

## Food Allergy Consumption According to Halalan Tayyiban Perspective: A Review

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### Abstract

*Food allergies are the effects of a detrimental reaction from the body's immune system on certain types of food that are considered harmful to the body. Food allergies are also considered a critical issue in food safety and food quality management systems. In fact, the issue of food allergy consumption is also discussed from the aspects of medical and food industry to prevent any risk of consuming food that is harmful to consumers. Generally, the implementation of the concept of 'halalan tayyiban' only focuses on the study of raw materials, food processing activities and storage of final ingredients from illegal, clean and safe to be eaten elements. However, this aspect of food allergy intake is not discussed comprehensively based on the perspective of 'Halalan Tayyiban'. Therefore, this article uses a qualitative approach through document analysis to describe the importance of consuming allergic foods according to the perspective of 'halalan*

*tayyiban' in-depth. In addition, the aspects of food allergy control and management through food quality management system are also discussed. This study also suggests that the assessment of risk analysis and food allergy management be discussed in more depth according to the Islamic perspective based on the sources of the Quran and hadith. Hence, this study will have a positive impact on improving the halal auditing process and strengthening the integrity of food product status in line with the concept of 'halalan tayyiban.'*

**Key-words:** Food Allergies, Allergies, 'Halalan Tayyiban', Food Quality Management System, Food Safety.

## **1. Introduction**

The development of current food science and technology in Malaysia and globally shows that the production of food is being processed more comprehensively. The use of various additives or chemicals in food changes the taste and texture to attract more consumers. Hence, the processing of food using modern technology raises a wide range of questions on the status of food ingredients whether it has a negative impact on human health or whether it is safe to be consumed (Saadan & Zainal Abidin, 2014).

Basically, the concept of '*halalan tayyiban-HT*' in food production ensures that the source of ingredients is from halal ingredients, emphasizing the aspects of hygiene, safety and not harmful to human health. In this case, the production of food through a more complex process sourced from a variety of plants or animals as food raw materials can caused a detrimental effect on some consumers despite their halal and sacred status (Siti Fairuz and Latifah, 2017). The intended side effects are allergen food or better known as food that causes allergies to the human body. In fact, food allergies are also a significant food health and safety issue in the world (Remington et al., 2020).

## **2. Background Research**

The source of food allergies is widely discussed by most physicians around the world on the negative effects on human health and how to control it (Nur Zakiah et al., 2010). However, the aspect of allergic food intake is not discussed according to the HT perspective. In this study, the aspects of food intake categorized as food allergies will be further examined on food safety and its relationship with the concept of HT. Besides, food allergy discussions are also applied in food safety quality management systems such as Hazard Analysis Critical Control Point (HACCP), international standard organization (International Standard Organization-ISO) and food safety certification system (Food Safety System Certification). -FSSC 22000) (Dzwolak, 2017; British Retail Consortium, 2018;

International Standards, 2018; Department of Standards Malaysia, 2019; Foundation FSSC 22000, 2019). In fact, the consumption of allergic foods will adversely affect consumers through allergies to the human body system and cause death (Redhwan et al., 2011; Rafidah Ghazali, 2019).

Thus, the main objective of this study is to further elaborate on the aspects of allergic food intake and its negative effects through the perspective of HT based on Quranic sources and hadith. In addition, an explanation of the importance of the concept of HT applied in the context of food allergies as well as the relationship between the use of halal food management system and common quality system to prevent the risk of allergic effects to consumers will also be explored. This study uses a qualitative approach that is through research on the secondary sources of previous studies as well as guidelines related to aspects of allergic food hazards according to the HT perspective.

### **3. Food Allergy**

In the mainstream of science, especially in food manufacturing has currently shown a variety of food products produced by using the latest food technology to improve the taste, color, shape and nutritional value that is important to consumers. Nutritious food is a basic need for human beings in the survival of their lives. In fact, nutritious food is also essential for physiological needs as well as supplying energy needed by the human body (Syed Mohammad Hilmi, Muhammed & Luqman 2008; Norazilawati, 2015). According to Nordin (2007) and Saadan & Zainal Abidin (2014), nutritional food from a scientific perspective is a material that is consumed either in solid or liquid form or among them that has the composition of chemical elements and when consumed, it will provide energy and nutritional resources to the human body for the process of growth, maintaining physical and mental health.

Most of the animal and plant-derived nutritional foods are safe and halal to be consumed. However, there are a number of such food sources that can affect human life especially related to food allergy issues. Food allergies is defined as a reaction of the human body that is sensitive to food so that it can cause adverse effects or development on human health (Kamus Dewan, 2016). Rafidah (2019) explains that allergies are abnormal reactions that occur in the human body against food that is triggered by the immune system of the body. This is because allergic reactions to the food consumed can cause a detrimental effect and can be fatal to the patient.

Moreover, Dzwolak (2017) states that food allergies or allergies according to scientific perspective is a reaction that occurs due to the toxicological action of food. The effect of such a reaction can affect the level of quality of health and human life. This is because, the response of

hypersensitive effects to a food component and it is categorized as one of the elements of food safety risk. Based on statistics provided by the Malaysian Association of Allergy and Immunology (MSAI) explains that the Malaysian population recorded 15 to 20% suffered from allergy symptoms and is expected to increase up to 50% in the next 10 years (The Star, 2011). In addition, MSAI explains that 50 million people in the United States have a record of suffering from the same allergic symptoms. According to Sharrada (2014), the ratio of potentially allergic symptoms is one in five people in Malaysia. In fact, statistics show that between 45 to 55% of the population in Malaysia also suffered from allergies and incompatibilities with food (Nor Faizah, 2016).

Therefore, there is the potential of HT food which is derived from plants or animals to be categorized as allergic foods which reacts to food health. Generally, there are various categories of food allergies. According to the Allergen Bureau (2019) there are 9 categories of food allergies identified. Meanwhile, Soon (2018) stated that there are 14 types of food allergies. However, foods that are often reported to cause allergic reactions in the community including adults or children are categorized based on 8 types of food sources namely chicken eggs, milk, fish from the sea, shellfish (crustacea species), peanuts, wheat grains, soybeans and tree nuts (Sharrada, 2014). In this case, in addition to the food allergy category, there are also sources of gluten, celery leaves, mustard seeds, sesame seed, sulfur dioxide and animal species of mollusks that can cause allergies among users (Soon, 2018).

#### **4. Effects of Allergy Food Intake**

Allergic diseases that exist among the world's communities have been identified and categorized as epidemic diseases globally. This disease is not only caused by the consumption of certain foods but also from pollen, dust or insect bites such as bees or poisonous insects and allergies to drugs (Weaver, 2016; American Academy of Allergy Asthma and Immunology, 2020). As such, food allergies and their intake also affect humans. In fact, the symptoms of food allergies to the human body are influenced by different types of food and patterns of the digestive system. These symptoms refer to food intolerance which is having difficulty with the process of digestion of a food in the human belly organs (Sharrada, 2014; Razia, 2019). For example intolerance of dairy products to adults or children. The effects of drinking milk on them will increase the risk of stomach pain, diarrhea, vomiting and constipation. This is because it is closely related to the symptoms of food allergy intake in humans (Birot et al., 2018).

In addition, other symptoms that occur as a result of allergic food intake include itching symptoms throughout the body, skin redness, itching in the mouth, swelling of the face, tongue and lips, cough, dizziness, shortness of breath and the most dangerous are the symptoms of cramps on body abdomen (Bernama, 2016). According to Hill et al. (1997) & Razia (2019), food allergies which caused symptoms will occur within 2 hours after being consumed. Generally, allergic reactions can occur in just a few minutes and there are also those that extended up to 6 hours or more depending on the human body's immune system to food allergies.

Statistics show the development of allergic diseases worldwide found that children suffering from food allergies are 80% and adults are in the range of 30-40% (Allergen Bureau, 2019). For children, the common symptom known as Anaphylaxis involves severe allergic symptoms. For example, breathing difficulties, swelling in the mouth and throat, decreased blood pressure and subsequently fatal in patients (Hill et al., 1997; Prescott & Tang, 2005; Australasian Society of Clinical Immunology and Allergy. Inc., 2010).

In terms of food safety control, there are several methods used to control and prevent any symptoms of food allergies to consumers. Among them is that consumers should check the list of ingredients in the completed process food carefully (Birot et al., 2018). This refers to the study of the source of allergic food ingredients stated on the packaging of the finished product.

Similarly, the labeling aspect on proper food packaging can explain food allergies clearly according to food labeling rules and regulations from the authorities. The presence of allergic food waste on the surface of machines or equipment used to process food should also be scrutinized. This is because, allergy food waste used can contaminate non-allergenic foods. In fact, the effects of mixing during food processing by using the same machine equipment can be categorized as allergic food waste contamination (Allergen Bureau, 2019). Therefore, to prevent any cross contamination occurs in the processing of food with allergic food waste, machines and equipment used must be washed efficiently to remove all elements of food allergic waste present (Taylor, 2017).

This action is one of the main factors emphasized by the food industry so that the food products produced are free from any food allergy contamination. In fact, this method of control has been practiced in common food quality management systems such as HACCP, ISO and FSSC22000 system which emphasizes the assessment and prevention of allergic hazard risk in producing food products that are free from allergic risks other than biological, chemical and physical hazards (International Standards), 2018; Foundation FSSC22000, 2019; Department of Standards Malaysia, 2019).

Besides, the effects of food allergies are also influenced by the level of consumer and the community awareness on the dangers of consuming food allergies. Basically, consumers and the public with a low body immune system will be more vulnerable to the risk of food allergies. Therefore, knowledge and awareness on the consumption and use of allergic foods are important issues and should be emphasized among consumers (Nur Zakiah et al., 2010). This is because the risk of food allergies can be curbed if consumers examine the label of the list of raw materials used on food packaging. For example, if there are raw materials that are allergic to use then the industry should clearly state in the packaging label so that consumers can be careful when buying the food product (Rafidah Ghazali, 2019).

The selection of raw materials used in food processing is also an important element that needs to be scrutinized among consumers. Allergic food contamination can occur if the use of processed food raw material sources consists of animal or plant sources that have been genetically modified or better known as genetically modified foods – GMO. According to Siti Fairuz and Latifah (2017) and Alzeer, Rieder, & Abou (2020), there are concerns that arise on aspects of food safety and human health when GMO's- sourced foods have the risk of allergies, toxins and even other diseases. This can indirectly risk the consumers, especially the effects of allergy symptoms even if consumers initially use non-allergic foods. This is because there is a possibility that mixing or transferring occurs between genetically allergic foods over non-allergic foods.

However, the aspect of allergic food intake not only has a negative impact on the health of the human body and is practiced in food quality management but it is also seen as an important element in the consumption of HT food.

## **5. Halalan and Tayyibban Food**

In Islam, it is Muslim's responsibility to consume food that is halal and safe for their health which is also counted as a worship to devote themselves to Allah SWT. Apart from that, halal food can preserve the mind and soul as well as provide a good level of physical health (Jafri, Suhaimi & Zaidah, 2011). In fact, halal food contributes to good spiritual and physical development (Mohd Aizat, Mohd Anuar & Suhaimi, t.t.).

Generally, the issue of halal food intake is much debated in the aspect of halal certificate application and is often questioned in the Malaysian society. Among the issues is the consumption of risky foods that contribute to non-communicable diseases such as heart disease, diabetes, high blood pressure and similar diseases and it is discussed with the concept of HT (Musfirah Syahida, Saadan

& Mohd Anuar, 2015). Halal food is defined as a food substance that is allowed or considered sacred by Islamic law. While 'tayyibban' is a good food ingredient and meets the aspects of quality, integrity, hygiene and food safety (Norazilawati, 2015). The need to consume halal and tayyibban food based on Islamic law is very much demanded in Islam. In this context, consumers, especially the Muslim community, are obliged to find halal food which is considered as the main criterion in food selection.

This explains that illegal food can be harmful to human health and should be avoided. Therefore, Muslim consumers are demanded only to find halal and good food. Allah SWT said:

That means: "O Mankind! Eat of that which is halal and good in the earth, and follow not the footsteps of Satan; for Satan is the real enemy of you. "

(Al-Baqarah 2: 168)

In addition, Allah SWT also said:

Meaning: "Therefore, eat (O you who believe) with what Allah has bestowed upon you from things that are halal and good, and be grateful for the blessings of Allah, if you truly only worship Him."

(Surah al-Nahl 16: 114)

The Qur'an clearly indicates that the aspect of halal and clean food intake is given great emphasis on Muslim consumers. In fact, *haram* and *syubhah* food should be avoided except in urgent situations (*dharurah*). This is in line with *qawaid al-fiqhiyyah (al-dharurah tubih al-mahzurat)* which means the matter of *dharurah* allows things that are forbidden (*yuqaddaru biaoqadariha*) to a certain rate only. Furthermore, the Quran clearly forbids taking dirty and disgusting food. This is because the food can cause harm to humans physically, mentally and spiritually (Ramli & Jamaludin, 2018).

Essentially, the concept of HT which applies in the aspect of halal food is the application of *maqasid syariah*. The purpose is to ensure good (benefit) and prevent the occurrence of bad or harm (*mudharrah*) in the life of society. In this context, there is a need to preserve the five Shariah objectives (maqasid syariah al-khams) namely to preserve religion (*hifz al-din*), life (*hifz al-nafs*), intellect (*hifz al-aql*), property (*hifz al-mal*) and heredity (*hifz al-nasb*) (Mohammad Aizat et al., 2011; Sharif & Mohd Izhar, 2017; Putri, 2019). Therefore, the implementation of Maqasid Shariah is not only divine in nature and shows reverence for Allah SWT but it is a method of prevention and protection that is appropriate for mankind without ignoring Shariah law. In addition, Maqasid Shariah focuses more on welfare procedures to human life such as environmental protection, health protection, disease prevention and including aspects of food resource intake (Sharif & Mohd Izhar, 2017). In fact, it is also practiced and expanded in the community life system in line with the current development of food technology.

The concept of HT has been used in the manufacture of modern food which not only includes aspects of halal certification requirements, hygiene of processing places and selection of raw materials with halal status but also closely related to food safety aspects. Azizan et al., (2016) explains that apart from the concept of halal, the tayyibban aspect also helps to complete the worship of Allah SWT through health care, food safety, hygiene, sanitation, nutrition, avoiding any risk of damage including social aspects of society based on resources of Qur'an and hadith. Raheem and Demirci (2018) argue that halal food with the concept of tayyiban refers to food that is free from the risk of harm to health and benefits to body growth. It also involves that the food taken is safe and not harmful to the consumers.

Hence, the concept of HT is considered a comprehensive concept that calls for all consumers to choose the best food and comply with Islamic law. In fact, this concept goes beyond holistic level that is safe and good for health (Arif & Ahmad, 2011).

## **6. Halal Food Safety and Management System**

Among the food safety issues highlighted in common food quality management systems such as the HACCP (*Hazard Analysis Critical Control Point*) system is free from the risk of biological, chemical and physical hazards. According to Mortimore & Wallace (2013), there are three types of food safety hazards emphasized in food processing activities namely the presence of contamination of microorganisms on food products, the use of chemicals such as detergents or grease maintenance machines and physical contaminants such as stone, iron, glass, plastic, paper and such. This is one of the crucial elements to ensure the quality and level of food safety throughout the food supply chain. This chain ranges from the identification of raw materials to the production of final materials to consumers.

Apart from the three hazard risks mentioned, there are also other food risks that can affect human health. The food risk intended is allergen food. Food allergies generally refer to foods that give an abnormal reaction to foods triggered by the body's immune system. Such reactions can lead to symptoms of pain and can be fatal.

Based on the guidelines issued by the Department of Standards Malaysia (DSM) in 2019 namely MS1480: 2019 '*Food Safety According to Hazard Analysis and Critical Control Point- (HACCP) Second Revision*' states that a hazard risk consist of biological, chemical, physical and also allergenic food, potentially to adversely affect health or hypersensitive effects in humans. Besides, there are guidelines 'MS1514: 2009 '*Good Manufacturing Practices-GMP*' and '*Good*

*Hygiene Practices-GHP* are also used as a complement in aspects of Malaysian halal certification by Department of Islamic Development Malaysia (JAKIM) to ensure the safety of food products (Sani & Dahlan, 2015).

Food allergens risk are also stated in the food safety management system guidelines 'ISO22000' in year 2018. These guidelines are explained in subsection 3.22 stating that there are three common hazard risk examined including food allergies. In addition, other food safety management systems such as ISO / TS 22002-1 (*Pre requisite Programs on Food Safety- Part 1: Food Manufacturing*) also states the need to manage food allergies throughout food processing activities (International Organization for Standardization, 2009). Based on the guidelines in subsection 10.3 related to allergen management by focusing on several methods of controlling the cross-contamination of food allergies in food processing activities. Similarly, the international food safety quality management certification body, '*British Retail Consortium Issue 8 (BRC)*' also emphasized the dangers of food allergies. Based on these guidelines, aspects of food allergy control that act as one of the risks of contamination are stated in each subsection of requirements in the guidelines (British Retail Consortium, 2018).

Based on the concept of halal food quality, authorities such as JAKIM have implemented general standards for the purpose of official reference as a benchmark in the application of Malaysian halal certification management through MS1500 (Malaysian Standard: Halal Food - General Requirements) and in comply with Malaysian Halal Certification Procedure Manual (MPPHM). This halal standard was introduced in 2004 and has undergone an increase in standard requirements as well as being reviewed for the third time in early 2019 through process of development. MS1500: 2019 (JAKIM Halal Portal, 2018). The development of this halal standard was developed by the DSM as a general guide for preparing and handling halal food from the reception of raw materials until the production of finished products. As a result, the authorities have taken several proactive measures and initiatives to develop and improve the existing halal certification system by developing a halal assurance system as the main requirement in halal certification applications in Malaysia.

Besides the use of the standard MS1500 halal standards, other standards such as MS1480 (HACCP) and MS1514 (GMP) are also used to strengthen and complement the needs of producing halal food products (Sani & Dahlan, 2015). However, the aspect of JAKIM's halal certification requirements emphasizes the aspect of illegal risk prevention that can occur along the halal food supply chain. The study refers to the assessment of the status of raw materials used, food processing activities and packaging of finished products. However, the emphasis on aspects of food allergy

assessment that is harmful to health has not been scrutinized and focused as a criterion for halal certification requirements.

Therefore, the authorities need to emphasize the risk of food allergy hazards. This is because, the existing halal certification system has incorporated HACCP-Halal aspects to ensure that the products produced are free from prohibited (haram) elements, syubhah and food safety risks that can be harmful to human health (Kohilavani et al., 2013). Meanwhile, the common food quality management system approach applied by most food industries in Malaysia has seen the importance and need for food allergy risk control. Hence, in the approach of halal certification management system still does not focus on the risk of food allergies that are proven to have a negative impact and harmful to human health.

## **7. Allergic Food According to Halalan Toyayiban Perspective**

Food allergies are widely debated by physicians and nutritionists in the implementation of food quality management systems. This includes sources of food that have the potential to cause allergies. From a scientific perspective, foods that have the potential to affect the risk of allergies can be derived from animals such as chicken eggs, milk, fish and shellfish. Meanwhile, example of plant sources are peanuts, wheat grains, soybeans and tree nuts. Besides, there are chemical elements that also have allergic effects such as sulfur dioxide. The food described is a source of food that has nutrients such as high protein, vitamins and minerals. Similarly, the value of nutrition is very important in the process of growth and stimulates the growth of cells of the human body (Saadan & Zainal Abidin, 2014).

However, food intake that risks human health is not allowed in the Islamic perspective. This is because Islam is very concerned about the health aspects and the ability to worship well. In fact, health care is the responsibility of being a caliph on earth to devote oneself to Allah SWT. This is in line with the concept of *maqasid Shariah* which is to take care of life (*hifz al-nafs*) and intellect (*hifz al-'aql*) (Musfirah Syahida et al., 2015). Furthermore, the aspect of preserving the *maqasid Shariah* is preferred (*al-awlawiyyat*) although the source of the food is halal. In this case, risky food sources such as food allergies are categorized as harmful and do not comply with the concept of 'halalan tayyiban.'

As such, the application of the concept of halal and tayyiban has a very close relationship in producing halal, clean and safe food (Suhaimi & Jafri, 2011). In this context, the Qur'an clearly states the prohibition of mankind to ruin and destroy themselves through His words:

Which means: "And spend (what you have) for (upholding) the religion of Allah, and do not deliberately throw yourselves into the danger of destruction (by being stingy); and rectify (your best efforts) and your deeds; because indeed Allah SWT loves those who strive to improve their deeds."

(Surah al-Baqarah 2: 195)

Islam forbids Muslim consumers to commit acts that could destroy themselves, their families and the community. In other words, Muslim consumers should avoid any food that is risky and harmful to life and mind. Muslim consumers should be cautious in selecting the sources of Halal food that can be categorized as food allergies. In fact, some of these food allergies are used as one of the sources in Islamic medicine and are explained through the arguments of the Qur'an which states the advantages of consuming these foods (Faszly, Wan Nashyudin & Aminah, 2015). As such, the intake of halal food sources from animal and plant sources is allowed if not taken in excess and can lead to harm such as allergic diseases on the body.

In the perspective of halal food management, the issue of food allergies needs to be extensively looked at. This is because, the potential use of food allergy sources is widely used and is a major challenge to the application of halal certification of a food product. For example, halal auditors not only examine aspects of raw material resources, processing methods, hygiene, equipment, workers and the surrounding area but also need to identify potential risk of harm such as microorganism, chemical, physical and food allergic contamination. Therefore, the halal industry should have the responsibility to implement an effective and comprehensive control system. This includes explaining the content stated on the food packaging material so that there is no risk of allergic pollution to the consumers.

## 8. Conclusion

HT is an integral of two basic concepts in consuming food that is halal, clean and safe for consumers. Similarly, the tayyiban aspect emphasizes food safety elements that are free from the risk of biological, chemical, physical contamination and including food allergies. Basically, the identification of food allergy symptoms has been applied in common food quality management systems. This system serves to ensure that the food products produced are not contaminated with the risk of allergies to consumers. However, its application in halal food management and certification system has not been discussed in depth.

Thus, this article has highlighted the need for the identification of food allergies in the HT perspective on the production of food products. The study of symptoms and risks on food allergies is

not only seen in terms of food safety, but also these elements need to be seen from the perspective of 'halalan tayyiban.' Basically, halal sources such as animals and plants are allowed. However, it turns out to be illegal if it is sourced from illegal substances and potentially harmful to health. This includes issues related to food allergies even though some of the food is halal. In Islam, aspects of preserving the maqasid of Shariah such as *hifz al-nafs* and *hifz al-'aql* are more important for the benefit of the consumer. Therefore, it is recommended to focus on the risk assessment of food allergies according to the Qur'an and Sunnah in the future studies. Hence, the review can be done by discussing methods to improve the Malaysian halal certification audit process through the identification of food allergies along in halal food process involved.

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