



The use of dental materials in periodontal therapy in Malaysia: An Islamic legal maxim analysis

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Abstract

Malaysian Muslims are very sensitive to matters involving the law of *halal* and *haram*, especially in terms of food and drink. Quran and Hadith are the paramount basis for solving all problems, regardless of the places, circumstances and time range. Texts of the Quran and Sunnah are mostly of a general nature to facilitate the development of general principles and laws. These general principles will facilitate legal classification of the cases to date, including in connection with the treatment of materials or tools derived from the treatment of non-halal substances such as Biogide®, Emdogain® and Bio-Oss®. This study examined the current *fatwas* and principles of *fiqh* related to non-halal treatment that can be used as a guide for medical and dental practitioners. Information for this study was obtained from an analysis of *fatwas*, books of jurisprudence, medical scholars, Islamic jurists and experts' opinion in connection with the use of dental treatment such as Biogide®, Emdogain® and Bio-Oss® in modern dental treatment. The study found a number of principles of jurisprudence that can be used in connection with necessity and limitations when performing a treatment using non-halal substances such as Biogide®, Emdogain® and Bio-Oss®, namely, is Al-Darurat Tubihu al-Mahzurat (emergency justifies the unlawful means), Al-Darurat Tuqaddaru Biqadariha (something that is permissible due to emergency must be adapted equally with the rate of emergency) and Istihalah (changing one state to another i.e. from *haram* to *halal*).

Keywords: dental material, *fatwa*, *fiqh*, *halal*, periodontal, principle of emergency

Introduction

In Malaysia, Muslims are very sensitive to matters involving the law of *halal* and *haram*, especially in terms of food and drink. Faridah Jalil and Nurhafilah Musa (2012) argues that the food and other products are one of the contributing factors to unity or disunity in the society of all races, religions and cultures. Product manufacturers need to take into account the overall sensitivity of the Malaysian people towards a product.

Generally, *halal* means clean, pure, and is something that is allowed by the legislation. Instead, *haram* means impure, dirty and something that is prohibited by legislation.

Most medical issues highlighted involves the use of drugs mixed with non-*halal* substances or impurities such as pigs, carcasses and bodies such as meningitis vaccine status, vaccine Human Papilloma Virus (HPV), the use of drugs Clexane and Fraxiparine, the use of tissue graft and many more. However, the use of the non-*halal* material in dental treatment were less highlighted even it has similar issue of non-*halal* substances in materials such as Biogide®, Emdogain® and Bio-Oss®. These materials are used in the treatment of growth of new tissue to regenerate dental function.

The lack of a principle of jurisprudence model for dental treatment, especially those involving treatment ingredients mentioned above complicate doctors and patients involved to know the *hukum* of using these substances. Based on the existing problems in determining the status of drugs in dental treatment, this study will discuss the concepts and types of dental treatment, medical status in Islam, utilities and emergency use of illicit substances and the current *fatwas* related to materials from illegal sources. This study will also justify selected opinion relating to the *hukum* of using non-*halal* sources, especially according to the principles of *fiqh* or *qawaid fihiyyah*.

The concept of medical treatment in Islam

Islam advises its followers to seek any treatment if they suffer any illness. Health care is a blessing bestowed by Allah to mankind. A healthy body leads to a healthy mind and allows us to perform worship thereby increasing devotion to Allah SWT. The Prophet himself had impregnated and advised his followers to seek treatment by saying:

Usamah bin Syuraik explained that a group of Arabs once asked the Prophet, which means: *"The Bedouins said, 'O Messenger of Allah shall we not use medicine?' He said, 'Yes, O slaves of Allah, use medicine, for Allah does not create any disease but He also created its cure, except for one disease'. They said, 'O Messenger of Allah, what is that?' He said, 'Old age'"* (Al-Tirmidhi: 2038).

It was narrated that Abu'l-Dardaa' said: The Messenger of Allah (peace and blessings of Allah be upon him) said: *"Allah created the disease and the remedy, so treat the disease but do not treat it with things which are haraam"* (Albani: 1633).

Based on the above hadiths, then the law is to be impregnated and encouraged. However, Muslims should seek for remedy or remedies which consists of drugs that clean, pure, lawful and in accordance with the disease.

There are reasons why certain things are prohibited. Allah does not forbid something unless it is harmful and bad for humans. Among the verses of the Quran and Hadith that explains the prohibited medication with *haram* goods are:

"He has only forbidden you dead meat, blood, the flesh of swine, slaughtered animals not in the name of Allah, then anyone compelled (thereto), it is not disobedience, nor transgressing due limits (at the rate things are eaten it), nor transgressing due limits. Verily, Allah is Oft-Forgiving, Most Merciful" (Al-Baqarah: 173).

"Say (O Muhammad): I find not in that which has been revealed to me anything forbidden for people who want to eat it unless it be carrion, or poured blood, or the flesh of swine, - for it is an abomination - or, what impious, ie animals slaughtered in the name of other than Allah. Then whoever is compelled (thereto), it is not disobedience, nor transgressing, thy Lord is Oft-Forgiving, Most Merciful" (Al-An'am: 145).

"He sent them with good things, and forbade them from doing things that are vile; and it is lawful to them the good things and prohibits them all a bad thing; and it also releases them from their heavy burdens and from the yokes that are upon them" (Al-A'raf: 157).

From Ibnu Mas'ud, the Prophet SAW said: *"Allah did not put your healing in that which he has forbidden to you"*.

Overview on dental materials used in periodontal therapy

Periodontal therapy targets at restoration of the damaged tissues to their original form and function. It requires regeneration of the destroyed periodontal connective tissues through formation of new cementum, new bone and new attachment of new connective tissue fibers (Melcher, 1976, Meyer, 1986, Egelberg, 1987, Pitaru et al., 1994, Cochran et al., 2000). In order to achieve this, several surgical techniques including guided tissue regeneration (GTR), bone grafting (BG) and the use of enamel matrix derivative (EMD) have been developed (Esposito et al., 2010).

The theoretical principles basic to guided tissue regeneration (GTR) were developed by Melcher in 1976, who outlined the necessity of excluding unwanted cell lines from healing sites to allow growth of desired tissues (Melcher, 1976). Barrier membranes were used to direct bone regeneration for rebuilding alveolar bone defects. Bio-Gide® is a pure collagen membrane extracted from veterinary certified pigs and carefully purified to avoid antigenic reactions. They are frequently selected for GTR purposes as compare to other various resorbable membranes because they have many advantageous properties including a low immune response, low toxicity and the ability to promote cellular growth and attachment (Chvapil Malaysia, 1980, Rao et al., 1988). When used as a barrier membrane in bone cavities, it will resorb within 24 weeks. Adverse reaction to Bio-Gide has not been observed (Ogunsalu, 2005).

In addition, Bio-Oss® is a safe and effective bone graft material. The similarity of Bio-Oss® to human bone enables its high success rate in helping new bone formation. It is prepared from specially processed bovine sources and no allergic reaction or infection has been observed following its use (Ogunsalu 2005).

On the other hand, Esposito et al. (2010) have done a study to test whether EMD is effective, and to compare EMD versus GTR, and various BG procedures for the treatment of intrabony defects. Enamel matrix derivative (EMD) is an extract of enamel matrix and contains family of proteins, of which 90% are amelogenins, and the remaining 10% prolin-rich nonamelogenins, tuftelin and other serum proteins (Brookes et al. 1995). Based on the high degree of homology between porcine and human enamel proteins, it was decided to produce the EMD from fetal pigs (Brookes et al., 1995).

Authors' have concluded that after one year of its application; EMD significantly improved probing attachment and pocket depth when compared to a placebo or control. As judged by the patients, no differences in tooth loss or aesthetic appearance were observed. The actual clinical advantages of using EMD are unknown. Emdogain showed similar clinical results to guided tissue regeneration, but is simpler to use and determines less complications. GTR however, showed statistically significant more postoperative complications and more gingival recessions. Other than postoperative complications in the GTR group, there was no evidence of clinically important differences between GTR and EMD (Esposito et al., 2010). However, the high degree of heterogeneity observed among trials suggests that results have to be interpreted with great caution.

Views based on Islamic legal maxims

The basic question here is whether medication using drugs or substances derived from non-*halal* sources such as unslaughtered animals including pigs according to Sharia is permissible for dental treatment. In discussing this question, we only focused on medication or treatment contains materials namely Biogide®, Emdogain® and Bio-Oss®. These materials are used in regenerating periodontal tissues including guided tissue regeneration (GTR), bone grafting (BG) and the use of enamel matrix derivative (EMD) for the treatment of growth of new tissue to restore tooth function. The discussion will be based on two major principles in legal maxims which are in the state of emergency and *istihalah*. However, we found that the concept of *istihalah* is vague to be used in determining the status of Biogide®, Emdogain® and Bio-Oss® because the manufacturing process of these substances is confidential. Because of the confidentiality, we cannot conclude whether *istihalah* took place or not. *Istihalah* principle will be considered once the manufacturing process is available.

Hukum in the state of emergency

Although in the *hukum*, it is prohibited to medicate with non-*halal* substances but in certain situations this medicinal methods allowed at the time of emergency. Interpretation of emergency for this situation is the absence of *halal* alternative medicine for the disease or *halal* alternative medicine that is available does not suitable with the disease which in these situation will harm the patient. Medicines from non-*halal* sources that become permissible based on principles of emergency are Rubella vaccine made from human tissue, immunizations for polio, diphtheria and tetanus. While drugs such as BioThrax and RotaTeq vaccine derived from pig still banned because there are *halal* alternative remedies and does not reached emergency levels (Mustaqim et al., 2013).

In dentistry, emergency principle might also be considered and dealt with in greater depth. It is important to know that prohibited items will definitely harmful to humans. However transforming or converting it into *halal* form is not simple. In fact there are rules and principles to be observed and studied. In discussing principles for the issue of emergency dental treatment, we will discuss it based on the principles of appropriate *fiqh*:

Al-Darurat Tubihu al-Mahzurat (الضرورات تبيح المحظورات)

Among the principles of jurisprudence that can be applied in this matter is ***Al-Darurat Tubihu al-Mahzurat*** which means emergency justifying the unlawful means (al-Burnu, 1997). Among the arguments which support this principle is as stated in the Quran in Surah al-An'am verse 119, al-Baqarah verse 173 and al-Maidah verse 3.

This principle applies if a person deal with emergencies like being in a state of running out of food and drink and there are only pig available, then it is permissible for him to eat pork just to survive. Similarly, in the case of medicinal use of non-*halal* substances originally it is prohibited, but if there is harm and distress, according to this principle, it is permissible.

Based on the legal basis and principles of ***Al-Darurat Tubihu al-Mahzurat***, in a state of emergency, medicines made from non-*halal* sources become permissible if there is no alternative to *halal* dietary and medication. However, there are limitations. This principle cannot be interpreted arbitrarily without looking into other principles of jurisprudence. The next principle is that needs to be considered is ***Al-Darurat Tuqaddaru Biqadariha***.

Al-Darurat Tuqaddaru Biqadariha (الضرورات تقدر بقدرها)

The meaning of this principle is, something that is permissible due to emergency must be adapted equally with the rate of emergency (al-Zarqa' 2007). Every prohibited thing that is allowed on the basis of emergency has its limitations. Performers cannot be exaggerated in doing things that are forbidden. In such situations, the use of non-*halal* drugs should only be used simply to eliminate the disease only.

Although the principle of ***Al-Darurat Tubihu al-Mahzurat*** allows the use of non-*halal* drugs on an emergency basis, this principle is also bound by the other principles acting as a controller so that the permissibility granted will not be abused (Salleh Ahmad, 1998). The harm must be rejected properly and guided by the following proposition:

“He has only forbidden you dead animals(carcases), and blood, and the flesh of swine, and animals not slaughtered for Allah, but if anyone compelled (thereto), it is not disobedience, nor transgressing due limits (at the rate things are eaten it), nor transgressing due limits. Surely Allah is Forgiving, Merciful (Al-Baqarah 2: 173).

Two principles that have been discussed above are for emergency cases only. Emergency here interpreted in two circumstances under which we agree that first condition is the absence of a lawful alternative medicine used while the patient's condition has reached a chronic stage and needs to be

treated. The second condition is the patient can only be treated with non-*halal* drugs despite dietary alternative medicine because non-*halal* drugs are more suitable to the condition of patients and doubtful if the use of *halal* drugs would be detrimental. The most important thing that should be done by the patient is to consult a specialist doctor first.

The juristic views on the concept of *istihalah* in Islam

Another principle that should be observed in determining the legal status of a drug which is mixed with non-*halal* substances is *istihalah*. According to Munjid al-Tulab (1987) *istihalah* means: change one state to another. Al-Jurjani said *istihalah* means: Movement in qualitative state with warm water and cold water to maintain the quality and nature (al-Jurjani, 1995).

In concept, *istihalah* comes from the source of the Quran in Surah al-Nahl, verse 66. That means: *"And verily in cattle was really there is a lesson for you. We give you to drink of that which is in their bellies (a) pure milk between excretions and blood, which is sweet to those who drink it."*

This verse describes the milk produced by livestock is judged *halal*, although it ranges from faeces and blood of animals concerned. Milk is produced from the food eaten by the animal, which was then digested in the stomach, part of which became blood, meat and milk. While the rest will be unclean issued when the time comes.

Istihalah concept is also mentioned in the relevant *Fihiyyah* method, as follows: *Inna al-Najasa Idza Istahalat Tahurat*. Meaning: stool specimens when cleaned with any cleaner then became sacred.

Conservative scholars' views

According to Hanafi, *istihalah* is a change or alteration of an unclean thing by himself or through an intermediary for instance, turning musk deer blood into *kasturi* oil. Another example is wine turns into vinegar either change or changes occur by itself or through an article; if the dog carcasses fell in place of salt and then turned into salt. In the Hanafi School, it is categorized as holy things. This is based on the opinion of Imam Muhammad al-Hasan which differs from the opinion of Abu Yusuf.

A stool when denatured, it does not become dirty again. Stool is the name for a substance that is certain. Therefore, it will be lost with the loss of capacity. So, the same ruling applied as wine turns into vinegar. The *hukum* of liquor has been agreed by all sects.

Hanafi and Maliki view that when a pig fell into a pond where salt is then made off, after it turned into salt, the relevant *hukum* is *halal* salt. This is due to a substance of pig has been turned into salt and the salt is *halal* (al-Mausu'ah al-Kuwaitiyyah, 1987). Al-Haskafi, one of the Hanafi school scholars, said that dust produced from burning stool is not a stool, as well as salts derived from the carcass of a donkey or a pig, because its essence has changed.

According to the Shafi'i and Hanbali School of law, the salt produced from pig significant change adjudged illegal, because the pig is an unclean substance whatsoever in respect of shit has changed shape to another substance, remained condemned unclean. Al-Ramli from the Shafi'i school, said that the substance does not change its legal stool in absolute terms, by the existence of faecal switch to another form, such as pig carcasses fell into a pond that makes salt, then turned to salt. Ibn Qudamah, who is a Hanbali scholars say that the most convincing opinion in the Hanbali school is that shit cannot be changed into the sacred by way of exchange unless *khamr* that turns into vinegar by itself. While the other is not switching to the sacred, like the stool that is burned to ashes. Similarly, pig carcasses that fall into the pond salt until it turn into the salt.

Current fatwa

National Fatwa Council of Malaysia in 2006 had decided that the use of animal members or its elements, other than dogs and pigs is forbidden for cosmetic purposes if it will cause harm and also because Islam emphasizes cleanliness. Fatwa Council (1999) on goods, food and beverages stated that, bio-technology methods that process pig DNA is prohibited and contrary to Islamic law. This fatwa emphasis that the use of bio-technology in the process of goods, food and beverages have not yet reached the level that can be considered an emergency.

The 8th Nadhwah Resolution on "Islamic Management and Medicinal Issues" which is shaded by Dr Yusuf Qaradawi, also attended by scholars from al-Azhar, the Organization of the Islamic Fiqh in Jeddah Saudi Arabia, Iskandariyyah Maktab Iklimi in Health Management, Ministry of Health, Kuwait which took place in Kuwait dated 22-24 May 1995 (xiv), 22-24 Zulhijjah 1415, has decided a few solutions:

1. Food products containing pork fat in the ingredients without *istihalah* process against Him are absolutely forbidden.
2. Insulin made of pork for medical purposes is allowed due to an emergency, but it must comply with the conditions set out by Syarak.
3. *Istihalah* ie the change of unclean thing to a clean form which also change the nature of the original unclean thing to that which is sacred.

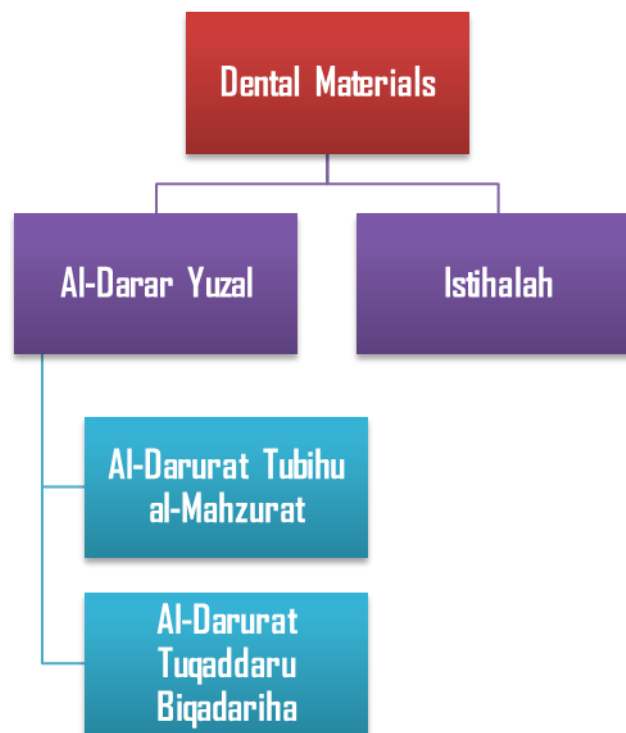


Figure 1. The use of dental materials in periodontal therapy: An Islamic legal maxim analysis model

Note:

- Dental Materials: Medication or treatment contains materials namely Biogide®, Emdogain® and Bio-Oss®.
- Al- Darar Yuzal: Harm shall be removed
 - Al-Darurat Tubihu Mahzurat: Emergency justifying the unlawful means.
 - Al-Darurat Tuqaddaru Biqadariha: Something that is permissible due to emergency must be adapted equally with the rate of emergency.
- Istihalah: Change one state to another i.e. from haram to halal.

Conclusion

In conclusion, the issuance of new law to the current problems needs a thorough study of the details of the sources of Islamic law, including the principles of fiqh. Islam encourages its followers to seek treatment but should be medicated with substances that are *halal* and pure. However, in certain situations or emergencies, Islam allows its followers impregnated with substances prohibited by the guidelines. This shows that Islam is flexible. Although there are exceptions, there are still some conditions and limitations that must be understood and followed. The principles of fiqh although not considered as the main argument in the determination of the law, are an important guide in understanding the law as part of the principles of jurisprudence itself originated from texts either the Qur'an or the Sunnah. Thus, a deep understanding and assessment of the principles are to be taken into account before making any questionable medical procedures contrary to Islamic law. Dental specialists and experts of jurisprudence should enhance collaboration in understanding the principles of fiqh which can be consulted in each particular legal problems of modern dental treatment. Among the proposals that can be put forward is to do more studies involving issues of fiqh as well as dental treatment and expose the principles of fiqh to dental specialists through seminars, lectures, and discussions.

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