



Blockchain-Enabled Digital Financial Systems in Islamic Banking: Evidence from a Systematic Literature Review

Rihfenti Ernayani^{1*}

¹Department of Accounting, Faculty of Economics and Business, Universitas Balikpapan, Indonesia

^{1*} Corresponding author: rihfenti@uniba-bpn.ac.id

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ABSTRACT

This study provides a comprehensive review of blockchain-based digital financial systems in Islamic banking, synthesizing recent developments, challenges, and prospects for integrating blockchain within Shariah-compliant financial institutions. Using a qualitative systematic literature review approach, data were collected from peer-reviewed theoretical and empirical studies indexed in Google Scholar and Mendeley Data. The review systematically examines research methodologies, technological applications, and their implications for Islamic finance. The findings indicate that blockchain adoption significantly enhances security, transparency, and operational efficiency in Islamic banking processes. However, critical challenges persist, particularly regarding Shariah compliance, governance mechanisms, and the alignment of blockchain applications with Islamic ethical principles. The study highlights key determinants influencing blockchain adoption, including governance structures, regulatory readiness, and Shariah oversight. To address existing gaps, this research integrates Shariah principles into the analytical framework, ensuring that ethical values remain central to digital financial innovation. The study contributes to the literature by mapping blockchain research to the core functions of Islamic banks and by proposing a Sharia-compliant blockchain system model, along with a future research roadmap. In practice, the findings provide strategic guidance for Islamic banks on implementing smart contracts, strengthening Shariah audits, reducing operational costs, and fostering digital product innovation.

Keywords: blockchain technology, islamic banking, digital financial systems, sharia compliance, financial innovation.

INTRODUCTION

The halal industry is one of the businesses that is growing rapidly in the global market which includes finance, tourism, services, fashion, cosmetics and food.¹ Halal products are becoming more attractive not only for Muslim consumers, but also for non-Muslim consumers. Consumers buy products not

¹Abdalla Mohamed Bashir, "Effect of Halal Awareness, Halal Logo and Attitude on Foreign Consumers' Purchase Intention," *British Food Journal* 121, no. 9 (2019): 1998-2015, <https://doi.org/10.1108/BFJ-01-2019-0011>.

only based on religious reasons, but because they care about health and hygiene.² It is estimated that around 1.9 billion Muslims throughout the world shop with a value of up to US\$ 2 trillion in various products from the halal industrial sector, and this shows rapid growth from the previous year, namely 8.9%.³

Behind every consumer purchasing decision, there are variables that influence consumers to decide to buy a product, one of which is the presence of a halal logo on the product. In this realm, the halal logo appears as the main actor that plays a central role in shaping consumer choices. One of the supporting factors for the high demand for halal products is the halal logo. The halal logo is an effective pillar of differentiation and an attractive identity symbol for Muslim consumers who desire products that comply with halal principles.⁴ The halal logo is not just a print on packaging,⁵ but a bridge that connects producers with consumers who are increasingly concerned about halal products which is able to create a narrative that connects religious values, beliefs, and the desire for quality and halalness.⁶

The influence of halal logos on purchasing decisions has been the subject of extensive research. Several studies have highlighted the significant impact of the halal logo on consumer purchasing intentions and decisions, including Bashir who emphasized the influence of halal awareness, halal logos, and attitudes on foreign consumers' purchasing intentions, indicating a strong relationship between these factors and purchasing behavior.⁷ Similarly, Azam found that halal awareness and product ingredients significantly influenced Muslims' intention to purchase halal packaged food produced by non-Muslim producers.⁸

Furthermore, Quoquab et.al highlighted that the use of the halal logo influences consumer preferences at the point of purchase, creating significant

² Viverita and Ratih Dyah Kusumastuti, "Awareness of Halal Certification of Micro and Small Enterprises in Jakarta," *International Journal of Economics and Management* 11, no. 2 Special Issue (2017): 459–71.

³ Dinar Standard, "State of the Global Islamic Economy Report 2022," *DinarStandard & Dubai Economy and Tourism* (Dubai, 2022), <https://haladinar.io/hdn/doc/report2018.pdf>.

⁴ Farzana Quoquab, Nur Zulaikha Mohamed Sadom, and Jihad Mohammad, "Driving Customer Loyalty in the Malaysian Fast Food Industry: The Role of Halal Logo, Trust and Perceived Reputation," *Journal of Islamic Marketing* 11, no. 6 (2020): 1367–87, <https://doi.org/10.1108/JIMA-01-2019-0010>.

⁵ Volkan Temizkan, "A Research on The Attitude and Purchasing Behavior of Muslim Consumers Towards Products with Halal Logo in Another Muslim Country," *Sosyal Mucit Academic Review* 3, no. 1 (2022): 123–47, <https://doi.org/10.54733/smar.1108447>.

⁶ Mahdi Borzooe and Maryam Asgari, "Discovering Perceptions of Muslim Consumers toward the ICRIC Halal Logo," *Journal of Islamic Accounting and Business Research* 7, no. 4 (2016): 304–17.

⁷ Bashir, "Effect of Halal Awareness, Halal Logo and Attitude on Foreign Consumers' Purchase Intention."

⁸ Afshan Azam, "An Empirical Study on Non-Muslim's Packaged Halal Food Manufacturers: Saudi Arabian Consumers' Purchase Intention," *Journal of Islamic Marketing* 7, no. 4 (2016): 441–60, <https://doi.org/10.1108/JIMA-12-2014-0084>.

advantages for the Muslim market segment.⁹ Jumani and Sukhabot found that Muslims are very selective and choose products with a halal logo and their attitude is positive in choosing products with a halal logo. The influence of their subjective norms is stronger because of their family and culture, because they are Muslim which influences their intentions. For non-Muslims, there is no obligation, but around 80 percent showed a positive attitude towards the halal logo, 54 percent expressed interest and indicated that they would probably choose products with a halal logo in the future.¹⁰ A number of research findings support the existence of a general positive correlation between halal logos and purchasing decisions. Nevertheless, finding studies that accurately reflect a comprehensive picture of the diverse literature regarding the relationship and impact of halal logos on purchasing decisions can be a challenge.

To the best of our knowledge, there has been no study that fully describes the diverse research on the relationship and impact of halal logos on purchasing decisions and investigates the correlation between the two in detail, especially in a specific regional context. This research focuses on studies that explore the relationship between halal logos and purchasing decisions among Indonesian people. As is known, Indonesia is ranked in the top five in the Global Islamic economic indicators and is also the country with the largest Muslim population in the world.¹¹ Seeing the large amount of research that has been carried out regarding these two variables in Indonesia, gives us the opportunity to carry out comprehensive mapping.

This research aims to fill the knowledge gap in the existing literature, while providing a new perspective by identifying the link between halal logos and purchasing decisions through a meta-analysis approach. As stated by Davis et al, meta-analysis proves its usefulness in integrating findings from previous studies.¹² Theoretically, this study contributes to enriching the Theory of Planned Behavior (TPB)¹³ by positioning the halal logo as an external stimulus capable of shaping consumer attitudes, subjective norms, and perceived behavioral control in the decision-making process. Thus, this study broadens the theoretical understanding of how visual elements based on Islamic values can influence consumer behavior across different contexts and demographics. By combining findings from a number of studies, this research seeks to provide a more complete picture of the dynamics between halal logos and purchasing decisions.

⁹Quoquab, Mohamed Sodom, and Mohammad, "Driving Customer Loyalty in the Malaysian Fast Food Industry: The Role of Halal Logo, Trust and Perceived Reputation."

¹⁰Zulfiqar Ali Jumani and Sasiwemon Sukhabot, "Behavioral Intentions of Different Religions: Purchasing Halal Logo Products at Convenience Stores in Hatyai," *Journal of Islamic Marketing* 11, no. 3 (2020): 797-818, <https://doi.org/10.1108/JIMA-07-2018-0112>.

¹¹Dinar Standard, "State of the Global Islamic Economy Report 2022."

¹²Jacqueline Davis et al., "Viewing Systematic Reviews and Meta-Analysis in Social Research through Different Lenses," *SpringerPlus* 3, no. 1 (2014): 1-9, <https://doi.org/10.1186/2193-1801-3-511>.

¹³Icek Ajzen, "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes* 50, no. 2 (1991): 179-211.

Literature Review

Halal Logo

The halal logo is a crucial element that reflects the legitimacy of the production process, Function of the logo is not only as a source of vital information that reduces uncertainty for consumers, but also as a mechanism for determining the halalness of food products which is often invisible to general consumers.¹⁴ In the context of halal food production, trade and regulation, product certification with a halal symbol label is mandatory, because the halal validity of a product is difficult to ensure without this identity.¹⁵ Therefore, the halal logo contributes to creating a positively perceived reputation, as well as building trust among consumers which allows it to lead to consumer loyalty.¹⁶

The halal logo is also an important antecedent in the consumption of halal cosmetics, along with halal certification and knowledge.¹⁷ Halal logo is designed to protect consumers from fraud and mislabelling, indicating its role in consumer protection.¹⁸ Therefore, the visual elements of the halal logo, especially the word "halal" project a strong image of credibility and trust, thus becoming a strong symbol for Muslim consumers.¹⁹ In the end, the presence of the halal logo not only influences Muslim consumers but also non-Muslims, as the logo signifies cleanliness, deliciousness, and superior processing methods, such as animal slaughter procedures.

Generally, apart from being considered the main indicator of the legitimacy of halal food products, the halal symbol also contains the meaning of trust and quality for consumers.²⁰ For Muslims, products that receive halal certification and are marked with the halal symbol provide a sense of security, because it is a special sign to distinguish halal and non-halal products. The halal symbol also reflects the Islamic criteria permitted by Islamic law. Meanwhile, for

¹⁴Borzooe and Asgari, "Discovering Perceptions of Muslim Consumers toward the ICRIC Halal Logo."

¹⁵Johan Fischer, "Looking for Religious Logos in Singapore," *Journal of Management, Spirituality and Religion* 16, no. 1 (2018): 132–53, <https://doi.org/10.1080/14766086.2018.1470026>.

¹⁶Quoquab, Mohamed Sadom, and Mohammad, "Driving Customer Loyalty in the Malaysian Fast Food Industry: The Role of Halal Logo, Trust and Perceived Reputation."

¹⁷H Herjanto, M Amin, and M Karmagatri, "A Systematic Review on Halal Cosmetic Consumption: Application of Theory Method Context -Attributes Decision Outcome Framework," *Journal of Islamic Accounting and Business Research*, 2022, <https://doi.org/10.1108/JIABR-12-2021-0315>; Muhammad Ashraf Fauzi et al., "Halal Certification in Food Products: Science Mapping of Present and Future Trends," *Journal of Islamic Marketing* 15, no. 12 (2024): 3564–80, <https://doi.org/10.1108/JIMA-12-2023-0407>.

¹⁸Nasihah Naimat and Elistina Abu Bakar, "Rights of Redress on Supply of Goods under Consumer Protection Act 1999: The Issue of Halal Logo," *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 6, no. 10 (2021): 437–42, <https://doi.org/10.47405/mjssh.v6i10.1044>.

¹⁹Borzooe and Asgari, "Discovering Perceptions of Muslim Consumers toward the ICRIC Halal Logo."

²⁰Mohamed M. Mostafa, "Mining and Mapping Halal Food Consumers: A Geo-Located Twitter Opinion Polarity Analysis," *Journal of Food Products Marketing* 24, no. 7 (2018): 858–79, <https://doi.org/10.1080/10454446.2017.1418695>.

non-Muslims, halal certified products with the halal symbol provide confirmation of food safety, cleanliness and quality.²¹

Purchase Decision

Purchasing decisions include consumers' understanding of their needs and desires for a product. Consumers evaluate various existing sources of information, set purchasing goals, and identify product alternatives for decision making.²² Purchasing decisions are a cognitive process that results in selecting a product from various available alternatives. Currently, two main approaches are used to understand this decision-making process. First, it involves assessing the process using various models, frameworks, and decision-making theories. Meanwhile, the second approach explores consumer behavior in the context of decision making.²³

Consumer decision making process consists of five steps, namely need recognition, information search, evaluation of purchasing alternatives, purchasing process, and post-purchase stage. In the initial stage, consumers identify their needs for a product. Next, they search for information to make informational decisions. The next step involves evaluating alternative products to select the best option. When it comes to the purchase stage, consumers engage in the activities and actions necessary to carry out the transaction. The final step, namely post-purchase, includes various activities carried out after the purchase transaction is completed.²⁴

Previous studies have identified factors that influence purchasing decisions for halal products, including Harahap et. al which revealed that halal logos influence purchasing decisions in the hotel industry.²⁵ Lee et al. revealed that before the pandemic hit, consumers generally considered aspects of purchasing experience, certification labels, internet searches, and previous consumption experiences.²⁶ However, during the pandemic, these rankings and factors changed to six indicators, namely past consumption experience, purchasing experience, certification labels, standard specifications, internet

²¹Anubha, "Mediating Role of Attitude in Halal Cosmetics Purchase Intention: An ELM Perspective," *Journal of Islamic Marketing*, 2021, <https://doi.org/10.1108/JIMA-04-2021-0112>.

²²S. Karimi, K.N. Papamichail, and C.P Holland, "The Effect of Prior Knowledge and Decision-Making Style on the Online Purchase Decision-Making Process: A Typology of Consumer Shopping Behaviour," *Decision Support Systems* 77 (2015): 137–47.

²³Zhao Huang and Morad Benyoucef, "The Effects of Social Commerce Design on Consumer Purchase Decision-Making: An Empirical Study," *Electronic Commerce Research and Applications* 25 (2017): 40–58; Christy M.K. Cheung and Dimple R. Thadani, "The Impact of Electronic Word-of-Mouth Communication: A Literature Analysis and Integrative Model," *Decision Support Systems* 54, no. 1 (2012): 461–70.

²⁴Ting-Peng Liang and Hung-Jen Lai, "Effect of Store Design on Consumer Purchases: An Empirical Study of on-Line Bookstores," *Information & Management* 39, no. 6 (2002): 431–44.

²⁵Z. Harahap et al., "The Influence of Halal Label on Purchase Decisions in the Hospitality Industry: A Case Study in Palembang City," *Asia-Pacific Journal of Innovation in Hospitality and Tourism* 10, no. 3 (2021): 385–408.

²⁶T.R. Lee et al., "Consumer Decisions toward Halal Purchase before and during COVID-19 Pandemic: A Grey Relational Analysis Approach," *British Food Journal* 125, no. 9 (2023): 3351–67.

searches, and halal certification labels. Fachrurrozie et al. showed that the TPB construct can adequately explain halal food purchasing behavior, but perceived behavioral control, halal literacy, religious commitment, financial literacy, and the UTAUT2 construct (price value, hedonic motivation, and habits) were not proven to be significant in determining purchase intentions. halal food. Apart from that, social media and brand equity,²⁷ level of education,²⁸ and awareness,²⁹ and labels influence consumers' decisions to choose halal products.

METHODS

This study utilizes a meta-analysis approach with the aim of combining and statistically evaluating research findings involving the means and variances of population effects³⁰ that address similar research questions.³¹ Thus, this research quantitatively synthesizes research regarding the influence of the halal logo on consumer purchasing decisions for halal products.

Literature Search

First step was that we searched for research samples on the Google Scholar database using the Publish or Perish application using several words related to the halal logo and purchase decision. This process produced 1,316 articles with various types of publications, namely journal articles, conference proceedings, theses, master theses and dissertations. To ensure methodological transparency and reproducibility, the literature search and selection process adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.³² PRISMA is a standardized protocol widely used in systematic reviews and meta-analyses to improve the quality, clarity, and consistency of reporting.

Next, because some articles appeared repeatedly, we combined the two databases so that this process resulted in 1,269 articles. After that, we reviewed the titles and abstracts to eliminate studies that did not meet the requirements, namely 1) articles about halal logos on purchasing decisions, 2) types of

²⁷Heru Yulianto et al., "Investigating the Role of Interactive Social Media and Halal Brand Equity on Purchase Decision-Making: Direct and Indirect Effects," *Measuring Business Excellence* 26, no. 4 (2022): 524-40.

²⁸Mas Wahyu Wibowo et al., "How Education Level Polarizes Halal Food Purchase Decision of Indonesian Millennials," *Journal of Islamic Marketing* 13, no. 12 (January 1, 2022): 2582-2610, <https://doi.org/10.1108/JIMA-10-2020-0323>.

²⁹M. Muslichah, Rose Abdullah, and Lutfi Abdul Razak, "The Effect of Halal Foods Awareness on Purchase Decision with Religiosity as a Moderating Variable: A Study among University Students in Brunei Darussalam," *Journal of Islamic Marketing* 11, no. 5 (2020): 1091-1104, <https://doi.org/10.1108/JIMA-09-2017-0102>.

³⁰Andy P. Field and Raphael Gillett, "How to Do a Meta-Analysis," *British Journal of Mathematical and Statistical Psychology* 63, no. 3 (2010): 665-94, <https://doi.org/10.1348/000711010X502733>.

³¹Bruce E. Wampold, Hyunnie Ahn, and Dongmin Kim, "Meta-Analysis in the Social Sciences: A Useful Way to Make Sense of a Series of Findings from a Large Number of Studies," *Asia Pacific Education Review* 1, no. 1 (2000): 67-74, <https://doi.org/10.1007/bf03026147>.

³²David Moher et al., "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement," *BMJ (Online)* 339, no. 7716 (2009): 332-36, <https://doi.org/10.1136/bmj.b2535>.

correlational research, 3) available in full text, and 4) research conducted in Indonesia. This activity produced 260 articles. The final step is, checking each article from the previous step and selecting it according to the data requirements in the research including the correlation coefficient value and sample size. The results of this activity produced 33 articles.

Coding Scheme

Based on Figure 1, we established a filter process for articles by extracting each article to obtain various information related to the article and creating various variables, namely industry type, participant type, publication type, and research location.

We divide industry types based on cluster type in strengthening the halal value chain as outlined in the 2019-2024 Indonesian Sharia Economic Masterplan.³³ The types of participants are divided into samples consisting of the general public and students. As for the types of publications, we divide them into categories of published articles and research conducted by students which can be accessed freely. Finally, namely the research location, we divided it based on research carried out in provincial and district capitals.

Meta-Analysis Process

We then used the resulting information to determine the overall effect size of the influence of halal logos on purchasing decisions, then we tested moderation from the type of participant. The analysis tool we use is meta analysis software, namely openMEE.³⁴

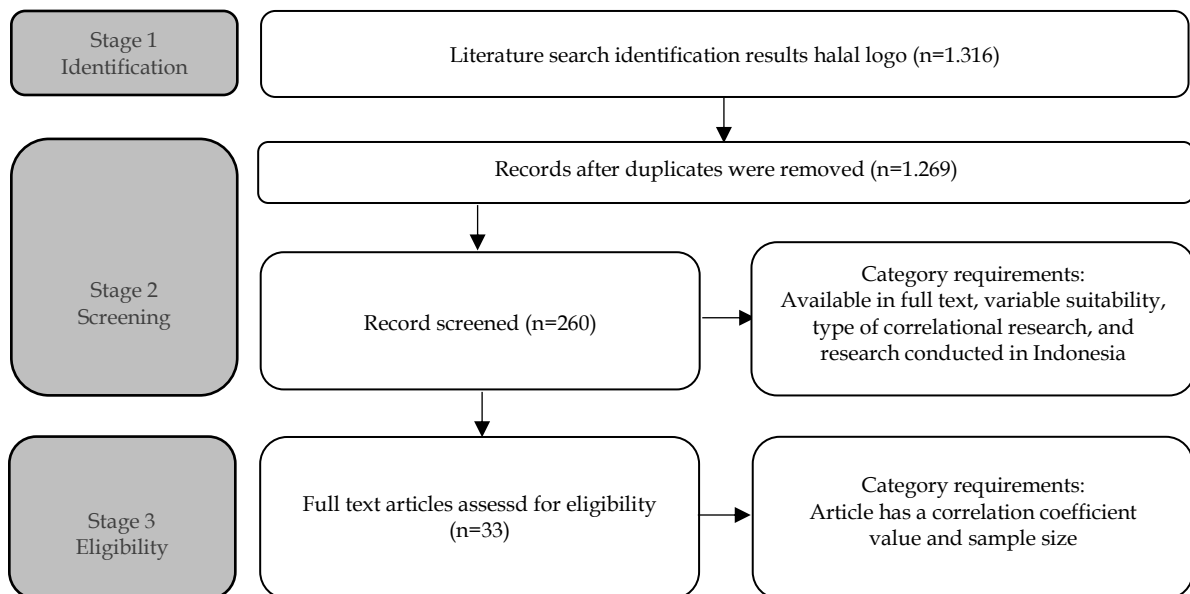


Figure 1. Collection Data Process

Source: Data Processing (2024)

³³Badan Perencanaan Pembangunan Nasional, *Masterplan Ekonomi Syariah Indonesia 2019-2024* (Jakarta: Badan Perencanaan Pembangunan Nasional, 2018).

³⁴Byron C. Wallace et al., "OpenMEE: Intuitive, Open-Source Software for Meta-Analysis in Ecology and Evolutionary Biology," *Methods in Ecology and Evolution* 8, no. 8 (2017): 941-47, <https://doi.org/10.1111/2041-210X.12708>.

Bias Test

To assess potential publication bias in this meta-analysis, two methods were employed: Fail Safe N and the funnel plot. The Fail Safe N method estimates the number of unpublished or missing studies with non-significant results required to render the overall effect size non-significant, with the threshold calculated using the formula $5k + 10$ (where k is the number of studies). In addition, the funnel plot was used as a visual tool to evaluate the distribution of effect sizes against their standard errors.³⁵

RESULT AND DISCUSSION

Descripton of the Data Set

We found 33 studies discussing the influence of logos on purchasing decisions that had gone through a sample selection process carried out in Indonesia, consisting of 22 academic journals (66.7%) and 11 (33.3%) studies published through researcher affiliate repositories. Most of it was published in the 2013-2023 period, where 23 (69.7%) of the research was published after 2018 when the Indonesian government through the Minister of National Development Planning published and the National Development Planning Agency published the Indonesian Sharia Economic Masterplan 2019-2024³⁶. Samples were recruited from several regions in Indonesia consisting of 15 (45.5%) provincial capitals and 18 (54.5%) districts.

Conducting a meta-analysis with a total of 33 articles is considered feasible and adequate. Although the number may seem limited, it is sufficiently representative to identify consistent relationship patterns, test the strength of effect sizes, and explore the role of moderator variables. In addition, this meta-analysis is supported by heterogeneity testing and the use of both the Fail-Safe N method and funnel plot to assess the stability of the results and the potential for publication bias.

Table 1. Summary of 33 studies

Author & Year	Location	Publication Type	Method	N	r
Arifata, 2021	Kab. Semarang	Thesis	Path	96	0.09
Al-Bara & Nasution, 2018	Kota Medan	Article	MLA	53	0.287
Budiarti, 2018	Kota Malang	Thesis	SEM PLS	120	0.198
Cahaya & Soimaturrohmah, 2021	Kab. Bogor	Article	MLA	100	0.478
Desmayonda & Trenggana, 2019	Kota Bandung	Article	Intervening	100	0.453
Fajritami & Utami, 2021	Kab. Sleman	Article	SEM PLS	67	-0.161
Fatah, 2016	Kota Malang	Thesis	MLA	99	0.528
Febriyani, 2018	Kab. Ponorogo	Thesis	MLA	58	0.475
Hadi, 2018	Kota Palembang	Thesis	MLA	100	0.266

³⁵ Hannah R. Rothstein, Alexander J. Sutton, and Michael Borenstein, *Publication Bias in Meta-Analysis: Prevention, Assessment and Adjustments*, *Publication Bias in Meta-Analysis: Prevention, Assessment and Adjustments* (West Sussex: John Wiley & Sons Ltd, 2006), <https://doi.org/10.1002/0470870168>.

³⁶Badan Perencanaan Pembangunan Nasional, *Masterplan Ekonomi Syariah Indonesia 2019-2024*.

Author & Year	Location	Publication Type	Method	N	r
Irfan, 2019	Kota Malang	Thesis	Intervening	113	0.508
Khoerunnisa, et.al., 2016	Kota Malang	Article	Intervening	140	0.048
Kurniawan, 2022	Kota Surabaya	Article	SEM PLS	52	0.484
Kurniawati, 2018	Kab. Ponorogo	Thesis	MLA	75	0.559
Magfiroh & Indrarini, 2020	Kota Surabaya	Article	MLA	100	0.520
Makkiyah & Andjarwati, 2023	Kota Surabaya	Article	CB SEM	210	0.187
Rizqina Mardhotillah, et. al, 2022	Not Specific	Article	SEM PLS	150	0.578
Maulana, et. al., 2021	Kab. Lampung Utara	Article	SEM PLS	57	0.038
Latte, et.al., 2020	Not Specific	Article	SEM PLS	140	0.753
Nurdin, 2019	Kota Tangerang Selatan	Thesis	SEM PLS	100	0.255
Nursyamsiah, et.al., 2022	Kota Bogor	Article	SEM PLS	100	0.242
Purwanti & Auliaunnisa, 2023	Kab. Pemasang	Article	MLA	100	0.541
Putri, et.al., 2018	Kota Surabaya	Article	Kendall Tau Cor.	100	0.385
Safitri, 2021	Kota Pekanbaru	Thesis	MLA	100	0.378
Sari & Sudardjat, 2013	Kota Medan	Article	Spearman Rank Cor.	82	0.247
Selvianti, et.al, 2020	Kota Bogor	Article	SEM PLS	80	0.132
Sucipto, et.al, 2021	Kota Malang	Article	SEM PLS	100	0.224
Khoerunnisa, et.al., 2016	Kota Malang	Article	SEM PLS	350	0.199
Suswanto, et.al., 2022	Kota Tangerang	Article	SEM PLS	320	0.629
Diana Triwardhani, et.al., 2022	Kota besar di Jawa	Article	SEM PLS	252	0.685
Tuti, 2021	Kota Palangkaraya	Thesis	MLA	90	0.673
Ulfia, et.al., 2022	Kota Surabaya	Article	MLA	100	0.52
Ulya, et.al., 2022	Kota Malang	Article	SEM PLS	180	0.083
Utami, 2013	Kota Yogyakarta	Thesis	MLA	90	0.666

N: sample; r: correlation coefficient; SEM-PLS: Structural Equation Model-Partial Least Square; MLA: Multiple Regression Analysis

Source: Data Processing (2024)

Main-Effect Meta Analysis

The effect size data for each study was found through application data processing with analysis using a random effect model. This analysis is used because the assumptions of the research being analyzed have different true effects or are said to vary. Therefore, the diversity of the observed effect in the random effect model is not only influenced by sampling error as in the fixed effect, but is also influenced by the variation in the true effect size.³⁷

³⁷Wenwen Cao and Zhonggen Yu, "The Impact of Augmented Reality on Student Attitudes, Motivation, and Learning Achievements – a Meta-Analysis (2016–2023)," *Humanities and Social Sciences Communications* 10, no. 1 (2023), <https://doi.org/10.1057/s41599-023-01852-2>.

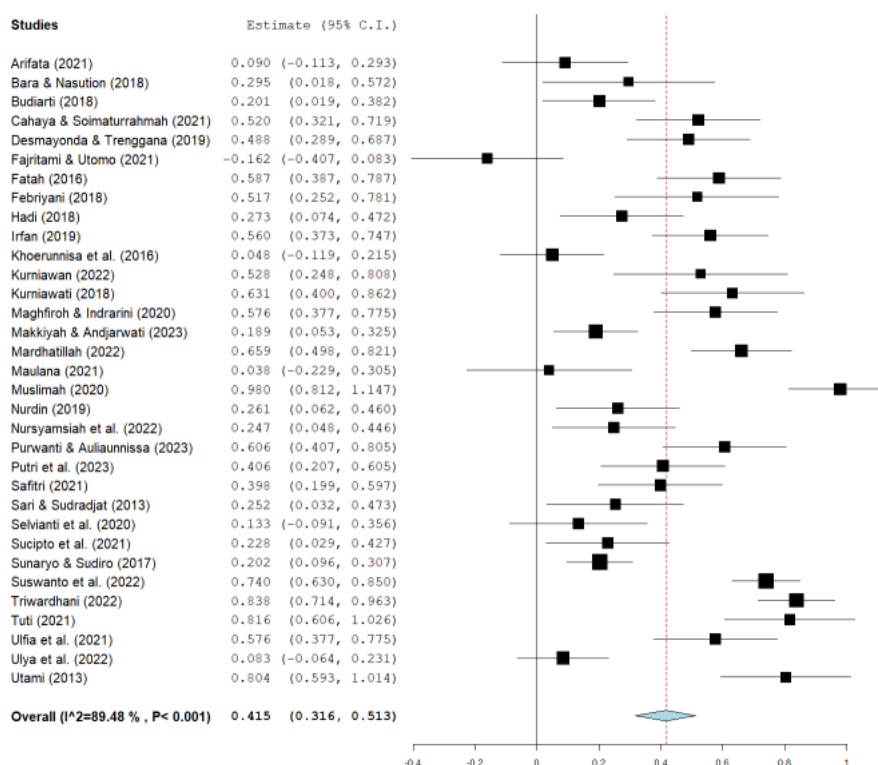


Figure 2. Forest Plot of Overall Study Effect Size
 Source: Data Processing (2024)

Based on the point estimates and confidence intervals shown in Figure 2, the variability of the resulting effect sizes and precision appears heterogeneous. Data from the effect size results carried out a heterogeneity test, it was found that the statistics of homogeneity, $Q (df=32)=304.295$, $p < 0.001$ and $I^2=89.484\%$ supported part of our interpretation in Figure 2 regarding the size of the heterogeneity effect. Thus, the random effect model is more appropriate to use to estimate the average effect size of the 33 articles analyzed. This also indicates that there is potential to investigate moderator variables due to heterogeneous results which reached 89.48% and close to 100%.

Apart from that, it was found that there was a positive correlation between the halal logo and product purchasing decisions as evidenced by the p-value obtained < 0.001 , so that $p < \alpha$; $0.001 < 0.05$. Based on data processing from 33 selected studies, the estimated value obtained was 0.415 which indicates a positive correlation between the halal logo variable and product purchasing decisions in the medium category (see table 1) based on Cohen's category.³⁸

³⁸Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. (United States: Lawrence Erlbaum Associates, 1988); Gail M. Sullivan and Richard Feinn, "Using Effect Size – or Why the P Value Is Not Enough," *Journal of Graduate Medical Education* 4, no. 3 (2012): 279–82, <https://doi.org/10.4300/jgme-d-12-00156.1>.

Table 2. Summary Effect

Estimate	Lower Bound	Upper Bound	Std. Error	p-value
0.415	0.316	0.513	0.05	<0.001

Source: Data Processing (2024)

To test publication bias in order to see the tendency of academic journals and researchers to publish research with positive or statistically significant results,³⁹ the Fail Safe N method was used with the results as follows. following:

Observed Significance Level: <.0001
Target Significance Level: 0.05
Fail-safe N: 7873

Figure 3. Fail Safe N Calculating

Source: Data Processing (2024)

The results of the analysis show that the fail-safe N value is 7873, which means that it is suspected that there are 7873 publications whose results are biased or methodologically not carried out well. Next, this value is compared with the $5K+10$ value, where K is the number of studies contained in this research. Thus, $5(33)+10=175$, which means that $7873>175$ with a significance target of 0.05 and a significance level <0.0001 so it can be concluded that there is no problem of publication bias in the meta-analysis results.

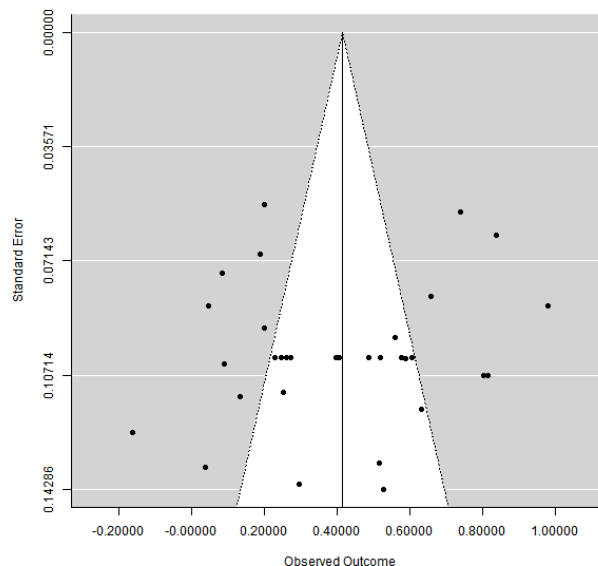


Figure 4. Funnel Plot

Source: Data Processing (2024)

³⁹Fujian Song, Lee Hooper, and Yoon K Loke, "Publication Bias : What Is It ? How Do We Measure It ? How Do We Avoid It ?," *Open Access Journal of Clinical Tears* 5 (2013): 71–81; Shinichi Nakagawa et al., "Methods for Testing Publication Bias in Ecological and Evolutionary Meta-Analyses," *Methods in Ecology and Evolution* 13, no. 1 (2022): 4–21, <https://doi.org/10.1111/2041-210X.13724>.

To complement the Fail Safe N results, a funnel plot was also generated to visually assess the distribution of effect sizes and detect potential publication bias (see Figure 4). In this meta-analysis, the funnel plot shows a relatively symmetrical distribution of the 33 studies, with a dense concentration around the average effect size of 0.415. Although minor asymmetry is observed in the lower-left area, indicating the possible absence of small studies with non-significant results, the overall distribution pattern supports the conclusion of low publication bias. This visual evidence, combined with the high Fail Safe N value, strengthens the robustness and reliability of the meta-analytic findings.

Subgroups Analysis

Below is a statistical summary of each subgroup that researchers conducted in several halal industry categories (Table 3). The characteristics of the selected studies have varying degrees of explanatory power of effect size variability making it possible to discuss them. We discuss each of the 3 moderators separately.

Industri Type. Industry type moderates the effect of the halal logo on product purchasing decisions. Industry type consists of the food industry and cosmetics industry, both of which have a positive effect. However, between the two, the cosmetics industry has the largest effect value (0.591; 95% CI [0.427-0.754]), followed by the food industry (0.327; 95% CI [0.212-0.442]).

Sample. The type of sample is also able to moderate the effect of the halal logo on product purchasing decisions. The results of the data processing showed that the sample consisting of students had a greater effect (0.510; 95% CI: 0.326-0.694)] than the diverse community (0.394; 95% CI [0.282-0.506]).

Location. We divided locations based on 2 (two) types, namely research carried out by provincial capitals and districts. The results obtained are that both are able to moderate the effect of the halal logo on product purchasing decisions. However, the results obtained were that the research location carried out in the provincial capital had a much larger effect (0.448; 95% CI [0.332-0.565]) than in the district (0.312; 95% CI [0.180-0.444]).

Tabel. 3. Model Analysis Results

Subgroups	Estimate	Lower Bound	Upper Bound	Std. Error	p-value
<i>Industri type</i>					
Food	0.327	0.212	0.442	0.059	<0.001
Cosmetic	0.591	0.427	0.754	0.083	<0.001
<i>Sample</i>					
Public	0.394	0.282	0.506	0.057	<0.001
Student	0.510	0.326	0.694	0.094	<0.001
<i>Location</i>					
Regency	0.312	0.180	0.444	0.067	<0.001
Provincial capital	0.448	0.332	0.565	0.059	<0.001

Subgroups	Estimate	Lower Bound	Upper Bound	Std. Error	p-value
Not specific	0.825	0.659	0.992	0.085	<0.001

Source: Data Processing (2024)

Discussion

The influence of the halal logo has a positive influence on the decision to purchase halal products made by Indonesian people with an estimated value of 0.415 with medium criteria. This is in line with several studies which consistently show that the presence of halal logos on products significantly influences consumer decisions, including Sudiro who found that halal logos have a significant and positive effect on purchasing decisions.⁴⁰ Likewise, Temizkan stated that awareness and attitudes towards the halal logo significantly influence purchasing behavior.⁴¹

Therefore, the halal logo has been proven to play an important role in attracting Muslim consumers and influencing the decision-making process in terms of purchasing products.⁴² In the country context, Lada et.al and Alam & Sayuti revealed that the halal logo plays an important role in the consumer decision-making process in Malaysia,⁴³ including non-Muslim consumers.⁴⁴ In conclusion, halal logos play an important role in influencing purchasing decisions, influencing consumer attitudes, beliefs and behavior.⁴⁵ This is because

⁴⁰Achmad Sudiro, "The Impact of Brand Awareness on Purchase Decision: Mediating Effect of Halal Logo and Religious Beliefs on Halal Food in Malang Indonesia," in *Proceedings of Sydney International Business Research Conference*, (Sydney: Australian Academy of Business Leadership, 2017), 54–62.

⁴¹Temizkan, "A Research on The Attitude and Purchasing Behavior of Muslim Consumers Towards Products with Halal Logo in Another Muslim Country."

⁴²Reham I. Elseidi, "Determinants of Halal Purchasing Intentions : Evidences from UK," *Journal of Islamic Marketing* 9, no. 1 (2018): 169–90; D F Septiarini et al., "Drivers of Behavioral Intention among Non-Muslims toward Halal Cosmetics: Evidence from Indonesia, Malaysia, and Singapore," *Journal of Islamic Accounting and Business Research*, 2022, <https://doi.org/10.1108/JIABR-02-2021-0064>; Nazlida Muhamad, Vai Shiem Leong, and Normalisa Md Isa, "Does the Country of Origin of a Halal Logo Matter? The Case of Packaged Food Purchases," *Review of International Business and Strategy* 27, no. 4 (2017): 484–500, <https://doi.org/10.1108/RIBS-06-2017-0049>; Z. Harahap, D. Riyadi, and M. Permatasari M. Aldora, "The Influence of Halal Label on Purchase Decisions in the Hospitality Industry : A Case Study in Palembang City," *Asia-Pacific Journal of Innovation in Hospitality and Tourism* 10, no. 3 (2021): 385–408.

⁴³S.S. Alam and N.M. Sayuti, "Applying the Theory of Planned Behavior (TPB) in Halal Food Purchasing," *International Journal of Commerce and Management* 21, no. 1 (2011): 8–20, <https://doi.org/https://doi.org/10.1108/10569211111111676>; Suddin Lada, Geoffrey Harvey Tanakinjal, and Hanudin Amin, "Predicting Intention to Choose Halal Products Using Theory of Reasoned Action," *International Journal of Islamic and Middle Eastern Finance and Management* 2, no. 1 (2009): 66–76, <https://doi.org/10.1108/17538390910946276>.

⁴⁴Quoquab, Mohamed Sadom, and Mohammad, "Driving Customer Loyalty in the Malaysian Fast Food Industry: The Role of Halal Logo, Trust and Perceived Reputation."

⁴⁵Ali Mursid et al., "The Capacity of the Halal Brand Logo to Fortify the Brand Commitment of Muslim Travellers," *Journal of Islamic Marketing*, 2024, <https://doi.org/10.1108/JIMA-10-2023-0325>; Norhidayah Pauzi et al., "Influence of Customer

the halal logo functions as a symbol of trust and influences consumer perceptions, which ultimately has an impact on purchase intentions and purchasing decisions.

However, the influence of the halal logo is in the moderate category and this finding is surprising considering the fact that the majority of Indonesia's population is Muslim. To understand these results, it is necessary to observe the results of subgroup analysis through the halal industry type category. The results of the analysis show that the halal food industry type has an effect value of 0.327 and is in the low category, while the effect value for the cosmetics industry is greater, namely 0.591 in the medium category. This happens because for people who live in Muslim-majority areas, most of the products in circulation are halal products, especially those related to food and drinks. As research conducted by Fauziah and Al Amin found that halal awareness did not have a positive and significant effect on purchasing decisions.⁴⁶ This is because a Muslim who makes a purchase at a fast food restaurant does not always pay attention to the presence of the halal label, and most of them believe that what they buy and consume is halal.

This is different from the halal cosmetics industry category which shows an effect value of 0.591, which is stronger in the halal food industry category. This is due to an increase in consumer selectivity towards cosmetic products. According to Yasid, this cannot be separated from religious beliefs as a guide for Muslims.⁴⁷ It is important for Muslim consumers to understand the use of halal cosmetics, especially since many cosmetic products are produced by various companies, including those not owned by Muslims.⁴⁸

Therefore, the halal logo on cosmetic products is very important and is the main indicator of product legitimacy and contains the meaning of trust and quality for consumers.⁴⁹ For Muslims, the halal symbol provides a sense of security, because it is a special sign to distinguish halal and non-halal products,⁵⁰

Intention on Patronizing Halal Logo in the Food Premises of Malaysia," *Journal of Islamic Marketing* 16, no. 2 (2024): 484–501, <https://doi.org/10.1108/JIMA-05-2023-0158>.

⁴⁶Silvia Fauziah and Nur Hidayah Al Amin, "The Influence of Product Knowledge, Religiosity, Halal Awareness of Purchasing Decisions on Halal Products With Attitude As a Mediation Variable," *JMIF: Journal of Management and Islamic Finance* 1, no. 2 (2021): 249–66, <https://doi.org/10.22515/jmif.v1i2.4690>.

⁴⁷A. Yasid, F. Farhan, and Y. Andriansyah, "Factor Affecting Muslim Students Awareness of Halal Products in Yogyakarta, Indonesia," *International Review of Management and Marketing* 6, no. 4 (2016): 27–31.

⁴⁸S. Osman, K.W. Cheng, and W. Wider, "Factors Affecting the Halal Cosmetics Purchasing Behaviour in Klang Valley, Malaysia," *FWU Journal of Social Sciences* 16, no. 4 (2022): 102–20.

⁴⁹Mostafa, "Mining and Mapping Halal Food Consumers: A Geo-Located Twitter Opinion Polarity Analysis."

⁵⁰Yuhanis Abdul Aziz and Nyen Vui Chok, "The Role of Halal Awareness, Halal Certification, and Marketing Components in Determining Halal Purchase Intention Among Non-Muslims in Malaysia: A Structural Equation Modeling Approach," *Journal of International Food and Agribusiness Marketing* 25, no. 1 (2013): 1–23, <https://doi.org/10.1080/08974438.2013.723997>;

as well as protecting consumers from fraud and mislabeling, which shows its role in consumer protection.⁵¹ For companies, the halal logo contributes to the creation of a positively perceived reputation, as well as building trust among consumers which allows it to lead to consumer loyalty.⁵²

In this context, halal regulators and certification institutions play a crucial role in maintaining the credibility and consistency of the halal logo, especially in industries like cosmetics that involve complex ingredients and international supply chains.⁵³ Strict standards, clear labeling guidelines, and transparent certification processes are essential to uphold consumer trust. Moreover, international marketers should recognize the strategic value of the halal logo as more than a religious label.⁵⁴ Promoting halal-certified cosmetics in both Muslim-majority and non-Muslim markets can expand consumer reach, especially among health-conscious and ethically minded consumers.⁵⁵ As such, collaboration between producers, regulators, and marketers is essential to ensure the halal logo continues to function as a reliable and globally recognized marker of integrity.

As for the subgroups in the sample aspect, the analysis results show that the student sample and the general public have the same significance level, namely <0.001. However, the student sample had a larger effect, namely 0.510 in the medium category compared to the plural society which only reached 0.394 in the low category. This could be because the perception of the halal logo between students and the general public varies, which is potentially influenced by various factors. When considering perceptions, it is important to note that individual background characteristics, such as educational background, can influence support for certain concepts, as evidenced by the limited use of college student samples in understanding public perceptions.⁵⁶

In addition, the characteristics of educational institutions such as in Indonesia with the presence of Islamic campuses show that students from different educational institutions may have different levels of agreement about the importance of certain concepts, which indicates the potential for differences

Arif Afendi, "The Effect of Halal Certification, Halal Awareness and Product Knowledge on Purchase Decisions for Halal Fashion Products," *Journal of Digital Marketing and Halal Industry* 2, no. 2 (2020): 145, <https://doi.org/10.21580/jdmhi.2020.2.2.6160>.

⁵¹Naimat and Abu Bakar, "Rights of Redress on Supply of Goods under Consumer Protection Act 1999: The Issue of Halal Logo."

⁵²Quoquab, Mohamed Sodom, and Mohammad, "Driving Customer Loyalty in the Malaysian Fast Food Industry: The Role of Halal Logo, Trust and Perceived Reputation."

⁵³Herjanto, Amin, and Karmagatri, "A Systematic Review on Halal Cosmetic Consumption: Application of Theory Method Context -Attributes Decision Outcome Framework."

⁵⁴Rini Puji Astuti et al., "The Halal Certification Essence in Manufacturer's Perspective (A Phenomenology Study)," *International Journal of Professional Business Review* 8, no. 5 (2023): e01851, <https://doi.org/10.26668/businessreview/2023.v8i5.1851>.

⁵⁵Aziz and Chok, "The Role of Halal Awareness, Halal Certification, and Marketing Components in Determining Halal Purchase Intention Among Non-Muslims in Malaysia: A Structural Equation Modeling Approach."

⁵⁶Yuning Wu, Shanhe Jiang, and Eric Lambert, "Citizen Support for Community Policing in China," *Policing* 34, no. 2 (2011): 285–303, <https://doi.org/10.1108/13639511111131094>.

in perceptions based on educational background. This also applies to samples consisting of the general public who have different levels of understanding which are influenced by the environment, understanding and culture, coupled with the current role of social media which can influence perceptions, thereby ignoring the importance of the halal logo on a product.

In the subgroup analysis, we included subgroups of research locations by and divided them by type, namely research carried out in provincial capitals and districts. The results obtained are that both are able to moderate the effect of the halal logo on product purchasing decisions with a significance value of <0.001 . However, the results obtained were that the research location was carried out in the provincial capital, the effect was much greater, 0.448, than in the district, 0.312. This is due to various factors including individual knowledge, attitudes and intentions towards halal products and services. In urban areas, individuals may have higher halal awareness due to factors such as positive personal attitudes, peer influence, and perceived control in consuming halal products. In addition, the availability of halal products and services, responsibility for their availability plays an important role in shaping the perception of halal awareness in urban environments.⁵⁷ On the other hand, in rural areas, awareness levels may be lower, as indicated by the need for seminars and classes to raise awareness of halal food.⁵⁸

In conclusion, the findings from this research collectively emphasize the importance of halal logos in shaping consumer attitudes and behavior. The findings of this study have important implications for various stakeholders, including not only producers but also halal certification bodies, regulators, policymakers, and international marketers. For regulators and certification institutions, the results highlight the need for public education on halal labeling, especially in areas with low awareness. On the other hand, the study also shows that the halal logo is not only relevant to Muslim consumers but is also positively perceived by non-Muslim consumers who associate it with cleanliness, safety, and quality. This opens up opportunities for producers and marketers to position the halal logo as a universal symbol of trust and quality, thereby expanding market reach—even in multicultural and non-Muslim environments. However, further research is needed to comprehensively understand the influence of halal logo nuances on diverse consumer segments and in varying cultural contexts.

CONCLUSION

This research uses a meta-analysis approach to analyze halal logos on purchasing decisions for halal products. Meta analysis has succeeded in mapping that the relationship between logos and purchasing decisions is influential but

⁵⁷H. M. Awan, A.N. Siddiquei, and Z. Haider, "Factors Affecting Halal Purchase Intention – Evidence from Pakistan's Halal Food Sector," *Management Research Review* 38, no. 6 (2015): 640–60.

⁵⁸Imran Aslan, "Measuring Halal Awareness at Bingol City," *Journal of Social Sciences (COES&R)-JSS* 5, no. 3 (2016): 340–55, <https://doi.org/10.25255/jss.2016.5.3.340.355>.

falls into the moderate category. These results can be seen in more depth by analyzing subgroups based on categories of industry type, sample type, and research location. These findings indicate that all types of each subgroup have a significant effect. The effect of the halal cosmetics industry is more than the effect of the halal food industry. In the sub-group sample type, namely students, the effect given is greater than samples from the general public. As for the research location subgroup, it shows that in urban areas, especially in the provincial capital, the effect is greater than in the research location in the district.

The practical implication of this research is that product provider companies must maintain the halal status of their products. Considering that the halal logo is a significant symbol for consumers, this can provide a sense of security and protection. By ensuring product halal, companies can play a role in building a good reputation and strengthening consumer trust. This, in turn, can lead consumers to higher levels of loyalty

Limitations of the study were the small study sample and inadequate moderators to explain heterogeneity within subgroups. Future studies should incorporate international comparisons and recent global findings (2021–2024) to improve the universality and contextual relevance of halal logo research. Cross-country data and meta-regression analysis are recommended to better explain cultural differences and uncover potential moderating variables. In addition, although the halal logo plays an important role in shaping purchasing decisions, it is also possible to examine other variables such as product ingredients, country of origin, and consumer beliefs that also contribute to consumers' perceptions and intentions to purchase halal products.

Author's Contribution

Rihfenti Ernayani: Contribute to formulating research ideas, literature review, collecting data, processing data, and interpreting data, systematics and research methods, analyzing interpretation results.

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The author declares that there is no conflict of interest.

Ethical Approval

Ethical approval No patient-identifying parts in this paper were used or known to the authors. Therefore, no ethical approval was requested.

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