

## A Guideline of Determination Haram Status of Intentionally Adding Animal Plasma in Surimi Products

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### Abstract

The process of intentionally adding animal plasma additive (APA) into surimi products is part of the polemic issues are getting attention among Muslim consumers. APA possesses good functional properties such as improving emulsifying capacity, alternative for fat, alternative for eggs besides functions as a cheap protein alternative. There are opinion regards transformation of animal plasma into commercial APA is part of the sustainable effort to minimize environmental problems as a result the non-systematic disposal of animal blood into land and water. Moreover, some of the minor group of scholars claimed the prohibition attributes to spilled-out blood not the plasma which has transformed its physical characteristics. However, based on the collected qualitative data from numerous library sources and interview with the experts show that there is no room to permit its utilization unless in *dharuriyyah* situation. To justify the arguments, the researchers propose a guideline of determination haram status animal plasma into surimi products that will be a good reference for other researchers to comprehend this issue. The analysis shows *'illah* (legal cause) of its prohibition due of its impurity characteristics as stated in the Islamic legal texts. In addition, principle of *Istihalah*, *Istihlak*, *Bara'ah Asliyyah* and preservation of *dharuriyyah al- khamsah* are applied to strengthen the arguments. Last but not least, to vast up the discussion, fatwa debates related to the status of APA at International and National level are included as well. Lastly, this guideline has potential to contribute in Contemporary fiqh and science knowledge, halal seafood producer and advancement of future research particularly in the context to understand *hukm* of intentionally transform and mixing APA as an alternative ingredient into surimi products.

**Keywords:** Animal Plasma Additive (APA); Bara'ah Asliyyah; Dharuriyyah; Fatwa; Guideline; Istihalah and Istihlak

### Abstrak

Proses penambahan serbuk aditif plasma haiwan (APA) secara sengaja kedalam produk surimi adalah sebahagian daripada isu polemik yang mendapat perhatian dalam kalangan pengguna yang beragama Islam. APA mempunyai ciri fungsi yang baik seperti meningkatkan kapasiti pengemulsi, alternatif untuk lemak, alternatif untuk telur selain berfungsi sebagai alternatif protein yang murah. Ada yang berpendapat transformasi plasma haiwan kepada APA komersial merupakan sebahagian usaha yang baik untuk meminimumkan masalah pencemaran alam sekitar akibat perbuatan pembuangan darah haiwan secara tidak sistematik ke kawasan darat dan sumber air. Lebih-lebih lagi, terdapat sebahagian kumpulan minoriti ulama' yang mendakwa sifat-sifat larangan darah mengalir tidak terjadi kepada plasma yang telah berubah ciri-ciri fizikalnya. Walaubagaimanapun, berdasarkan kepada data kualitatif yang dikumpul daripada pelbagai sumber perpustakaan dan temu bual dengan pakar menunjukkan bahawa tiada ruang untuk membenarkan penggunaannya kecuali dalam keadaan terdesak. Untuk menjustifikasi hujah tersebut, penyelidik mencadangkan satu garis panduan penentuan status haram plasma haiwan didalam produk surimi yang mampu menjadi suatu rujukan yang baik untuk penyelidik lain dalam memahami isu ini. Analisis menunjukkan *'illah* (sebab terjadinya sesuatu hukum) pengharamannya kerana ciri-ciri kenajisannya seperti yang dinyatakan dalam nas-nas syarak. Di samping itu, prinsip *Istihalah*, *Istihlak*, *Bara'ah Asliyyah* dan pemeliharaan *dharuriyyah al- khamsah* diterapkan untuk menguatkan hujah. Untuk meluaskan perbincangan, perbahasan fatwa berkaitan status APA di peringkat Antarabangsa dan Kebangsaan turut disertakan. Akhir sekali, garis panduan ini berpotensi memperluaskan perbincangan ilmu fiqh dan sains Kontemporari, pengeluaran makanan laut halal serta kemajuan penyelidikan di masa hadapan khususnya dalam konteks untuk memahami hukum perubahan dan percampuran secara sengaja APA sebagai salah satu alternatif bahan tambah kedalam produk-produk surimi.

**Kata kunci:** Bahan Tambah Berasaskan Plasma Haiwan; Dharuriyyah; Fatwa; Garis Panduan ; Istihalah dan Istihlak

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## ■1.0 INTRODUCTION

Recently, the food industry has experienced a sophisticated development as a result advanced invention of numerous instruments in the field of science and technology. Despite this being a positive development, Muslim consumers face a great dilemma to guarantee the food products are completely comply to halal characteristics (Mamat, 2019) particularly those that are not stamped by the Halal logo (Fadzillah et al., 2020). In fact, the current trend of the food processing industry seems promoting the use of waste materials from slaughterhouses as an alternative food source for human beings while minimizing environmental problems resulting from ineffective waste materials management (Toldrà et al., 2019).

Animal blood is one of the demanded waste materials as an alternative cheap protein source in numerous food products where the statistics show 30 % of the food industry are utilizing animal blood for various purposes (Gandhi, 2017). It is preferred because it is tasteless and appears in white-yellowish that looks more natural compared to whole blood (Siti Jamilah et al., 2021). The centrifuge technique is applied to separate the plasma component from other blood component before it is transformed into commercialized food additives (Lynch et al., 2017) particularly inserted into meatballs, sausages based-products (Kashim et al., 2018 ; Mohd Izhar Ariff et al., 2017) and also in surimi products such as fish balls, crab balls and other seafood-based products (Salahudin and Ramli, 2018).

Transglutaminase enzyme (TGase) has potential to be produced from plasma protein particularly from porcine and bovine sources (Anuar, 2015). The surimi producers have tendency to utilize TGase from these sources due of its capacity to emulsify, stabilize and enhancing the surimi's structure as it is naturally enriched with gelling properties and water holding capacity (Toldrà et al., 2019). It comprises a complex of proteins mainly albumin (3.3%), globulin (4.2%) and fibrinogen (0.4%) that makes it suitable to be transformed as an alternative food grade enhancer in surimi products (Sahilah et al., 2016). Due of these unique characteristics, surimi producers particularly among non-Muslims tend to utilize plasma additives to replace pork as a source of gelling protein (Aravindran, et al., 2014).

However, the Muslim is prohibited to consume any blood-derivatives including the plasma component. It is regarded as part of the prohibited source ; *muharramat lizatih* (Mahaiyadin and Osman, 2017). Allah s.w.t has clearly mentioned the prohibition of spilled out blood in Surah Al- An' am; 145

*Translation: Say, 'O Prophet, 'I do not find in what has been revealed to me anything forbidden to eat except carrion, running blood, swine—which is impure—or a sinful offering in the name of any other than Allah. But if someone is compelled by necessity—neither driven by desire nor exceeding immediate need—then surely your Lord is All-Forgiving, Most Merciful (Khattab, n.d).*

The Department of Islamic Development Malaysia (JAKIM) has strictly stated in MS 1500: 2009 that “*any liquid and objects discharged from the orifices of human beings or animals such as of human or animals such as urine, blood, vomit, pus, placenta and excrement, sperm and ova of pigs and dogs except sperm and ova of other animals*” are classified as *najs*. Hence; any food that is contaminated by any of those elements does not comply with halal food standards (Department of Malaysia Standard, 2009). This unanimous agreed with the majority of Muslim scholars who opined its dirtiness and filthiness are justification behind of its prohibition (Amir and Saidi, 2019).

Prior to the issue of mixing between halal and non-halal ingredients, *Istihalah* and *Istihlak* are part of the purification instruments specifically to clarify their halal and haram status (Mamat, 2019; Mohd Izhar Ariff et al., 2018 ; Kashim et al., 2018; Mahaiyadin and Osman, 2017; Tuan Sidek and Ridzwan, 2017 ; Mohd Izhar Ariff, 2017; and Ghanem, 2015). But, the majority of scholars opined mixing of animal blood additives leading to *Istihalah fasidah* (rejected transformation) (Esa et al., 2018; Mohd Izhar Ariff et al., 2018 and Mahaiyadin and Osman, 2017) and *Istihlak fasidah* (rejected decomposition). The researchers discovered majority of the previous researchers provide a brief explanation about the prohibition of intentionally adding animal plasma in food products which is in need for a rigorous justification behind of its prohibition. To ensure an insightful explanation, a guideline of determination haram status animal plasma in surimi products is developed to establish a rigorous justification that will contribute to the halal and consumerism field. Besides, it will be a good guideline to develop this scope of research in the future.

## ■2.0 RESEARCH METHODOLOGY

To complete this research writing, library research and semi-structured interview are the main of data collection. Bowen, (2009) helped qualitative researchers to organize the scattered sources from different sources in a systematic way. Among the sources used are Quranic translation, hadith of the prophet, fiqh books, academic journals, national and international fatwas, research papers and recognized websites. It assists to establish an insight analysis of the findings. Semi-structured interview with 8 experts; 6 of them are Shari'ah experts, 1 of them is food technologist and another 1 is halal executive of the surimi company. It is important to obtain the data in different perspectives based on similarities and non-similarities opinions. The interview protocol has been validated by two expert reviewers specialized in Shariah Laws and Islamic Jurisprudence. Close ended and open ended questions are applied to obtain rich and thick qualitative data as suggested by (Turney 2010 ; Gill et al., 2008). The list of the interviewees as stated in the table 1 below:

**Table 1:** List of the Interviewees

Position	Specialization/ Expertise	Institution / Company	Interview Code
Senior Lecturer	Halal Fiqh and Consumerism	International Institute for Halal Research and Training (INHART)	Interviewee 4
Senior Lecturer	Halal Fiqh and Consumerism	Islamic Science University of Malaysia, USIM	Interviewee 6
Senior Lecturer	Halal Fiqh and Consumerism	Universiti MalaysiaPahang (UMP)	Interviewee 5
Senior Lecturer	Fiqh and Usul Al- Fiqh	University of Malaya (UM)	Interviewee 3
Senior Lecturer	Fiqh and Usul Al- Fiqh	University of Malaya (UM)	Interviewee 1
Senior Lecturer	Fiqh and Usul Al- Fiqh	University of Malaya (UM)	Interviewee 2
Asst. Director	Department of Halal Management (JAKIM)  Specialized in Food Technology	JAKIM (Halal Certification Body)	Interviewee 7
Halal Executive	Specialized in Food Technology	QL Foods Sdn. Bhd.	Interviewee 8

To analyse collected data, content analysis and thematic analysis are applied. For the first phase, content analysis of library sources is applied before drafting interview questions. Meanwhile, for the second phase, thematic analysis of interview transcript is applied after the process of familiarizing and grasp a thoughtful meaning of data are completed to understand interviewees' opinion. The data are chunked according to similarities and differences in order to identify main themes and sub-themes as suggested by (Leech and Onwuegbuzie, 2007). Any unimportant sub-themes will be excluded from the findings. To explain identified themes, supportive arguments from relevant literatures are included to establish an insight justification (Polit and Beck, 2008).

### ■ 3.0 FUNCTIONAL PROPERTIES OF ANIMAL PLASMA IN SURIMI PRODUCTS

Animal plasma possesses good natural characteristics function as a protease inhibitor and establish good gelling properties to enhance the textural properties of surimi-based products (Nopianti et al., 2019). For instance, Núñez-flores et al., (2018) highlighted bovine plasma has the capacity to strengthen heat-induced myosin gels to encourage the gelling activities. Meanwhile, salmon plasma also provides good functional properties to inhibit proteolytic degradation in Pacific whiting surimi and salmon mince (Fowler and Park, 2015).

Campderros, (2010) highlighted bovine plasma establishes a good foaming capacity (FC) and foaming stability (FS) because it is enriched with amino acids, excellent water-holding capacity (Toldrà et al., 2019). Its natural taste makes it suitable functions as an alternative of natural colorant (Leoci, 2014). In fact, some of the producers used the plasma as eggs' substitute for baked goods, fat replacement polyphosphate or caseinates alternative for frankfurter products (Ofori and Hsieh, 2012; Hurtado et al., 2011). Parés et al., (2014) noted, the plasma can be modified through conjugation with other molecules such as carbohydrates or other proteins to enhance its functionality. The enzymatic processes also shall be applied to improve thermal gelation properties of plasma proteins (Xiang et al., 2018). It provides crosslink reactions on protein properties, protein gel capacity, and thermal stability, water holding capacity that can influence elasticity, taste, flavour, and texture and binding activities of surimi products. The non-thermal plasma is introduced to soften the dough when mixed together between starch and wheat flour to encourage fluorination and cross-linking activities in the dough (Zhu, 2017).

Atmospheric Pressure Cold Plasma (APCP) treatment is currently applied to control pathogenic activities while improving protein solubility and gelation activity of myofibrillar protein (Panpipat and Chaijan, 2020). Enzymatic hydrolysis is another technique that plays a significant role to encourage binding, emulsifying and gelling activities in the surimi production (Liu et al., 2014). The enzymatic technology helps to minimize utilization of salt and phosphate in surimi products by using the plasma food grade as a substitute (Shen et al., 2018). Due to these numerous functional properties, there is a high potential that plasma is possibly adulterated into surimi products. Moreover, the application of halal certification is not mandatory in Malaysia where the halalness status of surimi products would be doubtful since it is categorized as an impure element (Saadan Man, 2014). Despite consumers' concerns, the usage of animal plasma is prohibited as a result of religious sensitivity and its detrimental impact on human health based on a scientific evidence proving that the utilization of blood derivatives can be harmful to human health (Esa, et al. 2018).

#### ■4.0 A GUIDELINE OF DETERMINATION HARAM STATUS OF ANIMAL PLASMA IN SURIMI PRODUCTS

##### 'Illah (Legal Causes) Of Prohibition Animal Plasma Due Of Its Impurity Characteristics

The term '*illah*' is equal to a situation that prove its existence whether it is permissible, prohibited or recommended according to Islamic rulings (Izhar et al., 2015). For example, legal cause of prohibiting blood is attributed to spilled-out blood specifically and not referring to spleen and liver (Mohd Kashim et al., 2017). Al- Ghazali, (2000) defined the term *ad-dam* or spilled out blood as a "red-coloured liquid" that flows in the veins. Imam Al-Baghawi in his *Tafsir Ma'alim Al-Tanzil* interprets the word of *Damman Masfuhan* as the spilled out blood that flows in living animals 'veins (Pejabat Mufti Wilayah Persekutuan, 2019). A contemporary Muslim scholar, Prof. Dr. Abdul Malik Karim Amrullah interprets the term *Ad-dam* (Spilled out Blood) in his *Tafsir Al-Azhar* as the animal blood that scatters away during the slaughtering process (Amrullah, 1999). In general, *tayyib* and *khabith* characteristics will be the essence in determining the validity of the purification instruments (Mahaiyadin and Osman, 2017). The determination of *maslahah* (goodness) and *mafsadah* (harmfulness) is also an important parameter considered by jurists to strengthen the '*illah*' of prohibiting certain products that are in a doubtful halal status or in disagreement among the Muslim jurists (Man, 2016).

Legal cause prohibition of spilled-out blood due to its impurity characteristics (Mohd Kashim et al., 2020). According to Islamic legal rulings, anything that leads to harmfulness (*madharrah*) towards the quality of human health physically, mentally and spiritually (*maslahah*) will subject to prohibition. Furthermore, its prohibition is stated directly in Islamic legal texts, therefore there is no room to tolerate its consumption except in situations of extreme difficulties (Salahudin and Ramli, 2016). Al-Tariqi, (1983) noted the Muslim is prohibited to consume spilled-out blood because it is classified as *najs* which refers to things that are filthy according to Islamic laws. Some Muslim scholars (*u'lama'*) also relates the word of *najs* with *rijs* that have been applied interchangeably (Nurdeng 2009; Thaib, 2002). According to Shariah perspectives, the presence of *rijs* or *najs* elements will justify the presence of '*illah*' (legal cause) of the prohibition (Rosman et al., 2020). Kamali, (2008) indicated that the term *rijs* is synonymous with the terms *najs*, *khabā'ith*, *mustaqdharāt* to demonstrate the filthiness, impurity and natural revulsion of certain substances. The prohibition of *najs* sources are definite and fixed regardless in solid, liquid, animate or inanimate shapes (Nurdeng, 2009).

Ibn Taymiyyah applies the term *khabaith* to signify the reason of prohibiting spilled-out blood as Allah s.w.t prohibits pig and its derivatives and carcasses. The jurists who adhere Shafii school of thought emphasize any *khabaith* materials will never be pure through any purification instruments such as *Istihalah* or *Istihlak* unless the processes happened naturally without human intervention (Mamat, 2019). The reasons of prohibition of animal blood because it is regarded as *khabaith* and will affect the consumer's health since the preservation of life is a part of the five objectives of Shariah (Al-Qardhawi, 2001). It helps the *fuqaha'* to justify *hukm* to classify certain things as haram, halal or *syubhah* (Zamakshari, n.d) while preventing the Muslims from disregarding Allah' commandments. This is in line with *hadith* of Prophet Muhammad narrated by ad-Darulqutni (n.d):

*"Whatever Allah permits in Al Quran, will be permissible, and whatever Allah forbids will be prohibited, and whatever Allah makes silent, then it will be tolerable, Definitely Allah will never be forgetful, then the Prophet recited the verse and Your God never forgets".*

Muslim scholars are in unanimous agreement classifying the spilled-out blood as *najs* (filth) (Sharifuddin, et al., 2016) This is based on the several quranic verses that highlighting this matter which are Surah Al-Baqarah (173), Surah Al-Maidah (3) Surah Al-An'am (145) and Surah Al-Nahl (115). For instance, Allah s.w.t mentioned in surah Al-Nahl (173):

He has forbidden you only Al-Maitah (meat of a dead animal), blood, the flesh of swine, and any animal which is slaughtered as a sacrifice for others than Allah (or has been slaughtered for idols or on which Allah's Name has not been mentioned while slaughtering). But if one is forced by necessity, without wilful disobedience, and not transgressing – then, Allah is Oft-Forgiving, Most Merciful. \*

Imam As-Sa'adi also interprets the term of *ad-dam masfuhan* as the animal blood that spatters through slaughtering process. Imam Ahmad Al-Razi Al-Jashhash highlighted that if Allah s.w.t did not reveal the verse 145; surah Al-An'am the prohibition of blood will include all types of blood regardless of their types and characteristics (Adenin, 2017). Other mufasssirin like M. Quraish Shihab (2002) in his *Tafsir; Al-Misbah*, Imam Jalaluddin Al-Mahalli and Imam Jalaluddin As-Sayyuti (Al-Mahalli and As-Sayyuti, 2000) highlighted that the prohibition of spilled out blood is clear and absolute. However, the term *Dammun Masfuhan* excludes the blood that is naturally accumulated in the meat's veins because it is difficult to extract the blood (Adenin, 2017).

### Summary Of Legal Cause Prohibition Animal Plasma

The main points of legal cause prohibition animal plasma are summarized in the table 2 below. This is to ensure the readers are easily capturing the main points of the above discussion.

**Table 2:** Legal cause of prohibition animal plasma

<ul style="list-style-type: none"> <li>Specifically refers to spilled out blood (<i>Damman Masfuhan</i>) the blood that flowing away in animal's veins.</li> </ul>
<ul style="list-style-type: none"> <li>The blood scatters away during during the slaughtering activities.</li> </ul>
<ul style="list-style-type: none"> <li>'<i>Illah</i> of prohibition due to its impurity characteristics.</li> </ul>
<ul style="list-style-type: none"> <li>Classified as <i>najs</i> (impurity source) that will reflect the presence of '<i>illah</i>.</li> </ul>
<ul style="list-style-type: none"> <li>Synonymous with the terms of <i>najs</i>, <i>khabaith</i>, <i>mustaqdharat</i>.</li> </ul>
<ul style="list-style-type: none"> <li>Clearly mentioned in Al- Quran and Sunnah of the prophet regards of its prohibition in Surah Al- Baqarah (173), Surah Al- Maidah (3), Surah Al- An'aam (145) and Surah Al- Nahl (115).</li> </ul>
<ul style="list-style-type: none"> <li>Brings to harmfulness (<i>mudharrah</i>) towards the quality of human health physically, mentally and spiritually.</li> </ul>

### Juristic Views Regards To Impurity Of Spilled Out Blood

In general, the types of impurity are divided into three; which are *Najs Mughallazah*, *Najs Mutawassitah* and *Najs Mukhaffafah* (Zain, 2009). The spilled-out animal blood is classified as *Najs hukmiyyah* that refers to a situation where its impurity characteristics such as odor and its properties are totally disappeared and not be able to detect through naked eyes (Al- Ghazali, 2002). Regardless the state and shapes of spilled-out blood derivatives, any activities to gain profit or businesses using spilled-out animal blood as main commodity is completely prohibited according to juristic perspectives. For instance, the Muslim is prohibited to sell and consume any blood derivatives products since Allah s.w.t has clearly stated in Al- Quran regards to its prohibition due to its impurity characteristics (Al- Qardawi, 2001). Moreover, it is classified as a type of impurity which is unanimously agreed by majority of *fuqaha'* from Shafi'iy, Hanbali, Hanafi and Maliki schools of thought besides pig and its derivatives, mankind's wastes; urine, vomit and feces, pus, *wadi* and *madzi* liquid, animals' carcasses (Al- Zuhaili, 1997).

Allah s.w.t mentioned in surah Al- An'aam (145) :

*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. "*

A prominent Muslim scholar in Malay Peninsula; Sheikh Muhammad Arshad Al- Banjari who is Shafiites also stressed about the prohibition to consume food has been contaminated by *najs* sources regardless its form in solid or liquid. If it appears in solid' shape, the affected part must be separated with non- affected part. Meanwhile, if it is form in liquid, the all parts should be thrown away (Wan Mohd Saghir, 1990). Its prohibition is absolute and definite where no room to permit its consumption intentionally (Ibn Al- Arabi, 2003). Imam Al- Shirazy also stated in his book; "*al-Muhazzab fi Fiqh al-Imam al- Syafi'i*:"

*"It is not pure for any najs substances become pure due to the process of istihalah except for two situations which are tanning process of skin's animals and alcohol transformed into vinegar by itself. Both of them are pure for that reasons."*

Moreover, Ibn Qudamah also stated (n.d) in his book; *Al- Mughniy*:

*"According to Mazhab (Hanbali) it is not pure for any najs properties transformed through Istihalah process except alcohol transformed into vinegar by itself. Others will not be pure, such as burned faeces transformed to ashes, pig or its derivatives that fall into salty water and transformed to salt, smoke and steam resulted from faeces. Hence, all of these transformed ingredients shall be analogized (*qiyas*) to wine that turns into vinegar, the skins of tanned animals and *al-jallalah* animals (animals which are eating impure substances) that have been quarantined."*

Therefore, any activities to transform *najs* sources into other materials will not purify the *najs* properties perfectly unless if it happens naturally (Al- Haqq, n.d). But, this prohibition is excluded for aquatic animals such as fish, spleen, liver and the blood that naturally attached into meat's veins and bones (Al- Zuhaili, 1997). In fact, the spilled-out blood is an impure substance therefore, will not change Islamic legal rulings to justify its prohibition status although has been mixed up or transform its physical characteristics into different materials (Jamaludin and Wan Mohamed Radzi, 2009). This will bring harmfulness towards preservation of *dharuriyyah al- khamsah* (Abu Zuhrah, n.d). The exception is granted if the Muslims are in extreme hardship to find alternative sources for the sake of human survival (Ibn Abdul Salam, 1990). Its prohibition level is the highest rank like pig and its derivatives, *khamr*, and animal carcasses which

categorized as *Muttafaq a'laihi* sources (Mahaiyadin et al., 2019). Any prohibited source will impossibly become permissible unless to help the Muslim get away from any extreme difficulties.

In addition, Prophet Muhammad S.A.W also mentions in a hadith:

*“Every flesh nourished by haram deserves fire” (Al- Bani, 1999).*

This hadith signifies a strict reminder from the prophet Muhammad s.a.w to refrain consuming prohibited sources. It is important to preserve *Maslahah al- Mu'tabarrah* to fulfil public interest as in line with Al- Quran and Sunnah of the prophet (Al- Buti, 2005). For those who try to challenge or reject rulings of Allah s.w.t will put themselves in hell fire as mentioned by Allah s.w.t in (4: 14)

*“And whoever disobeys Allah and His Messenger and transgresses His limits - He will put him into the Fire to abide eternally therein, and he will have a humiliating punishment”.*

The jurists take the approach to be more careful in deciding any legal rulings particularly if it is clearly mentioned in Al- Quran, Sunnah and unanimously agreed among *ulama'*. The methods to deduce Islamic legal rulings are primarily based on unanimous primary sources; Al- Quran, Al- Sunnah, *Ijma'*, *Al- Qiyas*. Meanwhile, the jurists also refer non –unanimous sources such as '*Urf, Istishab, Maşlahah, Istiqra'* and *Tahrim al-wasa'il* to justify the arguments (Al- Ghazali, 1993). The basic principle to determine halal and haram is the origin of anything is permissible unless there are evidences that prohibit its consumption (Al- Sayuthi, 1998). This is in line with another principle, *Al- asl baqa' ma kana 'ala ma kana* that refers to origin of anything as it is before (Al- Zuhaili, 2006).

On the other hand, majority of the jurists from Hanbali schools of thought also opined that any impure materials will not transform to pure material through purification instrument (Ibn Qudamah, 1994) regardless it is collected from halal or non- halal animals (Ibn Rushd, 2008). Al- Shawkani (2004) and Ibn Al-A'rabi (n.d) highlight the prohibition of spilled-out blood is fixed since Allah s.w.t has revealed specific verse from Surah Al- An'aam to specifically indicate the type of prohibited blood. Al- Qurthubi, (1993) also added, its prohibition is unanimously agreed by majority of Muslim scholars (*Ijma'ulama'*). Hence, any decision that contradict with *Ijma'* is not acceptable (Kashim and Husni, 2017). Based on the interview sessions with 7 interviewees, all of the interviewees are in unanimous agreement over the prohibition of spilled- out animal blood mainly animal blood that is collected from slaughterhouses regardless if it is obtained from halal or non- halal animals. Among the opinions are:

The prohibition of blood is clearly stated in Al-Quran. Therefore, the use of spilled out blood as a food source whether internally or orally is totally prohibited in Islam (Interviewee 3).

The spilled –out blood will not become pure although it complies with the slaughtering process according to Shariah (Interviewee 6).

Islam forbids consuming blood. The prohibition is clear since it is clearly stated in the Qur'an (Interviewee 6)

### Summary of Juristic Views Regards to Prohibition of Spilled-Out Blood

The juristic views regarding of prohibition animal plasma is summarized in the table 3 below. This is to ensure the readers are easily capturing the main points of the above subtopic.

**Table 3:** Juristic Views Regards to prohibition animal plasma

<b>Nas Al- Quran</b>	Clearly mentioned in Surah Al- Baqarah (173), Surah Al- Maidah (3) , Surah Al- An'aam (145) and Surah Al- Nahl (115)
<b>Hadith of Prophet</b>	Every flesh nourished by haram deserves fire” (Al- Bani, 1999).
<b>Ibn Qudamah</b>	The only accepted process of transformation is wine that turns into vinegar, the skins of tanned animals and <i>al-jallalah</i> animals (animals which are eating impure substances) that have been quarantined."
	Majority of the jurists from Hanbali schools of thought also opined that any impure materials will not transform to pure material through purification instrument
<b>Ibn Al- Arabi</b>	The prohibition of <i>najs</i> is absolute and definite where no room to permit its consumption intentionally
<b>Imam Al- Shirazy</b>	It is not pure for any <i>najs</i> substances become pure due to the process of <i>istihalah</i> except for two situations which are tanning process of skin's animals and alcohol transformed into vinegar by itself. Both of them are pure for that reason.
<b>Ibn Rushd</b>	Any impure elements will not transform to pure material through purification instrument
<b>Abu Zuhrah</b>	Anything that bring harmfulness towards preservation of dharuriyyah al-khamsah is prohibited according to Islamic rulings.

<b>Al- Buti</b>	Preservation of Maslahah al- Mu'tabarrah must be in line with Al- Quran and Sunnah of the prophet.
<b>Al- Sayuthi</b>	The basic principle to determine halal and haram is the origin of anything is permissible unless there are evidences that prohibit its consumption
<b>Al- Zuhaili</b>	It is in line with the principle of <i>Al- asl baqa' ma kana 'ala ma kana</i> that refers to origin of anything as it is before
<b>Al- Shawkani</b>	The prohibition of spilled-out blood is fixed since Allah s.w.t has revealed specific verse from Surah Al-An'aam to specifically indicate the type of prohibited blood.
<b>Ibn Al- Arabi &amp; Al- Qurthubi</b>	The prohibition of spilled-out blood is fixed since Allah s.w.t has revealed specific verse from Surah Al-An'aam to specifically indicate the type of prohibited blood.
<b>Interviewee Responses</b>	
<b>Interviewee 3</b>	The prohibition of blood is clearly stated in Al-Quran. Therefore, the use of spilled out blood as a food source whether internally or orally is totally prohibited in Islam.
<b>Interviewee 6</b>	Spilled –out blood will not become pure although it complies with the slaughtering process according to Shariah

### Other Shariah Principles As Supportive Arguments

#### Principle Of Istihalah And Istihlak

##### Principle of Istihalah

In current times, the discussion on the usage of animal plasma from an Islamic perspective is commonly based on the application of *Istihalah* as highlighted by (Mohd Izhar Ariff et al., 2018) that divided into two processes which are; *Istihalah Sahihah* (perfect transformation) and *Istihalah Fasidah* (Imperfect Transformation). However, the only accepted *Istihalah* is *Istihalah Sahihah* because the original characteristics of the ingredients have totally transformed into a different nature and attributes through chemical and physical changes. Meanwhile, the process of imperfect *Istihalah* is not accepted when the original materials or properties are still intact chemically or physically (Jamaludin et al., 2012). The application of *Istihalah* is regarded as a symbol of flexibility of Islamic rulings in determining the halal status of certain products based on the *Ijtihad* of Muslim scholars. However, *Ijtihad* should be based on the guidelines of Islamic primary sources mainly Quran and Hadith (Nor Syafarah et al., 2013).

According to Zuhaily (1997), *Istihalah* refers to the process of totally transforming an original material to a new material which includes the transformation of filthy (*najs*) materials into pure (*thahir*) materials. A'Mudi (2009) stated the application of *Istihalah* and *Istihlak* are vital in the contemporary times particularly to determine the Shariah *hukm* on food and halal pharmaceutical products that are derived from *najs* ingredients. Muslim scholars (*u'lama*) are not in unanimous agreement in terms of extending the application of these methods. In the context of *Istihalah* application, the author pointed out that the extension of *Istihalah* reliability can be analysed based on two views. The first view belongs to an opinion from Imam Abu Yusuf and some scholars from *Hanafiyyah*, *Malikiyyah*, *Shafi'iyah* and the majority of Muslim scholars from the school of Imam Ahmad Ibn Hanbal who agreed that the process of *Istihalah* is nullified if any products are originally derived from forbidden sources. The reason of prohibition comes as a result of the natural properties that are still remaining, and the process of *Istihalah* is in imperfect occurrence. Furthermore, the process of *Istihalah* is only accepted if the process happened naturally (Mohd Izhar Ariff et al. 2017).

This is different from the second view which belongs to some Muslim scholars following the schools of *Hanafiyyah* and *Malikiyyah*. Ibn Taymiyyah (Hanbalites scholar), and some of the *Zahiriyyah* scholars opined that the process of *Istihalah* is accepted although the sources are originally derived from forbidden sources. This is based on *qiyas* principles applied on *khamr* changed to vinegar, the acceptance of the tanning process of skin's carcasses and the permission to eat *Al-Jallalah* animal once quarantine took place (Fatimah, 2009). But, the second view is practically applicable because Allah S.W.T prohibited the utilization of *najs* materials in their natural form. But, if the process of *Istihalah* results in a complete transformation where the chemical and physical properties of *najs* materials are totally demolished; hence, the process of *Istihalah* is acceptable because they have changed into new substances with new chemical and physical properties. The second opinion of Muslim scholars seems more lenient compared to the first opinion since they have accepted the process of *Istihalah* although it occurred through human intervention (Mahaiyaddin et al., 2019). On the other hand, Mohd Izhar Ariff et al., (2017) have stated that classical Muslim Jurists gave their opinion in line with their current situation where advanced scientific research and laboratory tests did not exist yet. Therefore, the ways they justify their arguments are based on shariah views excluding any scientific evidence to prove them. In recent times, laboratory tests can confirm whether the process of *Istihalah* of animal plasma was thoroughly applied or otherwise.

### Principle of *Istihlak*

Another alternative method that is preferable to determine the halal status of animal plasma is the *Istihlak* method that is derived from the word '*halaka*' which means "destroyed" (Rohi Baalbaki, 1988). Nazih Hammad (2004) has exclaimed that *Istihlak* refers to the process of mixing a small quantity of *najasa* substances into a larger amount of other permissible substances till the *muharramat* substances are successfully dissolved and are finally permitted for human consumption. On the other hand, *Istihlak* involves a few processes which are solvency, extermination, termination, and abolition. Ibn Taymiyyah in his book, '*Majmu' al-Fatawa* (1998) gives a depiction on the process of *Istihlak*. He asserts that once any *najs* sources such as blood or carcasses dissolve in pure water or any other liquid but leave no effects on smell, taste, and colour; hence, the mixture is halal and permissible for Muslim consumption.

The prophet said in hadith:

Ahmad bin Salih and al-Hasan bin Ali have narrated to us that this text of hadith is classified as *al-Hasan* (The hadith does not reach the status of authentic, but may be used as supportive evidence) They said; *Abdurrazzaq* have narrated to us *Ma'mar* from *al-Zuhri* from *Sa'id bin al-Musayyab* from Abu Hurairah he said, "The Messenger of Allah (may peace be upon him) said: "If a rat falls into the butter, then throw away the rat and those around it if the butter is in solid form, but if the butter is melted then don't go near it (take it)" (Ahmad and Abu Dawud) (Al- Albani, 2000).

In the context of Contemporary times, the application of *Istihlak* is practical to determine the purification status of adulterated filth materials into any halal products by making the smell, taste and colour as the benchmark of dilution. Hammad, (2004) explained that the application of *Istihlak* is utilized when the process of dissection takes place and there is a mixture between halal and non-halal materials in one product where the usage of this product is permissible if the process of perfect dilution takes place. For instance, Muslims are permitted to drink the water although it contains a drop of *khamr* as long as the characteristics of water such as smell, colour and taste are totally diluted. Therefore, the application of the *Istihlak* method is suitable particularly in the products that are potentially being adulterated with any filth ingredients such as transglutaminase enzyme, hydrochloride lecithine, pig's derivatives and *khamr* derivatives (Mamat, 2019).

The basic concept of *Istihlak* is adapted from the hadith reported by Abdullah Ibn Umar about the characteristic of two *kolah* of water where the Prophet was asked about the status of water that has been contaminated by licked reptiles and wild animals. The Prophet replied, "If the water exceeds two *kolah*, then it is pure." Authentic hadith recorded by (Imam Abu Daud, 1997). Imam al-Tirmizi, al-Nasa'i, Ibn Majah, and Ahmad, Imam al-Syafi'i, Ahmad, and Ishaq also noted "If the water exceeds two *kolah*, and then mixed with the impure elements, it is considered as pure as long as no change in its smell and taste" (at-Tirmizi, 2000). There is another hadith recorded by Imam Abu Daud (1997), Tirmizi (2000), al-Hakim (1990) regards the question of purity *Buda'ah* well which has been contaminated with a lot of waste materials, menstrual blood and dog carcasses. The prophet Muhammad emphasized; "The water is pure, it is not being defiled by anything.

In the context of mixing animal plasma intentionally into surimi products, the researchers opined *Istihlak* is more applicable compared to other purification instruments based on the collected data from interview with Shariah experts and library sources. All of the interviewees are in unanimous agreement that the process of *Istihlak* is regarded as *Istihlak Fasidah* (imperfect dilution). Firstly, it involves human intervention. All interviewees opined that the process of *istihlak* of animal plasma in surimi products is imperfect because it is added intentionally to improve the quality of surimi products in terms of elasticity, stabilize the texture, increase emulsifying capacity, catalyse the production of notable volumes of foam and replace fat in meat-based products such as surimi (Ofori and Hsieh, 2011) and (Lynch et al., 2017). Some of the interviewees' opinions:

The fuqaha' from the Shafites school of thought only accepted the process of natural transformation (Interviewee 4).

According to the Shafii School of thought, the process of transformation is accepted if it occurs naturally without an intentional human intervention which leads to the dilution process (Interviewee 3).

The use of animal plasma in the industry leaves a harmful impact; hence it is not included into the *Istihlak* category" (Interviewee 5).

Based on the interviewees' views, intentionally adding APA is completely prohibited because it has transformed the surimi products into impure foods. The basic acceptance of the decomposition process should transform the impure characteristics into pure substances. Hammad, (2004) noted the opinion of Ibn Qayyim:

*"When a pure thing transformed to an impure thing it becomes filth, like water and food transformed to urine and faeces. The question is how it is possible that a substance affecting a good thing to bad thing only but not affecting a bad thing to a good thing. Doesn't Allah SWT will transform a good thing from bad thing and bad things from good things?"*

In fact, the addition of spilled-out blood is not complying with characteristics of halal food regulations as stated in Malaysian Standards (MS 1500: 2009). Shafites and Hanbalites jurists are strictly prohibiting addition of any filth sources intentionally in order to be careful with Islamic rulings that might fall into doubtful matters (Al-Khatib, 2013). Moreover, it is important to preserve the dignity of Islamic rulings rather being portrayed too open minded and close up the door of doubtfulness in the present and future (Afifi et al., 2014). Furthermore, some of the surimi producers are intentionally use animal plasma whether from chicken, pig or cow as an alternative protein since it is affordable and has a commercialized value to reduce the production cost and maximize the profit (Bashir et al., 2017). Therefore, its addition leaves significant effects towards the quality of surimi products. Al-Khin et al., (2005) noted mixing between halal and non-halal are impossible to be purified like mixing between *khamr* (intoxicant drink) and oil. , Imam Al- Qurtubi, (1997) noted that the most reliable opinion adopted by *jumhur u'lama* states that the mixture between halal and non-halal leads to the surpassing of the haram although there are changes in odor, taste and colour.



This is in line with Islamic legal maxim, “When Halal and Haram meet, the Haram Prevails” (Kamali, 2013). Intentionally adding a filth source to improve the quality of food is not acceptable since Allah s.w.t commanded Muslims to select *halal* and *tayyib* food to maintain a good health spiritually and physically. This is in line with the Islamic legal maxim: “good intentions will not make haram (impermissible) things permissible” (Qardhawi, 2001) although the plasma has been transformed into an alternative cheap protein for surimi products to help surimi manufacturers to minimize the cost of production and maximize the profit (Sahilah et al., 2016). In Islamic rulings, there is no concept of sub-halal or half –halal since the rulings attributes to whole subject in terms of permissibility and prohibition.

Secondly, the animal Plasma’ Properties Remain at the End Product. The interviewees opined that animal plasma properties are not perfectly diluted in the surimi dough and still remain at the end product. It shows that it is impossible to filter the *najs* characteristics in surimi once animal plasma is added. Consequently, it has transformed the surimi products into *mutanajjis* food as highlighted by the interviewees.

In contrast to the blood plasma, that involves the process of extraction (Interviewee 1).

This is because the plasma powder is not perfectly diluted in the surimi dough in order to produce the end product. Yet, there is no available tool to filter *najs* component in the surimi products involving the usage of plasma- based additives. The *najs* properties (filth component) are still remained at the end product. Therefore, the *istihlak* process that takes place is imperfect (Interviewee 3).

*Mutanajjis* food is defined as the food contaminated by filth sources (Jamaludin et al., 2014).The muslims are completely prohibited to consume the foods have been contaminated by any *najs* (filth) sources whether it is in liquid or solid form because of the difficulty to separate the *najs* source from the food (Ramli and Jamaludin, 2012).Moreover, contaminated food with *Najs Mughallazah* are impossible to be purified with any purification instruments as unanimously agreed by majority of Muslim scholars (al- Syarbini, 1994). In addition, previous scientific studies also proven the plasma properties are still detectable although been mixed with other ingredients. For instance, the use of Polymerase Chain Reaction (PCR) are capable to detect oligonucleotide primers of plasma transglutaminase from chicken, bovine and porcine sources (Alina et al., 2013; Sa’dom et al., 2017). Aravindran et al., (2014) also applied Polymerase Chain Reaction (PCR)–Southern Hybridization method to detect the presence of goat and chicken DNA although in small volumes. An interviewee who works as Food Technologist in JAKIM (Department of Development Islamic Malaysia) is strictly emphasized that JAKIM will not tolerate of any activities incorporate filth materials into halal surimi products including APA. She states that:

Although animal plasma is an alternative good source of protein in food products, JAKIM will not tolerate the use of any forbidden source including animal plasma. It is because JAKIM will make sure all the ingredients are compliant with the Shariah requirements (Interviewee 7).

Imam Al- Suyuti (1983) highlighted leaving the harm (*mafsadah*) is in line with the principle of *Al- Ihtiyat* particularly to clarify the status of mixing between a small quantity of a forbidden source and large quantity of permissible source. This help the jurists to avoid the issue of disagreement and abstaining disagreement is completely recommended as stressed by an interviewee:

According to *Istishab* principle, any prohibited source will remain prohibited and staying out from khilaf is preferable (Interviewee 5).

The prohibition of spilled –out blood attributes to all blood components. The fundamental principle to differentiate between halal and haram food products is identifying the source of raw materials (Al- Nawawi, 1966) that will be affected the whole process (Saad and Ramli, 2018). Hence, any processing activities applied to transform any haram materials intentionally will not be acceptable by the Shariah although they have different physical characteristics with the previous sources (Tuan Sidek and Ridzwan, 2017). The authority of Islamic rulings supersede scientific judgement in order to come out with (Salahudin et al., 2015). In the case of mixing APA into surimi products, the interviewees opined it is prohibited because the prohibition attributes to all blood components regardless if it was collected from halal or non- halal animals based on the interpretation of *ad-dam* in Al- Quran.

The blood is regarded as a *najs* (filth) source regardless if it is collected from a slaughtered animal in accordance with the Shariah slaughtering method or otherwise (Interviewee 7).

The characteristic of the filth (*najs*) is subjected for the whole of blood component (Interviewee 1).

Based on the Shafiites point of view, the determination of any product’s status depends on the source of the material. If the source of the material is prohibited, then the final material is also illegal although it has transformed into a new material (Interviewee 4).

Basically, the prohibition of animal blood applies to all blood components including plasma although the plasma’s physical characteristics have been transformed. Therefore, the plasma is still considered *najs* (Interviewee 8).

From the interviewees’ point of view, interpretation word *ad-dam* attributes to whole of blood components including APA source. The term of *ad-dam* in Al- Quran is interpreted based on *muqayyad* (specific) and *mujmal* (general) which refers specifically to the blood spilled out from animals (Wan Ahmad et al., n.d.). According Syafiites jurists, the prohibition of filth materials such as *khamr*,

blood, pig and their derivatives is fixed and definite regardless been applied in any business transactions (Al- Zuhaily, n.d). Allah s.w.t prohibits the consumption of any blood derivatives because it is a part of 'rijs' (filth source), and the prohibition will apply to all of its components (Ibn Qudamah, n.d) and in fact, plasma is the largest blood component (Mohd et al., 2017). Isolation of plasma through centrifuge only separates it from other blood components' physically and cannot justify the fact it has different entity with the spilled – out(Ghanem, 2015). There are several contemporary Muslim scholars; Khalid Abd al-Alim, Mutawalli Abd al-Fattah Muhammad Idris, Egyptian Mufti; Nasr Farid Wasil and Yusuf al-Badri strictly emphasized any filth sources are prohibited and impossible to be purified through *Istihalah* and *Istihlak*. Hence, it is needed to refer to its original Islamic legal rulings as stated in Al- Quran and Sunnah of the prophet (Mahaiyadin and Osman, 2017).

Furthermore, several interviewees also relate the prohibition of animal plasma with other Islamic legal maxims (*Qawaid Fiqhiyyah*) to strengthen the arguments on the prohibition of APA. The experts' answers are as follows:

The term of blood in Quranic verses is *mutlak* (absolute) that imbued all the blood components (Interviewee 1).

Some will take the entire law which states that blood plasma is a blood component, therefore it is subjected to the hukm of whole blood" (Interviewee 1).

When halal and haram meet, the haram prevails" (Interviewee 2; Interviewee 3).

From a fiqh perspective, the prohibition status will supersede in any mixing process between halal and non-halal substances (Arif, 2019) to ensure that Muslims are protected from committing sinful acts (Fadzillah et al., 2020). Furthermore, determination of halal and haram is solely belongs to Allah' authority particularly if it is stated clearly in Islamic legal texts. This complies with the *Qawaid Fiqhiyyah* (Islamic legal Maxims): "To Make Lawful and to Prohibit Is the Right of Allah Alone" and "Falsely Representing the Haram as Halal Is Prohibited" (Al- Qardhawi, n.d). APA is a part of blood's component hence; it will subject to the same legal rulings as spilled –out blood. The same scenario applies to pig and its derivatives that attributes to prohibition of pig and its derivatives (Arif, 2019). Hence, the jurists need to prioritize Islamic legal texts although food scientists are capable to transform the filth source physically or chemically through sophisticated scientific methods (Tuan Sidek and Ridzwan, 2017). Furthermore, there is no urgency to consume APA since there are a lot of alternatives can replace its function (Amir and Saidi, 2019). An interviewee who works as a halal executive in QL Foods Sdn. Bhd also noted that:

In terms of the halal requirements, we will not compromise our integrity with the use of any blood- derivatives in surimi products since its utilization deviates from Shariah (Interviewee 8).

In addition, an interviewee from JAKIM (Department of Islamic Development Malaysia) also highlighted will not compromise with any activities to apply any blood components in food products and takes extra cautions on the issue of incorporating animal plasma additives. Regardless of how sophisticated the technology is in transforming any type of blood and its derivatives, JAKIM will not permit any mixing activities that involving any *najs* sources. Due to this concern, the transglutaminase enzyme is labelled as a critical ingredient as a result its source might be derived from animal plasma (Anuar, 2015).

We need to consider the source of raw material. It is undeniable that the technology used is sophisticated. But, we must refer back to the Shariah guidelines where we know the blood is regarded as najs although the blood is collected through halal slaughtering ". Hence, it is JAKIM's principle to follow halal and haram guidelines according to Shariah Perspectives" (Interviewee 7).

" JAKIM takes full concern regarding the adulteration of any plasma- based ingredients particularly among halal certificate holders since animal plasma is recognized as a critical ingredient" (Interviewee 7).

#### Principle Of Istishab

The principle of *Istishab* is applied by Imam Shafii, Hanbali and Zahiri as an argument to determine certain (hukm) legal rulings (Mufti Perak, n.d) . Contrast to Malikites and Hanafites who have different opinions regard to legality of *bara'ah asliyyah*. Some *u'lama* (Muslim scholars) use the term *Bara'ah Asliyyah* to manifest the application of *Istishab* (Saidurrahman, 2011). It was employed since the time of Prophet Muhammad p.b.u.h, *Sahabi* (the companions) and also *tabi'in* lifetime but not specifically called as *Istishab* (Misbahuzzulam, 2013). Literally, Munawir (1984) defines *Istishab* as accompany, be friend with, be friendly and be gentle with. Technically, it refers to determining Islamic legal rulings based on existed evidences until there are other clear evidences to justify the new Islamic legal rulings (Al- As'adi, 1990). Al-Ghazali, (1993) regards the jurists who uphold with *Istishab* principle are trustworthy since they have analysed and checking thoroughly existing Islamic legal evidences so that there is no new rulings are possibly replaced the existing Islamic legal rulings. This complies with the opinion of Al- Asnawy (n.d) who regards *Istishab* as a principle to determine Islamic legal rulings' validity on the basis that the law has been enforced previously. Hence, there is no necessity to enforce new Islamic legal rulings since it is still intact regardless in past, current and future (Al- Qarafy, n.d). The basic principle is referring this Islamic legal maxim "anything is permissible unless there is a clear evidence to signify its prohibition" (Al- Sayuti, 1994).

Any *najs* materials such as *khamr*, pig and its derivatives, dog, spilled-out blood and faeces are impossible can be purified because the characteristics of *najs* (filth) will remain intact although they have been added with other permissible ingredients (Mahaiyadin

and Osman, 2017). This is in line with *qawaid fiqhiyyah* (Islamic Legal Maxim); the origin of anything remains as it was before regardless how sophisticated the process to transform the najis materials into commercial products. This is highlighted by an interviewee:

Halal and Haram will be remained the *hukm*. Anything that is free from elements of harmfulness cannot be a justification to make something permissible. (In fact, any discovery from scientific evidence is still relatively true) (Interviewee 5).

The Shafites and Hanbalites jurists are prefer to apply *Istishab* in order to remove doubtfulness in deducing *Ijtihad* by referring the original *hukm* (Atjeh, 2004). This is important to prevent Muslims from slipping into *sadd zarai'* (the state of harmfulness) and preserve the *maslahah* in the present and future (Wijayanti and Meftahudin, 2018). If the consumers are in doubt the presence of APA, the Muslims are permitted to consume it based on the concept of *bara'ah asliyyah* (original absence of liability) until its presence are truly confirmed. An interviewee explained the situation where the incapability of the amino acid profiling authentication method to detect the presence of animal plasma additives in surimi products.

There are two issues: The presence of animal plasma additives can be proven through product's labelling which are (COA or MSDS). If its existence is confirmed, the status remains haram or prohibited. If not, refer back to the principle of *Bara'ah Asliyyah* which states that Muslims are allowed to consume it unless there is evidence proving its presence. Secondly, the presence of animal plasma cannot be proven due to the unavailability of labelling; hence, Muslims are allowed to consume it based on the principle of *bara'ah asliyyah* (Interviewee 4).

This complies with another Islamic legal maxim (*Qawai'd fiqhiyyah*) that is related to *Istishab*:

*A certainty may not be declined due to doubtfulness (An- Nawawi, 2009).*

### **Principle Of Preservation Dharuriyyah Al- Khamsah**

Preservation of *dharuriyyah al-khamsah* is vital to preserve public interest (*Maslahah*). To achieve objective of Shari'ah, preservation of religion is the highest objective and need to be prioritized over other purposes (Al- Yubi, 1998). It is undeniable that transformation of animal plasma is potentially can minimize environmental pollution, but it deviates from Shariah rulings. Furthermore, there are other halal alternatives can replace its function.

I agree that the application of animal plasma powder can minimize environmental problems and it is a part of maqasid according to Islamic law, but other factors should be considered before making *ijtihad* such as the human urf, the possible risks, the availability of other halal alternatives and the priority of the products (*dharuriyyat*, *hajiyyat* or *tahsiniyyat*) and others (Interviewee 6).

When there is a clash between environment and human priority, the needs of human beings should be prioritized (Interviewee 5).

The principle of *Ad-dharuriyyat* is divided into five categories which are ; preservation of religion (*Hifz Ad-din*) , preservation of life (*Hifz Al- Nafs*) , preservation of property (*Hifz al- Mal*) , preservation of a'ql or mind (*Hifz al- a'ql*) and lastly preservation of progeny (*Hifz al- Nasb*). Some jurists applies another element; preservation of dignity (*Hifz al- 'Irdh*) as an important necessity for human beings. Prophet Muhammad p.b.u.h and his companions use this element indirectly since during their lifetime and are still relevant and essential to tackle any arising contemporary issues nowadays (Jasser Auda, 2014).

The interviewees highlighted the use of animal plasma is not considered a necessity (*dharuriyyah*) since there are other halal sources that can serve the same functions such as transglutaminase enzyme produced from recombinant technology as an alternative ( Jamaludin and Radzi, 2009). The negligence to consume additives will not put the Muslim into trouble because it is mostly applied for refinement purposes not for fulfilling basic necessities of human beings (Jalil, 2006) and (Azhar, et al., 2017). An interviewee states:

The use of animal plasma is in line with Tahsini characteristics as food additives. Hence, there is no necessity to permit its application while there are plenty of additives which are accessible that are derived from halal sources (Interviewee 2).

“From a fiqh perspective, a small quantity of a prohibited source is allowed in unavoidable conditions. But in this context, the use of animal plasma only fulfils the *tahsiniy* purposes (Interviewee 2).

Although science and technology may have proven that plasma –additives are risk-free; it is still not valid to justify their permissibility from the Shariah perspective based on the concept "*ta'abbudi*" supersedes of *ta'qquli* (Interviewee 3).

It signifies that scientific discovery is still considered as relative compared to the comprehensiveness of Al- Quran as a book of guidance, wisdom and being free from any defects and errors. Surely, each commandment from Allah will bring goodness to the whole universe in all aspects of life (Interviewee 3).

Any prohibition stated from Al- Quran will preserve Maqasid Shariah. Islam will never forbid anything which is good and *tayyib*. Meanwhile, the prohibition is subjected to harmfulness (Interviewee 5).

In fact, the prohibition of animal plasma is in line with the preservation of life and religion (Interviewee 5).

It is also based on obedience and faith towards Allah as it is among the wisdom behind His command to educate the servant to obey His commandment. This is called in the science of maqasid as *maqsid al-taabudi* (Interviewee 5).

Allah s.w.t also warns the Muslim who tries to challenge His rulings in this verse;

*And believe in what I have sent down (this Qur'ân), confirming that which is with you (the Torah), and be not the first to deny it, neither take a mean price in exchange for My Verses, and fear Me and Me Alone (Al-Baqarah, 41).*

In the context of mixing APA into surimi products, it falls under the category of *Maslahah al- Mulghah* that refers to the rejected *maslahah* because it contradicts with Al- Quran, Sunnah, *Ijma'* and *Qiyas*. Hierarchy of *nas* is situated on the top level. Therefore, any opinions deviating from the *nas* should be nullified (Mayangsari and Noor, 2014). This is in line with the Islamic legal maxim which states abstaining from *mafsadah* (harmfulness) is more preferable than adopting minor *maslahah* (Mohd Tahir and Mohd Kashim, et al., 2017). From fiqh perspectives, any innovation involving process of transforming *najs* materials into commercialized products will not be tolerable although in a small amount. This complies with *qawaid fiqhiyyah* (Islamic legal maxim) principle: '*when the lawful and unlawful things are mixed up, the unlawful prevails*' (Isa and Man, 2014).

Due of these matters, selecting halal surimi products are vital to ensure the products are completely safe and free from any doubtful status. It is because JAKIM will ensure that all surimi producers who apply for a halal certification will be inspected thoroughly in regard to the ingredients mixed up during the production process. This is based on the interview response given by a representative from JAKIM:

Currently, JAKIM will make sure that the ingredients used in production should have a halal certificate. This is to ensure the ingredients are not contradicted with Shariah and food safety regulations (Interviewee 7).

We need to consider the source of raw material. It is undeniable that the technology used is sophisticated. But we must refer back to the Shariah guidelines where we know the blood is regarded as *najs* although the blood is collected through halal slaughtering ". Hence, it is JAKIM's principle to follow halal and haram guidelines according to Shariah Perspectives" (Interviewee 7).

### **Fatwa Related To Prohibition Of Animal Plasma Additives (Apa) In Products**

Prior to the issue of mixing APA into products, there are different opinions between National and International Fatwa. In Malaysia, the muftis (a Muslim legal expert who has authority to give rulings on Islamic religious matters) apply Shafii School of thoughts opinions in deducing matters related to Islamic religious decisions. In Malaysia, any activities to transform or mixing any recognized *najs* materials intentionally are completely forbidden regardless in any types of products. Animal plasma is a part of spilled –out blood component, hence its prohibition is equal like other unclean materials except in *dharurah* condition (Fadzillah et al., 2020).

Bovine and pig plasma are among the raw materials that potentially used to produce Transglutaminase enzyme powder to improve the quality of surimi dough in terms of shapes and its textures (Anuar,2015).The National committee fatwa Council ("Muzakarah Jawatankuasa Fatwa Kebangsaan") has assembled on 7th till 8th of March 1990 to discuss the halal status of transglutaminase enzyme derived from unclean materials. The fatwa members deduced the rulings that use of enzymes are permissible if the sources obtained from the halal raw materials such as the plants, slaughtered halal animals according to Shariah ways and, non-harmful fungus (Mohd Izhar Ariff, 2017). For instance, the use of whey protein and white eggs are among of the halal raw materials are permitted to produce the enzyme. Hence, the process of *Istihalah fasidah* is established for transglutaminase enzymes from plasma sources since the blood's elements are still present at the end of products (Jamaludin & Wan Mohamed Radzi, 2009).

In the context of using the plasma to produce medicines are also prohibited as strictly opined by the National Fatwa Committees. This is based on the hadith of Prophet Muhammad;

*"Indeed, Allah S.W.T revealed diseases and medicines to treat the diseases. Consume the medicine but never consume it with any forbidden sources" (Abu Daud, n.d).*

But, the prohibition is nullified when there are no other halal alternatives can replace its' functions to treat the illnesses. This complies with the principles of Islamic legal maxims (*Qawaid Fiqhiyyah*) "Necessity may authorize forbidden acts "and "Necessity must only be assessed and answered proportionately". This opinion is different with the fatwa issued by Majelis Ulama Indonesia (MUI) on 10th of October 2018 regards to the status of animal plasma source for medical purposes. The fatwa committees considered the opinions of scientists experts from Faculty of Halal Pharmacy and Science; University of Muhammadiyah (UHAMKA) on Wednesday 24 Sya'ban 1439 H/9 Mei 2018 who emphasized APA has different entity with raw spilled-out blood in terms of color, smell and taste that technically good for medication treatment purposes. It comprises with good component protein such as hormone, amino acid and albumin (Fatwa Majelis Ulama Indonesia, 2018).

At International level, the opinions of the scientists are applicable to help the fatwa committees deciding the decision specifically on the issues of related to *Istihalah* and *Istihlak* principle. The final process will be an indicator of Islamic rulings regardless the sources of materials. It is because the process of *Istihalah sahihah* happened when there are complete transformations in terms of properties and characteristics physically and chemically. The new ruling is opted for 'new' transformed product. For example, in the 8th Medical Fiqh Seminar Resolution organized by the Islamic Organization for Medical Sciences Kuwait organized in Kuwait on 22-24 May 1995, decided transformed gelatine derived from unclean animal's bones, hide and tendons are clean and permissible for Muslim consumption as long as the process of complete transformation chemically and physically take place. Later, in the 9th Resolution Medical Fiqh Seminar organized by the Islamic Organization for Medical Sciences Kuwait in Casablanca, Morocco on 14-17 June 1997 came out different resolution among the scholars. Some of the scholars opined inclusion of the animal plasma as an alternative ingredient in numerous food products

will not subject to ruling like spilled-out blood since it has different properties and characteristics chemically and physically. However, some of the scholars are not agree with this opinion seems it looks too lenient from Shariah perspectives (Rosman et al., 2020).

In addition, the resolution also decided assimilation process of small amount forbidden materials into large amount of other permissible materials are acceptable if the halal materials supersede inserted forbidden material till the taste, colour, odor are completely diluted based on the principle of *Istihlak* (Mahaiyadin & Osman, 2017). This is based on the hadith of Prophet Muhammad regarding of the status *Buda'ah* well contaminated with dirt materials like women menstrual blood, dog carcass and other rubbish. The prophet Muhammad mentioned;

*"If the water has exceeded two kolah, then it would not be unclean if mixed with the unclean." True hadith recorded by Imam Abu Daud (1997) and others.*

Another hadith narrated a situation of Prophet Muhammad mixed the water into nabidh that has excessive smell of gas. Later, the prophet drank the mixed water (Al-Haythami, 2001). This occasion is recorded in Sahih Muslim specifically in the chapter of 36 that discussing the rules of drinks.

Thumama (i. e. Ibn Hazn al-Qushairi) reported:

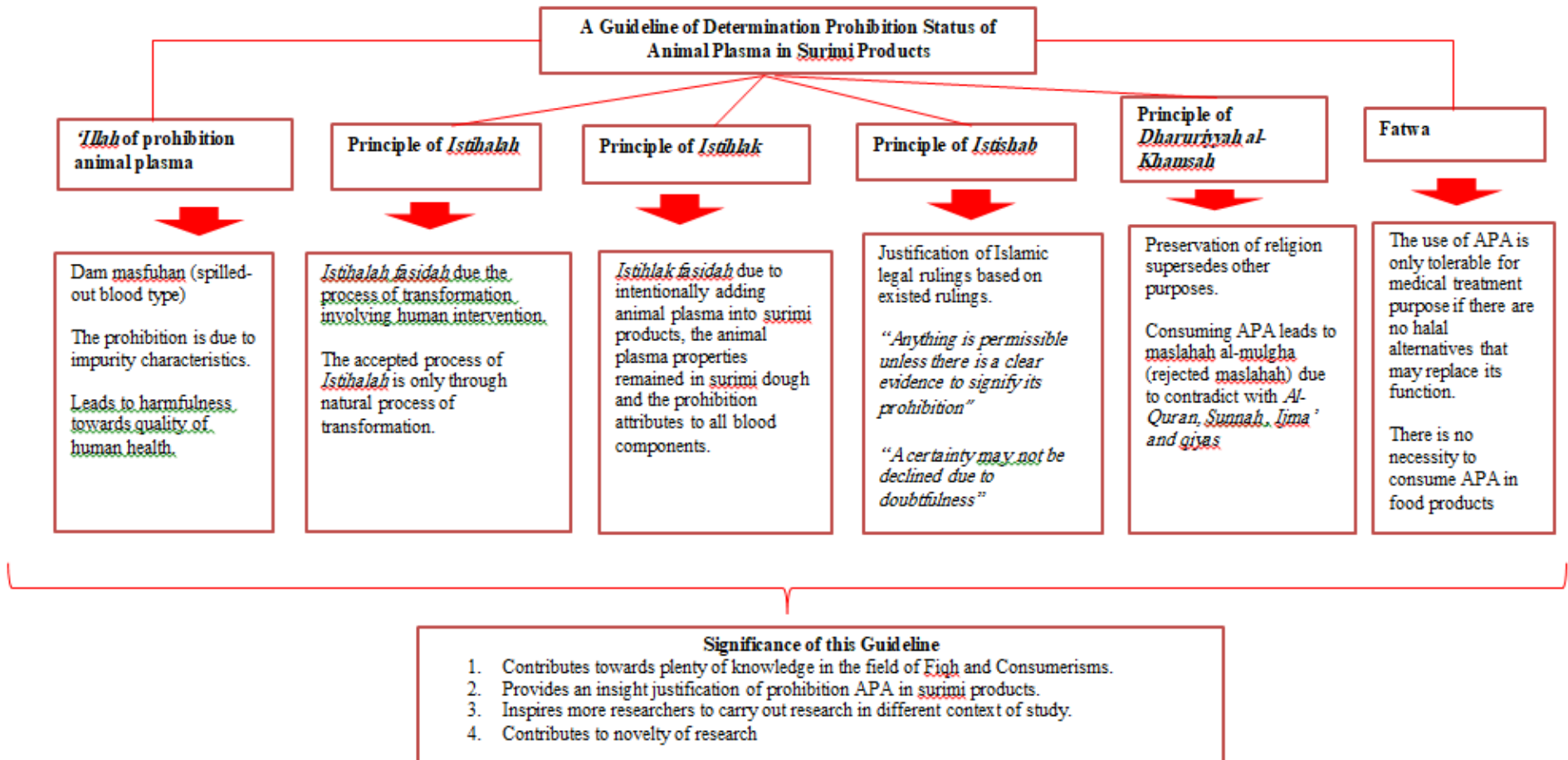
*"I met 'A'isha and asked her about Nabidh (that was served to the Holy Prophet). 'A'isha called an Abyssinian maid (servant) and said: Ask her (about it) for it was he, who prepared the Nabidh for the Messenger of Allah (ﷺ). The Abyssinian (maid-servant) said: I prepared Nabidh for him in a waterskin in the night and tied its mouth and then suspended it; and when it was morning he (the Holy Prophet) drank from it" (Sahih Muslim, 2005).*

*"Imam Al-Suyuti further noted combination of halal and haram will lead to haram is more dominant' except in the case of unclean material is mixed with water and then lose its liquid form, then the water is clean and pure to consume." (Al-Suyuti, 1378)*

Ibn Taymiyyah adopted these both situations to justify arguments on mixed materials between small quantity of haram materials and large quantity of halal materials. For example, in the case of contaminated water by blood, carcasses, pork and etc. If there are no traces of defiled materials as a result the process of perfect dilution takes place, hence the water is regarded as pure and clean for the Muslim consumption (Ibn Taimiyyah, 1987). From this issuance of fatwa, there are differences fatwa opinions among the scholars regards to extension of *Istihalah* and *Istihlak* as purification instruments. In Malaysia, the muftis preferred to limit application of *Istihalah* and *Istihlak* in order to be careful and avoid any potential harmfulness in future (Mamat, 2019). Furthermore, Malaysia is a Muslim majority country that convenient to access halal food. Meanwhile, at International level some of the fatwa committees tend to widen the scope of *Istihalah* and *Istihlak* particularly to give *rukhsah* (facilitation) at Muslim minority countries like Latin America, East Europe, Russia, Korean, United States, United Kingdom and Japan due to difficulty to access halal food or medicine (Mahaiyadin & Osman, 2017).

## ■ 5.0 SIGNIFICANCE OF THIS GUIDELINE

The research findings possess the potential to contribute plenty of knowledge in the Contemporary Fiqh Consumerism Field particularly to comprehend the issue of intentionally adding animal plasma into surimi products as it is part of an important halal issue. This guideline (Figure 1) also provides an insight justification behind prohibition of APA in surimi products. This will be a good benchmark for the future researchers to develop this guideline systematically with exploration of other Shariah principles to comprehend the issues of assimilation halal and non-halal materials. So far, based on the past researches, there is no specific guideline has been developed systematically to discuss the status of APA in commercialized products. Last but not least, the research findings will inspire more researchers to carry out research related to animal plasma in different scopes in the future. Lastly, this developed guideline meets the criteria of novelty research since there is no comprehensive study that has been conducted to highlight the prohibition of utilizing animal plasma in surimi products. Furthermore, based on the preliminary library research from previous studies, there are very limited studies focusing on animal plasma in food products as the subject matter of research.



**Figure 1:** Proposed Framework of a Guideline Prohibition Animal Plasma in Surimi Products

## 6.0 CONCLUSION AND FUTURE RECOMMENDATIONS

In a nutshell, the issue of intentionally adding animal plasma in surimi products have different opinion from Muslim scholars. Some of them regards its ruling should not subject to same ruling of spilled-out blood as it has different characteristics physically and chemically. However, based on the collected interview data and library sources, the researchers uphold with the opinion of majority scholars that the use of any blood components is prohibited definitely unless there are inevitable situations that necessitate its consumption. The principles of *Istihalah*, *Istihlak*, *Bara'ah Asliyyah* and *Dharuriyyah al-khamsah* are capable to justify the arguments behind of its prohibition. Moreover, the legal cause of its prohibition due to its filthy characteristics remained particularly its prohibition is clearly stated in several Quranic verses. Moreover, there are several of halal proteins can replace the plasma functions in surimi products which are safer, halal and tayyib for the human's consumption. Furthermore, the prohibition of animal plasma helps Muslims to preserve the integrity of food production to be in line with the principles of *halalan tayyiban*. Finally, the prohibition of animal plasma also leads to the achievement of *Maslahah Al-Mulgha* (Discredited of public interest) based on the *illah* of prohibiting spilled- out blood.

To extend this research scope in future, there are several suggestions to diversify the findings:

- Expand the research by employing quantitative research methods in order to analyse Muslim consumers' awareness on the issue of utilizing animal plasma in surimi products. This is important to identify whether Muslims are aware of this issue or otherwise. Furthermore, future researchers can also identify the perception of Muslim consumers regarding this issue.
- Conducting a comparative research among different religious practitioners regarding the acceptance of utilizing animal plasma in food products. This study has potential to contribute towards novelty of research since there is no single research that has been done previously by other researchers. From the data obtained, the researcher can compare and contrast in terms of similarity and differences. For example, a study about the utilization of animal plasma in meat –based products from Hinduism and Jewish Dietary Law Perspectives.
- Expand the research on other Shariah principles instead of focusing on *Istihlak* as a purification instrument such as *Maqasid Shariah* and Islamic legal maxims approaches.
- Expand the research on determining the halal status of animal plasma derived from the microbil synthesis technique as suggested by one of the interviewees. So far, she emphasized that there are very limited studies in the context of transforming animal plasma using the microbil synthesis technique. She claimed that in China, this technique is getting popular among food technologists to transform animal plasma into animal plasma –based additives. In fact, producers claim that this technique complies with the halal regulations. Therefore, a more comprehensive study needs to be conducted to investigate whether this technique truly complies with Shariah or otherwise.
- Establish a research to integrate between Scientific and Fiqh perspectives to obtain a holistic finding particularly to vast up the discussion of principles *Istihalah* and *Istihlak*.

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