of Reliable Age", Jurnal Kebidanan Malahayati, 2022 Publication	1%

Exclude quotes On

Exclude bibliography On

Exclude matches < 1%