

RESEARCH ARTICLE

ISTIHALAH CONTENTION IN HALAL FOOD INGREDIENTS

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ABSTRACT - Modern food ingredients nowadays vary and more complex compared with previous decade so they come in different forms and content. They were produced with advanced technology that involved modification and changing in chemical, biological, and physical properties of food which aligned with the Istihalah concept. However, the issue becomes debatable among Muslim consumers when these beneficial food ingredients; protease enzymes and gelatin are made from non-halal sources which are blood and pork (khozir). However, when referring to Istihalah, two different thoughts from Islamic jurists (ulama), Islamic scholars, and sects (Mazhab) were discovered. This contention might be escalated and become a misunderstanding among Muslims if there is no clarification made with the incorporation of Islamic guidance together with the science and technology explanation. Therefore, this paper will highlight the Istihalah principles in fiqh and Islamic Jurisprudence (Usul al-fiqh), a different point of view regarding Istihalah from Islamic jurists (ulama), sects (Mazhab), and Islamic Scholars, and the applications of Istihalah towards controversial food ingredients with support from latest science and technology studies. The expectation for this paper is to give a better understanding of Istihalah in Islamic perspectives proved by scientific foundation.

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1.0 INTRODUCTION

Today, with exceeding 1.9 billion Muslim people worldwide, investigating the origin of food products becomes compulsory. Every Muslim is responsible to follow the guidelines in the al-Quran as a “way of life” that guides human beings in every feature of life by ritual and practices. Even in selecting food for human consumption, the guideline is specified in al-Quran in surah Al-Ma’idah verse 4 and Al-An’am verse 145 where Allah taught about halal and toyyiban food [1].

‘They ask you, [O Muhammad], what has been made lawful for them. Say, “Lawful for you are [all] good foods and [game caught by] what you have trained of hunting animals which you train as Allah has taught you. So, eat of what they catch for you, and mention the name of Allah upon it, and fear Allah.” Indeed, Allah is swift in account’ (5:4)

‘Say, “I do not find within that which was revealed to me [anything] forbidden to one who would eat it unless it be a dead animal or blood spilled out or the flesh of swine - for indeed, it is impure - or it be [that slaughtered in] disobedience, dedicated to other than Allah. But whoever is forced [by necessity], neither desiring [it] nor transgressing [its limit], then indeed, your Lord is Forgiving and Merciful.’ (6:145).

Halal terminology gives the meaning of ‘permissible’ or ‘permitted’ [2]. The permissible or permitted shows that there is no restriction in doing things as long as it is allowed by Allah. Halal in food covered the toyyiban aspect which is clean, hygiene and, healthy. This is aligned with the Al-Quran where Allah s.w.t says:

‘O you who have believed, eat from the good things which We have provided for you and be grateful to Allah if it is [indeed] Him that you worship’ (2:172)

Processed food required various types of food ingredients. A simple example is a flour, salt, and water in making noodles. Food technology has changed processed food enormously by adding new food ingredients made biotechnologically. The aid of new ingredients is transforming food into more resilient characteristics in terms of appearance, texture, and shelf life. The transformation of one substance into new things is discussed and investigated by Islamic scholars and jurists (fuqaha) for centuries. In Islamic perspectives (shari’ah and fiqh), the transformation process is called Istihalah (a change) [3,4]. [5] defined Istihalah as a changing or irreversible transformation from one substance

to a new state of a substance. A fiqh scholar [6], describes the Istihalah process as an exchange of the original substance into a new condition. The changes that occur will create a new name since it involved physical and chemical transformation [7, 21]. Fiqh scholars from the Maliki sect of Islam contended that the name for the end product after Istihalah must not represent the previous physical and chemical characteristics [9].

2.0 DIFFERENT POINT OF VIEW FROM ISLAMIC JURIST AND SCHOLARS

Throughout Ijma', Islamic scholars and jurists have divergent opinions regarding Istihalah's approaches. The issues are subjected to non-halal or najis substances intentionally added as food ingredients or functional food in a food product. Theoretically, Islamic Jurist and scholars have the same understanding and point of view of Istihalah. In terms of approaches, they have their justification and decision. The Istihalah approaches from Hanafi and Maliki sect approach are more tolerable compare to Syafi'e and Hambali Sect. The Hanafi sect approach for Istihalah is accepting the transformation of origin into other substances regardless it comes from halal or non-halal (najis) origin [10]. Once the origin has transformed physically in terms of odour, colour, and taste, the najis should no longer be considered as haram (najis). This approach is supported by some Islamic scholars including the al-Zahiri sect. If the origin is non-halal (najis) or filthy is transformed its properties (colour, smell, and taste) into a new type of material, the principles also change from haram to a halal ingredient [6]. A scholar like Yusuf al-Qardhawi gives a point of view relating to Istihalah. Several things are prohibited in al-Quran. However, things that are not prohibited in al-Quran and Sunnah are considered permissible. As the Prophet (PBUH) said and supported in surah Al-Baqarah verse 168:

“O mankind, eat from whatever is on earth [that is] lawful and good and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy (168)

“What Allah has made lawful in His Book is halal and what He has forbidden is haram, and that concerning which He is silent is allowed as His favour. So, accept from Allah His favour, for Allah is not forgetful of anything”

(Reported by Al-Hakim)

These approaches are supported by several contemporary Islamic jurists and scholars such as Ibn al-'Arabi, Ibn Taymiyyah, Ibn al-Qayyim, al-Syawkani, al-Qardawi, Sulayman al-Ashqar, al-Jawziyyah, Hazm Al-Zahiri, al-Aziz Farj, Siddiq Hassan Khan [11,12,13]. The Maliki sect accepts the same Istihalah approach as long as the filthy (najis) or non-halal origin is changing their character and become different matter with a new name [14]. A diverse approach can be seen for Syafi'e sects like al-Shirazi and al-Sharbini where Istihalah is not applicable for origin matter that is non-halal or filthy (najis) [15]. It is still considered as najis even new substance is formed. This approach is excluded for natural transformation like fermented fruits that are transformed from alcohol to vinegar. The Hanbali sects like Ibn Hammam al-Hanafi also focus on the origins of the substance. If the origin is pure and halal, therefore the end product should no doubt be recognized as halal and vice versa [16]. Their contention also is based on the hadith of the Prophet Muhammad (s.a.w) where Anas ibn Malik R.A. narrated:

“The Messenger of Allah (peace and blessings of Allah be upon him) was asked, whether wine could be changed to be used as vinegar? The Prophet quickly said, ‘No.’” (Al-Nawawi, 1994)

All Ijma' sects reached an agreement by declaring: any harmful ingredients are prohibited (haram) to enter the human body directly or indirectly.

3.0 FOOD INGREDIENTS

3.1 E441 Gelatin

Gelatin is a protein attained through the partial hydrolysis process by utilizing animal bones, cartilage, tendons, and skin [18]. It has the ability to become adhesive and gelled. At the same time, it has the water-holding capacity ability and elasticity property [19] which is very useful in processed food. Gelatin obtained from permitted animal and halal slaughter has no issue in this matter. However, the issue being debated is when the origin of the animal is from haram sources like a pig (porcine gelatin). According to [20, 21] 40% of world gelatin comes from pigskin mainly in Europe. It is mentioned in the al-Quran that a pig is one of the prohibited animals to be eaten in Islam. One of the words of Allah s.w.t is in surah An-Nahl verse 115 where he said:

He has only forbidden to you dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah. But whoever is forced [by necessity], neither desiring [it] nor transgressing [its limit] - then indeed, Allah is Forgiving and Merciful.

Swine is also known as pig or khinzir. The prohibition of this creature is due to its nature that filthy and najis [22,23]. In medical research, this creature is found to be highly exposed to bacteria since the animal is a host for several corona viruses [24]. Besides, their organ (liver) and by-product are the reservoirs for the hepatitis E virus (HEV) [25]. This prohibited animal is mention repeatedly in another verse of surah Al-Baqarah verse 173. In qur’anic verses, [26] clarifies that the prohibition involved the whole pig which is agreed by [16]. The interpretation is different for [27] who consider pig derivatives is permissible. In Istihalah of gelatin, the Hanafi and Maliki sect (Ibn Al-‘Arabi), accepted porcine gelatin as permissible due to changes informed, characteristics and name. This decision is aligned with jurists from the Hambali sect which is Ibn Taymiyyah and Ibn al-Qayyim. al-Syawkani and Ibn Hazm al-Zahiri also supported the concept of both transformations naturally or synthetically [28]. However, Syafi’e and Hambali’s sect has mostly rejected this decision due to haram origin.



Figure 1. Raw material and treatment for gelatin production

To produce gelatin (figure 1), the raw material (skin, bone, or cartilage) is treated with a buffer solution and protease enzyme [29]. During treatment, animal protein in will denatured and destruct the hydrogen bond and loosen triple-helix conformation [30, 31]. Consequently, the destruction does not change any chemical composition of gelatin [32]. Without chemical changes, the Istihalah application towards porcine gelatin still becomes a debate. Therefore, the Muslim community must work together in producing halal gelatin from halal sources.

3.2 Blood Transglutaminase (TGase) Enzyme

Transglutaminase is an enzyme obtained from animal tissues like blood plasma [33]. A recent development in processed food leads to enzyme application in a modern food product. Through science and technology, blood plasma is fortified as a binder, color enhancers and, emulsifiers in meat products. It has the ability to modify the protein formation cross binding which improves the texture characteristics and product appearance in terms of elasticity, shape, melting point, and water holding capacity. The applications of the Transglutaminase enzyme are referred to in Figure 1 where food products like seafood, meat, milk, egg, soybean, collagen, gelatin, wheat cereals, and seasoning that are commonly fortified with Transglutaminase enzyme. The use of this enzyme is also reported in cosmetics, medical material, stabilizers and, acts as a preservative in a vegetable coating [34]. Transglutaminase enzymes can be developed via three techniques. The first approach is using extraction and purification of the enzyme from the animal or plant tissues. In this approach, origin from pork blood, soybean leaf, guinea pig, and bream liver are extracted and tested for various applications. For genetic engineering techniques, the origin will undergo microbial fermentation to obtain the Transglutaminase enzymes. The preceding technique is by microorganism selection through the gene technology method. In this approach, some microorganisms that produce Transglutaminase enzymes are screened and the most active microorganisms will be selected.

TRANSGLUTAMINASE ENZYME					
Meat / Fish	Diary	Vegetable Protein	Gelatin & Collagen	Bakery Product	Flavour Enhancer
Improving the texture of meat and a chicken product like surimi, crab stick, fish ball, meatball, etc	Substituting rennet in cheese process	Producing high temperature resistant to good texture	Producing capsule	Improving the texture of noodle and pasta	As a seasoning for fish and meat product
	Producing low-calorie ice cream		Modifying gelatin properties	Producing high loaf volume of bakery product	
	Reducing separation in yogurt		Producing artificial shark fin		

Figure 2. Application of Transglutaminase enzyme in food [34]

The Islamic obligation is paramount in protecting human being from diseases. In surah alMaidah verse 3, Allah had stated clearly that blood is prohibited.

Prohibited to you are dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah, and [those animals] killed by strangling or by a violent blow or by a head-long fall or by the goring of horns, and those from which a wild animal has eaten, except what you [are able to] slaughter [before its death], and those which are sacrificed on stone altars, and [prohibited is] that you seek decision through divining arrows. That is grave disobedience. This day those who disbelieve have despaired of [defeating] your religion; so fear them not, but fear Me. This day I have perfected for you your religion and completed My favor upon you and have approved for you Islam as religion. But whoever is forced by severe hunger with no inclination to sin - then indeed, Allah is Forgiving and Merciful (3).

Islamic jurists and scholars have described, only the flowing blood during slaughtering is prohibited. Blood that is still appearing within the flesh of the slaughtered animals is preferable to be clean. Nevertheless, two types of blood are permitted which are liver and spleen [15]. In a medical context, [35] has discovered that 24% of porcine blood plasma powder used for animal feed is positive with Hepatitis E virus RNA. It shows that blood is a good host for diseases carrier and microorganisms. In Istihalah application of blood plasma, [36] considered it as incomplete Istihalah (Istihalah Fasidah) since the blood constituent still existed in the end product [37] used Polymerase Chain Reaction (PCR) in identifying blood plasma DNA in fish products. Further methods of analysis are required to obtain a reliable result.

4.0 CONCLUSION

Allah has prohibited certain things for a certain reason which is beyond human understanding and knowledge. Despite the fact, Muslim scholars and jurists have a different point of view regarding Istihalah application. Porcine gelatin and enzyme in blood plasma are prohibited as mention by Allah s.w.t repeatedly in al-Quran. Science has evidenced the process of Istihalah is incomplete for blood plasma and porcine gelatin. To produce halal food, the industrial player needs to understand the Halal concept as defined in the al-Quran and sunnah. At the same time, they need to comprehend, learn, and, fulfill the requirements of an authorized agency. Without knowing the importance of halal towards the Muslim community, it leads to adulteration of non-Halal ingredients, intercourse of non-Halal ingredients in storage, and fraud in producing halal food. To conclude, scholars need to works together with the authorized agency in spreading knowledge to the community. At the same time educate the industrial player in producing halalan and toyyiban food.

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6.0 CONFLICT OF INTEREST

This research has no conflicts of interest.

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