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Commentary

Rational and practical aspects of Halal and Tayyib in the context of food safety

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ABSTRACT

Background: Food plays a very important role in our daily life and most foods are based on regional, cultural and religious influences. Halal (permissible) food is emerging as one of the most important issue in food industries. Rational understanding of Halal, Tayyib (pure) and Khabith (impure) and their relationship with food safety is essential in determining Halal food status.

Scope and approach: Initially Halal food was thought to be free from alcohol and pork. Later on Tayyib was strongly introduced into Halal food production and led to include food safety requirements as part of Halal food certificates. However, the practical description of Tayyib and the rational merging with Halal have not been well clarified yet. In this context, we would like to give a practical overview of Halal, Tayyib and Khabith concepts, their values and relationship to food safety.

Key findings and conclusion: The rational understanding of Halal, Tayyib and Khabith in the context of food safety is essential. Considering Halal as a subject and Tayyib as a process, facilitates Halal certification procedure. The main objective of Tayyib is to produce clean and pure, food and to create a comfortable feeling as a main goal, which can be achieved if food is produced according to Sharia (Islamic principles). Halal labelled food should reflect the concept of Halal and Tayyib, particularly the identification of all ingredients involved in the production, determination of Halal and toxicity status, and removal of repulsive, Najis (ritually unclean) and toxic ingredients.

1. Introduction

Human is rational by nature and seeks rational paths that would fill the heart with tranquillity. The human's vision about life is varied from nation to nation. The Islamic vision about life is based on the idea that human is created by Allah, life is mortal, hell and paradise is real and ticket of entry is solely dependent on human deeds and action during life “Whosoever does an evil deed shall be recompensed only with the like of it, but whosoever does a righteous deed, whether male or female, while he is a believer, those shall enter Paradise” (Holy Quran, Sūrat ghāfir: 40). The term “Halal” is frequently used in Muslim and non-Muslim world. However, Halal is considered as a concept (Khattak et al., 2011) for Muslim, an idea for non-Muslim and an issue for certifying bodies (Majid, Abidin, Majid, & Chik, 2015; Norazmi & Lim, 2015). The Halal concept means “permissible” and covers all human actions and deeds, which include eating, wearing, seeing and talking. For Muslims, the Quran is a book of signs. Interestingly, whenever the concept of Halal is presented in the context of food, the concept of Tayyib is explicitly coupled. Therefore, it is necessary to use the combined expression

“Halala Tayyiba” when Halal food is presented. The concept of Tayyib refers to clean, pure, and comply with Sharia (Arif & Ahmad, 2011). As Halal is a concept that organize behaviour, hence what we eat will have impact on our character (Jiang, King, & Prinyawiwatkul, 2014), Duaa (supplication) acceptance and personality. The concept of “you are what you eat” is supported by Quran “O you Messengers! Eat of the clean and pure (Tayyib) and act righteously” (Holy Quran, Sūrat Almuminun: 51). The contrary of Tayyib is “Khabith” which connotes to everything that is impure, brings harm and disgust “makes lawful to them the pure things and makes unlawful to them impure things” (Holy Quran, Sūrat l-a’rāf: 157). The concept of Halal and Tayyib have been described frequently in many publications (Arif & Ahmad, 2011; Arif & Sidek, 2015). Most opinions suggest that Tayyib is related to food safety (Demirci, Soon, & Wallace, 2016), but detailed practical description of Tayyib and rational association with Halal has not been well clarified. Therefore, we believe that, it is necessary to develop a practical description and application of Halal and Tayyib to facilitate our understanding of the relationship between both concepts. Clear understanding of Halal and Tayyib will enable us to facilitate the determination whether the end

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product, with regards to process and content, complies with Sharia or not. Here we present a new practical description of the concepts: Halal, Tayyib and Khabith including their objectives, goals and values in the context of food safety. The core meaning from Islamic point of view will remain the same.

2. The Halal-Tayyib relationship

The core definition of Halal is based on the Islamic principle where it says everything is Halal by nature “*He has also made subservient to you all that is in the heavens and the earth*” (Holy Quran, Sūrat Al-Jāthiyah:13). Non-Halal has been specified as exception, and main exceptions of Halal are: ethanol (Alzeer & Abou Hadeed, 2016), blood, pork (Jahangir et al. 2016), carnivores and omnivore animals, food contaminated with non-Halal ingredients and food with potential toxic ingredients that may expose human's health to danger. Indeed, Islam emphasizes strongly on the issue of food safety, thus frequently associates Halal concept with Tayyib when Halal is related to food “*O ye who believe! Eat of the clean and pure that We have provided for you, and be grateful to Allah, if it is Him ye worship*” (Holy Quran, Sūrat Albaqarah: 172). Tayyib in Arabic means clean and pure, therefore the concept of Tayyib, with regard to food, represents a process through which the food passes through to achieve both objectives: maximum hygiene (clean) and minimum contamination (pure) without any potential toxic, Najis (ritually unclean) and Khabith (impure) ingredients. Therefore, how Halal, which is a subject, is being processed, will determine if Halal is Tayyib or not. Chicken as a subject is Halal but how chicken is handled, treated, fed and slaughtered will determine if the chicken is *Halala Tayyiba* or not. Both objectives (clean and pure) are targets for food industries. What makes Tayyib unique is the goal; to create a comfortable feeling when food is taken. The comfortable feeling cannot simply be achieved by having healthy, safe and pleasant food, which is essential, but it can be accomplished if what we eat complies well with what we believe. Comfort food, that is selected and influenced by what we believe, is known to improve our mood, make us feel better and give us a sense of well-being (Bublitz et al., 2013; Wansink, Cheney, & Chan, 2003). Therefore, the Tayyib processing of Halal will have positive impact on mood, health and faith practicing “*Verily Allah the Exalted is pure (Tayyib). He does not accept but that which is pure (Tayyib)*” (Sahih Muslim). The contrary of Tayyib is Khabith and according to Arabic dictionary Khabith refers to everything which is disgusting and cannot be used as a source of food such as snakes, lizards, scorpions, pests, beetles, and mice. Anything disgusting and repulsive by human's nature, or that has potential to harm human's health, no matter if it is described in Quran and Hadeeth or not, is considered Khabith and non-Halal. Thus, the concept of Khabith with regard to food reflects uncomfortable feeling with repulsive action resulting from disagreement between food and humans believe. This is a natural reflection that mostly occurs with people following specific lifestyle such as vegetarian, vegan, Kosher and Halal. Interestingly, cancer in Arabic is also called Khabith, thus any ingredients which are potentially carcinogenic are Khabith as well (Rudel, Attfield, Schifano, & Brody, 2007). Therefore, eating Halal-Tayyib is the path toward achieving complete satisfaction. As opposed to this, disgusting and repulsive feeling is unhealthy and may lead to stomach discomfort. It has been suggested that the negative expectations by the patients increase nocebo effect during the presentation of disgusting conditions (Schienle et al., 2017). Quran strongly recommends to eat Tayyib and avoid Khabith “*Not equal are the Khabith and the Tayyib, although the abundance of Khabith might impress you. So fear Allah, O you of understanding, that you may be successful*” (Holy Quran, Sūrat Almāida: 100).

3. The value of Halal and Tayyib food

Many Muslim scholars rationalized the benefit of Halal food with regard to health (Khattak et al., 2011), but in reality, many non-Muslim

(particularly in the civilized societies) eat non-Halal food and they are healthier and live longer than many Muslim. Moreover, in severe circumstances, when Halal food is not available and human's life is in danger, Islam allows Muslim to eat non-Halal food. However, what is the value behind eating Halal food? Halal food is based on religious influences thus the main value in Halal food is spirituality. It is construed as a combination of positive emotions, meaningful realization of relationship with the Creator, and a sense of satisfaction and accomplishment. Spirituality can be achieved by synchronizing deeds with thoughts that finally leads to tranquillity in the heart. Therefore, when Muslim eat non-Halal food, the heart will not be filled with tranquillity. On the contrary, stomach discomfort will be generated subsequently. Importantly, negative impact on food digestion, metabolism, oxidative stress (Samina, 2016) and immune system deficiency (Adamo, 2016) will be developed and ultimately leads to the development of diseases (Connor, 2008). If we assume that a host invited a guest for dinner and the dinner had a pleasant taste, was well cooked and cleanly prepared, but the origin of the meat was unclear. In case the host revealed to the guest that the meat was either chicken, cow or sheep, nothing unusual would happen. However, if the host would reveal that the meat was cat or dog, it is expected that the guest's stomach will develop discomfort and cause initial symptoms similar to food poisoning. Many studies showed that abdominal pain doesn't have a physical cause and it may be a result of mental or emotional stress, which the body translates into physical symptoms (Jonassaint et al., 2009). In fact, stress in humans can enhance pro-inflammatory cytokine signalling (Hodes et al., 2014) and promote generation of reactive oxygen species (ROS) which lead to oxidative damage (Samina, 2016). Lifestyle and psychological stress (Kemeny & Schedlowskim, 2007) play an important role in the development of a disease (Li et al., 2016). Thereby for Muslim, eating *Halala Tayyiba* (Yunus, Wan Chik, & Mohamad, 2010) will provide a basis for the development of relevant prevention strategies “*O ye people! Eat of what is on earth, Halala Tayyiba; and do not follow the footsteps of the evil one, for he is to you an avowed enemy*” (Holy Quran, Sūrat Albaqarah: 168).

4. Advantages of Tayyib with regard to food safety

Food is the fundamental source in our daily life, it contains essential nutrients, such as proteins, carbohydrates, fats, minerals and vitamins, to provide energy for living and growing. The food industry is offering us different choices with a variable food qualities. Importantly, food can be a potential vehicle for disease transmission, thus the quality of food plays a significant role with respect to human health. Food safety is essential in sustaining life and maintaining public health. Primarily, the safe handling, preparation and storage of food help to prevent illness and injury (Chaves, Alvarenga, Campagnollo, Caltura, & SantAna, 2017). Contaminants can enter the food supply at any point from agriculture and storage through packaging. Each phase of the food cycle can affect human's health and embark different kind of diseases (Schlundt, 2017). Implementation of Tayyib (clean and pure) in food industries as a public health priority, is essential for the protection of health and for enhancement of the quality of life. Tayyib takes into consideration food hygiene, food additives, contaminations and pesticide residues in order to prevent food related diseases (Ambali & Bakar, 2014). At the same time Tayyib complies well with Sharia and enriches societies with spiritual, moral and human values. Similarly, if the concept of Tayyib is applied on animals, it will have a positive impact for animal welfare. Tayyib emphasises that animal should not be slaughtered in front of other animals. Babies and sick animals are not allowed to be slaughtered at all. On the contrary, sick animal need to be taken to animal hospital whereas animal feed must comply with animal nature, e.g. animal bones for chicken and cow must be avoided. Thus, applying Tayyib in handling animals will promote animal welfare.

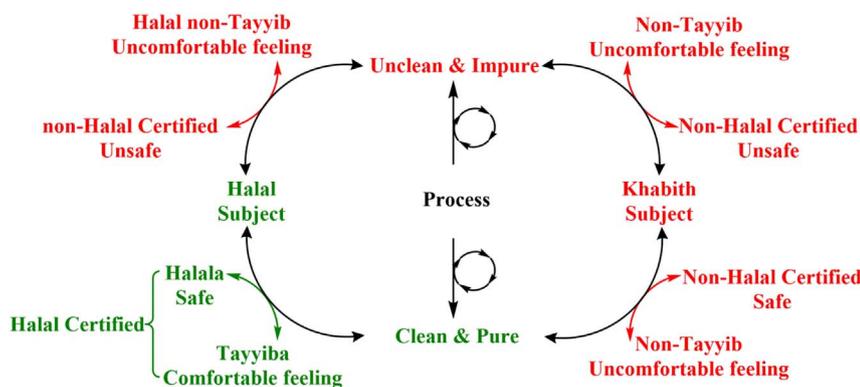


Fig. 1. Halal certification with regards to Halal, Tayyib and Khabith.

Table 1
Potential examples of subjects which are Halal but cannot be Halal certified.

| Halal subjects | Non-Tayyib process |
|-----------------------------------|---|
| Chicken, sheep, fish and cow meat | Intentionally fed with animal bones, or warms; produced on lines used for pork |
| Flavour | Processed with fermented ethanol |
| Water | Passed through filters derived from Pork fat |
| Fruits and Vegetables | Intentionally cultivated with fertilizer derived from pork, genetically modified or injected with oxytocin hormones |
| Caviar | Fish is fed with pork haemoglobin |
| Cheese | Enzyme used in the production of cheese is derived from non-Halal animals or microbes grown on non-Halal media |

5. Practical issues in Halal certification

Many of the food additives and ingredients as well as fruits, vegetables and meat are Halal, as a subject, however the methods and processes used to transform raw ingredients into food or to transform food into other forms are often non-Tayyib. Integrating Halal and Tayyib concepts is essential and a prerequisite in Halal certification for various products. If the process is not clean, and has potential cross contamination or contains toxic ingredients, these products cannot be Halal certified, even though the material as a subject is Halal (Fig. 1).

Falafel is a deep-fat fried ball made from chickpeas. Falafel as a subject is Halal, but if falafel is fried in clouded, foamy or dark oil with foul odour (Choe & Min, 2007), the process is not Tayyib. Each time the oil is reused, it gets darker, decreases the unsaturated fatty acids and increases the content of free fatty acids, triacylglycerol dimers (Romeo, Cuesta, & Sanchez-Muniz, 1998), oxidized triacylglycerols and polymeric compounds (Tompkins & Perkins, 2000). Therefore, Halal certificate will not be issued for this particular falafel. Falafel to be Halal and Tayyib needs to be fried in clean and fresh oil. Similarly, cultivating Halal fish in aquaculture farms involves fresh or saltwater under controlled conditions and fed on naturally available food (Naylor et al., 2000). Certain farms, due to acute water shortage, cultivate fish in water contaminated by sewage (Rose, Fernandes, Mortimer, & Baskaran, 2015), agricultural pesticides (Qiu et al., 2017) and industrial waste (Chanpiwat et al., 2016). Such process is non-Tayyib and fish cultivated in such contaminated environment cannot be Halal certified, although fish as a subject is Halal. Many scientists believe the long-term risks of consuming contaminated seafood could lead to higher rates of cancer and other diseases (Virtanen, Mozaffarian, Chiuve, & Rimm, 2009). In the above examples, we showed that food sources could be Halal as a subject but non-Tayyib as a process, therefore cannot be Halal certified. Similar analogy can be applied to many other Halal subjects (Table 1). Eating such Halal subjects is optional for individual, and dependent on the circumstances, whereas Halal certificate cannot be issued for such products.

6. Conclusion

In summary Halal is a subject, whereas Tayyib is a process that should lead to clean and pure food as a main objective and generate comfortable feeling as a main goal. If objectives and goal are accomplished, the food can be declared as Halala Tayyiba. Utilizing both concepts, is essential in Halal food industries, which require detailed evaluation of food contents with regard to Halal, toxicity, safety and hygiene status. Halal certification bodies are strongly recommended to take into consideration high safety hygiene. All ingredients involved in the production need to be identified in order to determine their Halal and toxicity status. Repulsive, Najis and toxic ingredients need to be removed though toxicity is determined by the dose rather than by the nature of the material. However, Halal certification cannot be done by religious scholars, as they are unable to deal with all Halal issues. Certification requires highly qualified scientists in the field of chemistry, food technology or other related science with pharmaceutical background in order to cover all Halal issues. Conclusively, the message from Halal label, is to declare that food is safe, clean and comply with Sharia.

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