

## The Tayyib Element in Food and Health Products in Malaysia: An Evaluation

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### Abstract

Rapid growth of the halal tayyiban food and health product industry is driven by high demand, government support, technological innovation, and global recognition. Although these products are certified halal by authoritative bodies such as the Department of Islamic Development Malaysia (JAKIM) and the National Pharmaceutical Regulatory Agency (NPRA), there are doubts about the extent to which the tayyib element is adhered to based on the concept established by Islamic scholars (fuqaha). While halal food and health products have expanded significantly on a global level, the quality of halal product manufacturing needs to be enhanced to better align with the concept of tayyib. Compliance with the tayyib element is crucial to improving the quality and safety of products, meeting the growing consumer demand for health-conscious options, and strengthening consumer confidence in halal brands. This effort will also ensure the integrity of halal certification in a more comprehensive manner according to Sharia principles, contributing to the well-being and health safety of the community. This study aims to identify the tayyib elements in halal food and health products in line with the views of Islamic scholars. The study employs a qualitative approach with an exploratory research design. Data collection involves document analysis, interviews, and field observations. The data obtained is analyzed using content analysis. The findings reveal that some halal food and health products in the market only meet halal standards but do not fully comply with tayyib criteria in terms of nutritional content and long-term health effects. Further

research is needed to develop more specific tayyib parameters in the production of halal food and health products.

**Keywords:** Tayyib, Food Products, Health, Halal, JAKIM, NPRA.

## Introduction

Islam is a comprehensive religion. Its teachings encompass all aspects needed by humanity, including faith (aqidah), worship (ibadah), social transactions (muamalat), family matters (munakahat), criminal laws, and ethics (akhlaq). In short, Islam establishes laws, regulations, and rules on all matters that relate to human actions. The objective of Islamic law (sharia) is to safeguard the well-being of humanity in this world, the hereafter, or both (Said Ramadhan al-Buti, 1982). To achieve this objective, Allah SWT has clearly outlined for humanity what is good and bad, lawful (halal) or forbidden (haram), for the benefit of people in this world and the hereafter.

The issue of Islamic consumerism is increasingly gaining traction in society today, driven by advancements in science and technology, particularly in the food and health product manufacturing industry. Specifically, the market for halalan tayyiban-based products has become a focal point for scholars, as it is increasingly dominating the global economic market. Evidence of this can be seen in the global halal industry, which reached USD 3.1 trillion (RM13.02 trillion) in 2018 and is projected to grow to USD 5.0 trillion (RM12.01 trillion) by 2030. Meanwhile, Malaysia's halal market is expected to surge to USD 113.20 billion compared to USD 68.4 billion (RM287.6 billion) in 2018 (Global Halal Market: Halal Industry Masterplan 2030, 2020).

The phenomenon of consumption based on halalan tayyiban products is not a new occurrence. In Islamic teachings, this phenomenon is a necessity for every Muslim to seek what is halalan tayyiban in their daily lives as a demonstration of obedience to the concept of servitude (ubudiyah) to Allah SWT (Shaary, 2013). The need for what is halal and tayyib includes products and services such as food and beverages, pharmaceuticals, consumer goods, cosmetics, personal care, logistics, and more (Hannan, 2023). As stated by Allah SWT:

وَكُلُوا مِمَّا رَزَقَكُمُ اللَّهُ حَلَالًا طَيِّبًا، وَاتَّقُوا اللَّهَ الَّذِي أَنْتُمْ بِهِ مُؤْمِنُونَ

Translation: "Eat of the lawful and good things which Allah has provided for you, and fear Allah in whom you believe".

(Surah al-Maidah, 5: 88)

This verse highlights the importance of consuming food that is halalan tayyiban. The command to consume food that is halal and tayyib is followed by an instruction to be mindful of Allah SWT for those who believe in Him. According to Mustafa Khin and Mustafa Bugha (2012), the term "tayyibat" refers to things that are loved and desired by a pure human soul. Meanwhile, Abu Al-Barakat An-Nasfi (1998) defines tayyib as anything that is permitted in the Quran and Hadith, that nourishes the body, and that can be used as a remedy for illnesses in the human body. He further explains that Allah SWT's command to consume tayyib food is closely related to the cultivation of a soul that is devoted to taqwa (piety) towards Allah SWT alone. This is because every soul that is pious stems from a heart that is obedient, fearful, and submissive to Allah SWT's commands and refrains from His prohibitions.

The tayyib element in food and health products can be expressed through correct preparation methods that are halal, clean, and of high quality, among other aspects. This means that the tayyib element is seen as a complement to the halal benchmark itself, with both elements working hand in hand. Thus, Allah SWT has mentioned the obligation to seek what is halal and tayyib in Surah Al-Baqarah (2:168). Furthermore, the growing global demand for halal products and services has encouraged Malaysia to compete in this industry. As evidence, Malaysia is a leading country in the halal industry, excelling in sectors such as Islamic finance, halal food, tourism, pharmaceuticals, and cosmetics (State of The Global Islamic Economy Indicator (GIEI, 2021).

There are four interpretations of the concept of tayyib according to Islamic scholars (fuqaha). The first concept defines tayyib as pure, clean, and halal, according to Ibn-Kathir (2003), al-Tabari (2001), al-Baghawi (1997), Al-Dibyan (2002), and Az-Zuhaili (2001). This aligns with the command of Allah SWT, which requires every Muslim to consume food that is not only halal but also tayyib (halalan tayyiban). The second concept of tayyib, according to Imam Al-Ghazali (1998), al-Baghawi (1997), An-Nasafi (1998), Amrullah (1989), Ibn-Taimiyyah (1999), Ibn-'Ashur (1984), and Ibn-Kathir (2003), refers to food that can enhance physical, mental, emotional, and spiritual health. The advantage behind Allah SWT's command for Muslims to consume food that is halalan tayyiban is to ensure overall body health, thereby shaping the character of a strong and exceptional Muslim.

The third concept of tayyib is that it should be nutritious, as introduced by al-Baghawi (1997) and al-Qurtubi (2013). This concept of tayyib as nutritious is similar to the second concept, which emphasizes the ability to enhance physical, mental, emotional, and spiritual health. Tayyib food and health products should not only be halal, but they must also contain healthy nutrients that can improve the internal and external health of the human body. Finally, the fourth concept of tayyib is seen as evidence of a person's servitude (ubudiyah) to Allah SWT, according to As-Sya'rawi (1997). Tayyib food and health products must not only be halal but also have the quality to stimulate one's appetite. This is because every community has its own tastes and preferences based on their region. Not all groups can accept the food commonly consumed by others due to different tastes. This proves that Islam does not only emphasize that products need to be halal and healthy but also considers the enjoyment and flavor of the individual consuming the food.

Therefore, this study aims to analyze the elements of tayyib in halal food and health products according to the concepts highlighted by Islamic scholars, which include being halal, healthy, nutritious, and delicious.

### **Methodology**

This paper employs a qualitative approach, where the data refers to information or textual data that does not have a specific structure. The design used for this study is exploratory research to analyze the elements of tayyib in food and health products. Data collection involves document analysis, examining documents such as books and journal articles on the concept of tayyib according to Islamic scholars (fuqaha). Data collection on the nutritional elements in food and health products is conducted through document analysis and field studies. This study also uses purposive sampling, as the selected informants are directly involved in the research, consisting of halal agency officers, food product entrepreneurs, and

health experts among academics. The study involves textual data from related documents or interview transcripts conducted during the research.

### **Findings and Discussions**

The variety of food and health products in today's era has led to the introduction of various types and techniques of packaging within the industry to meet consumer market demands (Mohamed, 2023). For example, some raw materials are mixed with other enzymes as additional additives or preservatives to extend a product's shelf life. Additionally, different processes are required for each type of product, such as UV processing, thermal processing, non-thermal processing, retort processing, and so on.

According to a study conducted by Aziz (2024), innovation in halal food products must meet the requirements based on Maqasid al-Daruriyyah, which includes the protection of life (حفظ النفس). The obligation to protect life within Maqasid al-Daruriyyah in halal food products ensures safety during the research phase of those products. Furthermore, the innovation of these food and health products must also guarantee health benefits and nutritional value for the human body; otherwise, they do not qualify to be classified as innovations in halal food and health products, let alone tayyib.

This study focuses on the elements of tayyib in the processing methods of food and health products as part of the halal product supply chain. The processing of halal food and health products refers to raw materials such as vegetables, fruits, and meat that are processed according to the manufacturer's product specifications before reaching the consumer market. This process is monitored by JAKIM to ensure compliance with the Halal Certification Procedure Manual, aimed at obtaining halal certification for the products. However, despite the increasing innovation in halal food and health products in the market, many products produced do not fully meet the tayyib elements as outlined by Islamic scholars (fuqaha).

According to Knorr (2019), natural raw materials from either plant or animal sources contain supplies of vitamins, minerals, and natural benefits. These benefits, in the form of vitamins and minerals, are known as micronutrients and macronutrients. Therefore, Poti (2015) categorized processed foods into three levels: minimally processed foods, semi-processed foods, and highly processed foods. They further explain that processed food consists of one or more types of raw materials that have undergone various procedures for texture modification, the addition of other ingredients, preservation, and concludes with packaging and labeling. Naveen (2024) emphasizes that changes to the original structure of a raw material will alter the chemical structure of the essential nutrients within that food. When these changes occur, they can somewhat affect the vitamins and essential minerals entering the human digestive system, thereby providing different effects and benefits than intended.

Miehle (2024), conducted a study on the nutritional responses in carbohydrate-rich foods such as bread, biscuits, and pastries that have undergone various processing methods. Food processing that alters the fiber composition affects the in vitro release of glucose in cake dough enriched with pectin. The level of glucose release, in turn, influences the glycemic index (GI) of the food product. This glycemic index is crucial for monitoring individuals with diabetes. Al-Jawaldeh (2022) state that the higher the glycemic index level in carbohydrate-

rich foods consumed, the greater the risk of diabetes among the general public if not well managed. The effects of foods that can jeopardize health are not characteristics of tayyib food, as tayyib food is meant to serve as a remedy for every ailment.

The proper intake of health products (supplements) is essential for maintaining good health status, as it reduces the incidence of chronic diseases such as kidney disease. Meanwhile, the consumption of supplements rich in antioxidants and anti-inflammatory agents is associated with a reduction in oxidative stress within the body, thereby protecting the body from dangerous diseases. On the other hand, health products (supplements) exceeding safe dosage can lead to the risk of kidney dysfunction (Rysz, 2021). The side effects of products that cause harm to the body are not characteristics of tayyib food. Chronic kidney disease is a rapidly growing global health issue. This disease occurs when patients gradually lose kidney function to eliminate waste, leading to the accumulation of uremic toxins (Gorain, 2024). In medical terms, kidney disease is defined as a defect or abnormality in kidney structure and a glomerular filtration rate (GFR) of  $<60 \text{ mL/min/1.73 m}^2$  for three consecutive months or more, with various causes (Coresh, 2007).

The element of tayyib in the processing methods of food products in this study takes the example of raw foods processed into ready-to-eat products, such as potato chips that have received halal certification from JAKIM. Potatoes contain various essential nutrients needed by the human body, such as vitamin C and potassium. More than half of the vitamin C content in potatoes acts as an antioxidant, protecting the human immune system from infections, while potassium helps facilitate the functions of the heart, muscles, and nervous system.

However, the issue arises when the structure of the potato (sliced thinly) is altered, fried at high temperatures, and combined with flavors, colorings, preservatives, and other synthetic substances. As a result, the original nutrients are lost, and synthetic substances that can be harmful to human health are introduced. Diseases commonly associated with the consumption of foods high in sugar, salt, flavorings, colorings, and preservatives include heart disease, high cholesterol, hypertension, and diabetes.

The element of tayyib in the processing methods of health products in this study takes the example of nutritional factors in vitamin C supplements. In today's market, there are various forms and packaging available for vitamin C sales, including capsules, tablets, liquids, and powders. However, these health supplement products are still not compliant with the concept of halalan tayyiban in practice if they contradict the very essence of tayyib, particularly when there are evident harms to the consumers' lives due to toxicity and excessive dosages of the supplements.

The safe daily intake of vitamin C is between 40-120 mg (Dosedel, 2021). Users who exceed this dosage may face toxicity, leading to symptoms such as diarrhea, vomiting, muscle cramps, and subsequent dehydration (Danboyi, 2024). This issue becomes more concerning when some health product manufacturers produce vitamin C supplements that exceed safe dosages. Furthermore, these manufacturers often claim that their products can cure chronic diseases such as hypertension, diabetes, and heart problems. Therefore, it is crucial for

consumers to remain vigilant about their health and the intake of any health supplements to effectively manage and treat their conditions (Buang, 2023).

Based on the study conducted, several key findings have been obtained regarding the element of *tayyib* in food and health products. This discussion will focus on the concept of *tayyib* in terms of purity, nutrition, and *ubudiyah* in food and health products.

### *Purity*

Based on the literature review, the first emphasized element of *tayyib* is the aspect of purity, cleanliness, and quality. Purity, cleanliness, and quality are the primary requirements for a food and health product to be labeled as *tayyib*. This is evidenced by the command of Allah SWT in Surah Al-Maidah (verse 88), where the directive to consume what is *tayyib* is accompanied by the requirement of *halal*. Thus, it is undeniable that *tayyib* food comes from *halal* sources, which must be pure, clean, and of good quality. *Halal* food and health products in Malaysia generally comply with strict *halal* standards as set by authorities like JAKIM.

However, a key challenge identified is ensuring that cleanliness, purity, and quality are upheld throughout the entire food production chain, from the source of raw materials, storage, processing methods, packaging, to preparation and serving. The study analysis shows that authorities like JAKIM have efficiently carried out their responsibilities in the *Halal* Certification Procedure Manual to meet the *halal* specifications. For example, every factory producing food and health products is monitored for its *halal* status throughout the production chain, starting from the procurement of raw materials to the finished product. Therefore, there are no issues related to compliance with *halal* aspects in the production process of food and health products.

Some food products that have undergone audits by JAKIM and have received *halal* certification include Extra Virgin Coconut Oil (Country Farms Sdn. Bhd.) and GoodWorld Natural Drinking Water (Waterworld Network Sdn. Bhd.). Health products that have obtained *halal* certification from JAKIM include Appeton A To Z Kid's Vitamin C 30mg Tablet (Orange) (Kotra Pharma (M) Sdn. Bhd.) and Flavettes Effervescent Vitamin C Zinc Effervescent Tablet (Orange) (Duopharma Manufacturing (Bangi) Sdn. Bhd.).

All of the above product examples have passed the audit process concerning purity, cleanliness, and quality by JAKIM for food products and by the National Pharmaceutical Regulatory Agency (NPRA) for health products. The *halal* aspect is seen as the primary and most fundamental characteristic in labeling a product's *tayyib* status because *halal* products guarantee the purity, cleanliness, and quality of those products.

### *Nutrition*

The study found that although most *halal* products generally comply with *halal* requirements, the element of nutrition is sometimes overlooked. The analysis reveals that there are still *halal* food products that are nutritionally deficient; for example, snacks and fast foods that, while *halal*, lack nutritional value. This highlights the need to reinforce the concept of *tayyib* in terms of nutrition, where food should not only be *halal* but also support overall health. Overall health encompasses physical, mental, emotional, and spiritual well-being.



Examples of food products in the market that have received halal certification from JAKIM but do not contain beneficial nutrients for human health include those high in salt and sugar. Potato chips with elevated levels of salt and sugar should be consumed in moderation, as excessive intake poses risks of kidney and liver dysfunction. Kidney and liver failure can severely compromise human organ systems, ultimately leading to mortality. Additionally, beverages high in sugar can increase the risk of diabetes if consumed daily without consideration of an individual's sugar requirements. Among the halal-certified products from JAKIM that are nutritious and delicious is Biogreen O'tigres Organic Black Bean Powder (No Added Cane Sugar) from Green Image Organic Enterprise Sdn Bhd. Meanwhile, the health product that has been halal certified and has safe nutritional content according to the National Pharmaceutical Regulatory Agency (NPRA) is Champs Vitamin C 30mg Orange Flavour Chewable Tablet from Duopharma Marketing Sdn. Bhd. These two products are safe for consumption as their nutritional content can enhance bodily functions and protect the immune system from various diseases.

The above examples of food and health products are confirmed to be pure, clean, halal, and nutritious according to the authoritative bodies JAKIM and NPRA.

In the halal concept, it encompasses meanings of purity, cleanliness, and quality. Quality refers to food and beverages that are free from anything harmful to the body in physical, mental, emotional, or spiritual aspects. In other words, quality refers to high-standard food that is good and meets the necessary nutritional requirements of the human body. Therefore, nutritious food and health products are quality products that can ensure overall body health—physical, mental, emotional, and spiritual. Food rich in essential nutrients such as vitamins, minerals, and elements, including fresh fruits and vegetables, is considered *tayyib*. Similarly, health products that adhere to appropriate dosages and meet user needs, such as Appeton A To Z Kid's Vitamin C 30mg Tablet (Orange) produced by Kotra Pharma (M) Sdn. Bhd., are also regarded as *tayyib* products.

### *Ubudiyah*

*Ubudiyah* is the final concept focused on in this study. According to Imam As-Sya'rawi (1997), *ubudiyah* refers to the obedience of a servant who dedicates all of their submission to Allah SWT above all else. *Ubudiyah* is also the pinnacle of demonstrating the servitude of creatures to their Creator, Allah SWT. A servant's obedience to Allah SWT's command to consume food that is halal and *tayyib* is evidence of the *ubudiyah* spirit within that servant. Furthermore, the earnestness of a servant in seeking what is *tayyib* is a form of *jihad*, and *jihad* itself is the ultimate expression of a servant's devotion to their Creator. Therefore, striving to seek what is *tayyib* is also a form of *ubudiyah* to Allah SWT.

Thus, *tayyib* food products not only bring physical benefits but also contribute to the spiritual well-being of individuals. This notion is supported by the opinions of scholars such as al-Baghawi (1997), An-Nasafi (1998), Amrullah (1989), Ibn Taimiyyah (1908), Ibn 'Ashur (1984), and Ibn-Kathir (2003), who state that seeking what is *tayyib* is difficult because *tayyib* is the best among the best. While halal food that is pure and clean can be easily found, *tayyib* food, which is safe and nutritious, is not as readily available. Therefore, the *jihad* to seek what is *tayyib* is an effort towards building a soul of a righteous believer.

Allah SWT's words in Surah An-Nahl (verse 114) illustrate that a believer who truly has faith in Allah SWT is someone who is concerned with matters of halal and tayyib. This is because striving to seek halal and tayyib is proof of a servant's obedience in pursuit of piety towards Allah SWT.

The connection between pure, clean, halal, and nutritious food products and the cultivation of the soul characterized by *ubudiyah* is very close. Pure and nutritious food affects the health of the body's internal organs, referred to as the physical aspect of a person. When a person's physical organs are in good condition, the mental status, which consists of nerves, is also healthy. A sound mental state positively influences emotions, resulting in a calm and positive demeanor. Consistently calm and positive emotions enhance one's focus on performing acts of worship to Allah SWT. Therefore, consumers can utilize these products according to their individual needs and suitability. The goal of consuming products that embody the elements of *tayyib* is to maintain the physical, mental, emotional, and spiritual health of individuals to achieve *ubudiyah* as a servant of Allah SWT.

### **Conclusion**

Overall, the findings of this study indicate that the concept of *tayyib* requires a deeper understanding and implementation within the food and health industry. The elements of cleanliness, health, nutrition, and taste must be better integrated to ensure that the food prepared truly adheres to the principles of *halalan tayyiban*, in line with religious demands and the health needs of the community. Good physical health is the foundation for mental, emotional, and spiritual stability, as these elements are closely interconnected. Therefore, food products that undergo processing procedures that do not disturb or eliminate their essential nutrients, and are consumed by believers who genuinely need them, can be referred to as the most *tayyib* food. However, processed foods that have undergone procedures that strip away their natural nutrients, and are additionally filled with synthetic substances that endanger the health of believers, cannot be classified as *tayyib* food, even if they are halal. Health products produced according to the dosages permitted by authorized bodies serve as remedies for believers to treat their ailments, and these can be referred to as *tayyib* health products. However, if they exceed the prescribed dosages and are taken improperly, a believer may face harm that could be life-threatening. Therefore, the findings of this study enhance the value of the food and health product supply chain in the market, aiming to produce *tayyib*-standard food for the welfare of Muslims in achieving piety to Allah SWT.

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## References

- Ahmad, N. (2020). The Global Halal Industry: Overview, Challenges, and Future Prospects. In N. Ahmad & A. R. Bahaman (Eds.), *Handbook of Halal Food Production* (pp. 23-39). Wiley.
- Al-Zuhayli, W. (2001). *Usul al-Fiqh al-Islami*. Beirut. Dar al-Fikr al-Mu'asir
- Al-Baghawi, A. M. H. (1997). *Maalim at-Tanzil fi Tafsir Al-Quran*. Riyadh: Dar Tayyibah.
- Al-Dibyan, A. U. D. M. (2002), *Mawsu'ah al-Ahkam al-Taharah al-Miyah al-Aniyyah*, vol. 1 Riyadh: Maktabah al-Rashid Nashrun.
- Al-Ghazali, A. H. M. (1998). *Ihya' 'Ulum al-Din*. Kaherah: Maktabah Misr.
- Al-Jawaldeh, A., & Abbass, M. M. S. (2022). Unhealthy dietary habits and obesity: The major risk factors beyond non-communicable diseases in the Eastern Mediterranean region. <https://doi.org/10.3389/fnut.2022.817808>
- Al-Qasimi, M. J. (1997). *Mahasinu At-Ta'wil*. Beirut: Dar Kutub Ilmiyyah.
- Al-Qurtubi, M. A. (2013). *Al-Jami' Li Ahkam Al-Quran*.
- Al-Razi, A. M. U. H. (1995). *Tafsir al-Kabir*. Beirut: Dar al-Fikr.
- Al-Sabuni. (1999). *Zawa'i' al-Bayan Tafsir Ayat al-Ahkam Min al-Qur'an*. Kaherah: Dar al-Sabuni
- Amrullah, A. K. A. M. (1989). *Tafsir Al-Azhar*. Singapura: Pustaka Nasional PTE LTD.
- An-Nasfi, A. M. H. (1998). *Tafsir Madarik al-Tanzil wa Haqa'iq al-Ta'wil*. Beirut: Dar al-Kalam at-Tayyib.
- As-Sya'rawi. (1997). *Tafsir Asy-Sya'rawi*. Kaherah: Matabi' Akhbar Al-Yaum
- At-Tabari, J. (2001). *Jamiu al-Bayan fi Tafsir Ayi al-Quran*. Mekah: Dar Tarbiah wa Turath.
- At-Taymiyyah, A. I. A. (1908). *Kitab Majmu 'al-Fatawa*. Qahirah: Matba'at Kursiyatan.
- Aziz, S. A., Harith, S., Mahaiyadin, M. H., Omar, N., Mohamad, W. A. F. W., Ismail, I. & Zainuzzaman, A. K. (2024). Halal Foodstuff Innovation: A Review from The Perspective of Maqasid al-Daruriyyah. *BITARA International Journal of Civilizational Studies and Human Sciences*7(2):141-153.
- Buang, A. Presiden, (18 April 2023). *Persatuan Farmasi Malaysia (MPS)*, (Sub Kepakaran Farmaseutikal Halal), personal communication, , Zoom Meeting.
- Coresh, J., Selvin, E., Stevens, L. A., Manzi, J., Kusek, J. W., Eggers, P., Lente, F. V., Levey, A. S. (2007). Prevalence of chronic kidney disease in the United States. *Jama*, 298(17), 2038–2047. doi:10.1001/jama.298.17.2038
- Danboyi, T., Jimoh, A., Danboyi, E.H., & Teru, G. A. D (2024). Vitamin C Dosage in Health and Disease. *IntechOpen*. doi: 10.5772/intechopen.109657
- Dosedel, M., Jirkovsky, E., Macakova, K., Krcmova, L.K., Javorska, L., Pourova, J., Mercolini, L., Remiao, F., Novakova, L., Mladenka, P. (2021). "Vitamin C—Sources, Physiological Role, Kinetics, Deficiency, Use, Toxicity, and Determination" *Nutrients* 13, no. 2: 615. <https://doi.org/10.3390/nu13020615>
- Gorain, S. (2024). *Micronutrients and macronutrients as nutraceuticals*. CRC Press, Taylor & Francis Group.
- Ibn-'Ashur, (1984). *al-Tahrir wa al-Tanwir*. Tunisia: al-Dar al-Tunisiyyah li al-Nashar.
- Ibn-Kathir, (2003). *(Tafsir al-Qur'an al-'Azim)* (trj. Abdullah bin Muhammad). Bogor: Pustaka Imam Asy-Syafi'i
- Knorr, D., & Watzke, H. (2019). Food Processing at a Crossroad. *Frontiers in nutrition*, 6, 85. <https://doi.org/10.3389/fnut.2019.00085>

- Miehle, E., Eisner, P., & Mittermaier, B. S. (2024). Effects of food processing on in vitro glucose release of high methylester pectin-enriched doughs. *Food Chemistry*, 442, 138331. <https://doi.org/10.1016/j.foodchem.2023.138331>
- Naveen, K. G., Ahmed, S., Kumar, P. (2024). Food Processing of Micronutrients and Macronutrients in Chapter Micronutrients and Macronutrients as Nutraceuticals (1st ed.). 2024, Apple Academic Press. <https://doi.org/10.1201/9781003415381>
- Poti, J. M., Mendez, M. A., Ng, S. W., & Popkin, B. M. (2015). Is the degree of food processing and convenience linked with the nutritional quality of foods purchased by US households?. *The American journal of clinical nutrition*, 101(6), 1251–1262. <https://doi.org/10.3945/ajcn.114.100925>
- Shaary, K. (2013). Halalan Thayyiban amalan rukhsah dalam pemakanan. Sri Damansara: Telaga Biru. (In Malay)