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Knowledge and Attitude on Sunnah Food and Islamic Eating Practices among Students Universiti Malaysia Sabah

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Abstract: The preservation of future generation and the protection of consumer welfare is a priority in view of the progressive negative behaviours existing in today's societies at large. This study aims to evaluate the level of knowledge and attitude on *sunnah* food and Islamic eating practices, and to determine the relationship between knowledge, attitude and practices among students from Universiti Malaysia Sabah (UMS). The study involved around 414 respondents through convenience sampling by using questionnaires as the research instrumentation. The data was analysed by using SPSS version 25. This study highlighted that family is the main reference for source of information on halal food products followed by the internet and lecturer. Most members of the faculties at UMS has high level of knowledge on the concept of halal and haram in halal food, followed by the Islamic law (*Sharia*') on halal food and beverages. This is due to courses on halal and haram foods being offered at various faculties in UMS. Although the majority of respondents has high level of knowledge on *sunnah* food, but the practices of respondents consuming the *sunnah* food is low. This happens because the fruits such as dates, pomegranates and figs are quite expensive and not easily accessible in the city of Kota Kinabalu. The study found that the Muslim respondents have positive attitude (i.e. proven by satisfactory level) towards *sunnah* food and eating practices: (1) they always choose *sunnah* and *tayyib* food whenever they want to eat; (2) they eat in congregation (with friends or family) when they want to eat; (3) washing hands before and after eating; (4) saying "*Bismillah*" before eating ; (5) sharing food with friends. However, some of the eating practices are not encouraged by Islam, but because it has become a custom or a part of their daily eating practices. This happens because the Malaysian public is not familiar with eating food from the Arab countries, where it was a way of life for the Prophet SAW. Results also showed that the knowledge on *Sunnah* food was significantly correlated with attitude ($r = 0.217$; $p < 0.05$) and practices ($r = 0.085$; $p < 0.05$) of the UMS students showing positive linear correlations, which confirms that better knowledge can lead to positive attitude and subsequently in good practices.

Keywords: *sunnah* food; Islamic eating practices; milk; dates; honey; halal food

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1. Introduction

The preservation of future generation and the protection of consumer welfare, as contained in the "*Maqasid Shariah*", is a priority in view of the progressive negative behaviours existing in today's societies at large. This qualitative and quantitative research on *sunnah* food and Islamic eating practices focused on sunnah food consumed by the Prophet Muhammad SAW and his eating practices. Some foods mentioned in the al-Quran and Hadith were studied to associate the relationship of knowledge and attitude of halal food and Islamic eating practices of the respondents.

The word *sunnah* which is originated from Arabic term, means traditional customs and practices of the Prophet Muhammad SAW, who constitute a model for all Muslims to follow. Whilst halal food is food, which is allowed or permitted to be consumed by Muslims from *Shariah* principles and is allowed by Allah SWT. *Halal* can be defined as foods which are halal, pure, clean, free from haram materials, whereby *tayyiban* means foods, which are safe, hygienic and nutritious. Islamic eating practices means the *sunnah* way of eating foods, which is being practiced by the Prophet Muhammad SAW.

The current exigencies of various crimes on alcohol, fraud food and dietary supplements, the rising trend on cancers and cardiovascular diseases, diabetes and obesity have prompted this study to evaluate the level of knowledge, attitude and practices of *Sunnah* food and Islamic eating practices. It is believed that *sunnah* food and Islamic eating practices can resolve these problems.

The aims of the study are to evaluate the level of knowledge on *sunnah* food and Islamic eating practices, to evaluate the level of attitude on *sunnah* food and Islamic eating practices and to determine the relationship between knowledge, attitude and practices among students from Universiti Malaysia Sabah.

2. Literature Review

The Islamic way of life is a system of divine principles and code of ethics to be practiced in the daily life of every person. Every deed is a form of worship and eating is one of them and it has to be based on the Islamic laws. In perspective, Muslims should eat sufficient bulk of food and select the best grade of food as stated in the al-Quran:

"O children of Adam, take your adornment at every mosque, and eat and drink, but

be not excessive. Indeed, He likes not those who commit excess." (al-Quran 7:31)

"And similarly, We awakened them that they might question one another. Said a speaker from among them, "How long have you remained [here]?" They uttered, "We have remained a day or part of a day." They uttered, "Your Lord is most knowing of how long you remained. So send one of you with this silver coin of yours to the city and let him look to which is the best of food and bring you provision from it and let him be cautious. And let no one be aware of you."(al-Quran 18:19)

The growing understanding of Muslims throughout the world on their responsibility to eat only halal food (Ambalim & Bakar, 2014) creates positive environment to develop true Muslims with good behaviour. To the Muslims, food should be halal and of good quality and should be authentic. In Islam, every food is deemed halal excluding those that are strictly stated in the al-Quran as prohibited or *haram* (Riaz, 2004). Of special attention is the meat because it forms the greatest strictly regulated food among the food groups. The meat must not only be sourced from halal animals, but also must be slaughtered and processed according to the Islamic laws. Apart from meat, the other foods which are haram, are pork, blood, carrion and liquor.

Allah SWT asked us to select good food and drinks and prohibits us from haram foods which can cause health hazards. According to Abdussalam Thawilah (2010), most scholars are in the same line of opinion that all that are considered halal are halal and all those considered haram are haram by the al-Quran and *as-Sunnah*. Whilst on any matters that has not been mentioned halal or haram is included in the flexibility or on the basis of halal. From *Abu Ad-Darda r.a.*, he reported what the Prophet SAW said: "All that Allah ascertained as halal in the *al Kitab* is Halal. Whilst those that are haram are haram. But for those which He kept quiet, it means flexibility. So, accept this flexibility from Allah SWT for Allah SWT is never forgetful." (Abdussalam Thawilah, 2010).

Milk

Milk is one of the favourite foods of Prophet Muhammad SAW, which can be proven and supported by several Islamic resources and scientific research findings from all over the world. Al-Quran clearly encouraged breastfeeding through the following verse: *"Mothers shall breastfeed their children for two whole years, for those who wish to complete the term"* (al-Quran 2:233). In reminding people to tend to their parents with kindliness, the al-Quran says: *"His mother carried him, in weakness upon weakness, and his period of weaning is two years"* (al-Quran 31:14). Through the Quranic verses above, they signify that breastmilk from mothers to supersede other milk from cow, sheep and goat. This coincides with the World Health Organization (WHO) theme, which recognizes that breastfeeding the infant for six months is highly recommended, which is then continued until two years old and beyond provides the best possible nutrition that babies need to grow and develop into a healthy adult. Breast milk is proven to contain more than 70% of whey protein compared to cow's milk,

which is biologically crucial for the baby's physiological growth (Camilia *et al*., 2016). In parallel with the al-Quran, the WHO has placed the policy that mothers should breastfeed their babies from 4-6 months (possibly up to two years) exclusively to prevent infantile diarrhoea. In contrary to the current trend of bottle-feeding using cow's powdered milk, promotion of wet nursing and education on the importance of breast milk should be globally implemented. In addition, breastfeeding benefits mothers in regaining her uterine health, child spacing and prevent breast cancer, besides establishing bonding and psycho-social effect between her and her baby.

It is amazing that the instruction of Allah SWT in the Holy al-Quran is scientifically proven to be accurate and greatly benefit the humankind. Many benefits of milk intake are being discovered today such as in strengthening bones and cancer prevention (Davoodi *et al*., 2013), and there is now a new study confirming the extra benefits of milk in the stopping of dementia and cognitive decline (Ano & Nakayama, 2018), which the *Quran* had called it "the miserable old age". Allah the Almighty said: "and among you there is he who is brought back to the miserable old age, so that he knows nothing after having known" (al-Quran 22:5). Prophet Muhammad SAW had uttered "*Allah SWT had not brought down any illness without his remedy*", therefore, Allah the Almighty, made this milk as a treatment for memory failure particularly for the elderly. Milk is a complete food, rich in protein, calcium, vitamin A and vitamin B (IDFA, 2019). It is pure, desirable and palatable to the drinkers as stated in the following Quranic verse. *"And verily in cattle (too) will ye find an instructive Sign. From what is within their bodies between excretions and blood, We produce, for your drink, milk, pure and agreeable to those who drink it"* (al-Quran 16:66). Meanwhile, a recent study revealed that the consumption of milk daily can protect men from cardiovascular diseases (Rice, 2014).

Dates

The Prophet SAW normally breaks his fast by consuming some dates prior to performing *Maghrib* prayer, and if fresh dates were not accessible, he used to replace them with some dried dates. When they were not accessible, he used to have a few drinks of water, in accordance to some reports (Haylamaz, 2014: Narrated by Ahmad, 12265; Abu Dawood, 2356). In the Malaysian Dietary Guideline 5, it is stated that "Eat plenty of fruits and vegetables everyday".

Vyawahare, *et al*. (2008) in their regular assessment, conducted the pharmacological researches on dates (*Phoenix dactylifera*), which showed the prospective of dates in the therapy of skin disorders, gastric ulcer, cardiovascular disorder, diarrhoea, and inflammatory ailments, including kidney and liver disorders, viral and microbial infections, cancer, etc. The previous researches also indicated that these dates have important anti-oxidant properties due to the existence of water-soluble mixture with powerful free radical-scavenging impacts, such as phenolic compounds that may be related with reduced occurrence and reduced death rates of deteriorative illnesses in human.

Baliga *et al*. (2011) found that dates are good origins of dietary fibres, carbohydrates, specific important minerals and vitamins. The pits of the date fruits are also an outstanding origin of dietary fibre and comprise of significant quantities of minerals, lipids and protein. Besides dates being dietary, it is also used for medicinal purposes, which are utilized to nurse a variation of sickness in the conventional systems of medicine. Study on its phytochemical properties showed that the fruits contain sterols, carotenoids, procyanidins, anthocyanins, phenolics, and flavonoids; compounds known to contain a number of advantages impacts for human health and benefits. Pre-clinical researches have demonstrated that the dates comprised of free radical scavenging properties, anti-inflammatory, anti-microbial, anti-oxidant, gastroprotective, anti-mutagenic, hepatoprotective, nephroprotective, immune-stimulant activities and anti-cancer.

Tang *et al*. (2013) reported that dates are mainly comprised of 70% carbohydrate (the main sugars being glucose, sucrose and fructose. Date fruit is a beneficial origin of fibre and carries numerous useful minerals and vitamins such as selenium, calcium, fluorine and iron and much more. In 2014, Arshad *et al*. announced that the healing impacts of dates fruits in the stopping of illnesses were via modulation of anti-inflammatory, anti-tumour activity and anti-oxidant. Assirey (2014) measured chemical compositions of ten date palms and they contain all the nutrients the body needs. The dates were high in sugar at 71.2–81.4% dry weight, low in ash which was accounted for 1.68–3.94%; they comprised of little concentrations of protein and lipid at 1.72–4.73% and 0.12–0.72%, respectively. The main mineral was potassium, and the principal sugars were fructose and glucose. They comprised of high concentrations of valine, leucine, aspartic acid, proline, alanine and glycine; little concentrations of serine, isoleucine, threonine, arginine, phenylalanine, tyrosine and lysine; very little concentrations of histidine and methionine. Essa *et al*. (2016) found that dates supply possible defence against the inflammation and oxidative pressure in the brain. The mechanisms of healing may be associated with the antioxidant activities of their phenolic constituents, which clearly demonstrates the nutritional and medicinal values of this fruit. Based on the *in vivo* experimental researches and the active ingredient profiles, it can be summarized that these fruits have promising healing potential against Alzheimer's disease (AD). However, the mechanisms by which dates display their antioxidant activities against the AD are poorly understood and necessitate an extensive investigation utilizing different varieties. Al-Alawi (2017) conducted in-vitro and in-vivo researches of some pure aqueous and assorted aqueous/organic solvent extracts of the date palm fruits and they discovered that the solvent extracts to own numerous health promoting impacts; including oxidative-stress activity, free radical scavenging capability, prevention of coronary heart disease, hepatoprotective, anti-inflammatory and anti-cancer properties.

Honey

> *"And thy Lord taught the Bee to build its cells in hills on trees and in men's habitations; Then to eat of all the produce (of the earth) and find with skill the spacious paths of its Lord: there issues from within their bodies a drink of varying*

> *colours wherein is healing for men: verily in this is a Sign for those who give thought"* (al-Quran 16:69). The Prophet SAW said: *"Honey is a healing for the body and the al-Quran is a healing for the soul, hence I proposed to you both cures, the al-Quran and honey."* (Ahmad *et al*., 2010).

Vallianou *et al*. (2014) reported that sugars in honey composed of monosaccharides and oligosaccharides. Honey comprised of at least 181 components (Alvarez-Suarez *et al*., 2013). The most plentiful sugar in honey is fructose, while fructose is sweeter and supply extra energy than artificial sweeteners. Alvarez-Suarez *et al*. (2013) reported that the grade of honey relies on its chemical content and floral sources. Besides sugars, honey also comprises of various vitamins, especially B complex and vitamin C, together with a lot of minerals. Some of the vitamins discovered in honey are pantothenic acid, ascorbic acid, niacin and riboflavin; while minerals include magnesium, copper, manganese, calcium, iron, phosphorus, potassium and zinc are also present. The other components of honey are amino acids, antibiotic-rich inhibin, proteins and phenol antioxidants. It also composed of other bioactive substances such as phenols, flavonoids, nitric oxide (NO), amino acids, carotenoid-derived compounds, metabolites, proteins and organic acids.

Honey is proven to have its anti-bacterial, anti-diabetic, anti-cardiovascular diseases, anti-obesity and wound healing properties on human. In 2008, Simon *et al*. highlighted there were many evidences which confirmed the properties of active ingredients of honey against bacteria and other useful impacts on lesion relieving and motivate other wound supervision experts to utilize CE-certified honey bandages with standardized anti-bacterial procedure. This is in tandem with the findings of Al-Waili (2006), whereby they concluded that a combination of honey, beeswax and olive oil is safe and clinically successful in the therapy of haemorrhoids and anal fissure, which directs the way for further randomized double blind researches. However, D. M. Mandal and S. Mandal. (2011) reported that Manuka and Tualang honey are both effective current anti-microbial agent against anti-biotic resistance and in healing of persistent wound infections, which does not respond to antibiotic treatment. Van den Berg *et al*. (2008) found that buckwheat honey was most successful in lowering reactive oxygen species (ROS) levels and it was chosen for use in wound-relieving products. The main antioxidant properties in buckwheat honey comes from its phenolic constituents, which are available in large quantities. Its phenolic compounds can also apply anti-bacterial activity, whereas its low pH and high free acid composition can help in relieving the wound. Yaqhoobi*et al*. (2008) discovered that consuming natural honey can reduce risk attributes of cardiovascular diseases, in particular among patients with increased threats, and it did not elevate the weight of the body in obese or overweight patients. Bahrami *et al*. (2009) demonstrated, whereby 8-week eating of honey can supply favourable impacts on body weight and blood lipids of diabetic patients. Moghazy*et al*. (2010) study has proven that in developing countries, the trading of clover honey is used clinically and cost-effective bandage for diabetic lesion. It is widespread and in compliance to their ethnic faiths, which forms it as a normal environmentally-based technique for nursing those with diabetic wounds. Kamaratos *et al*. (2012) found that Manuka honey-impregnated bandages (MHID) constitute

a successful treatment for neuropathic diabetic foot sores (NDFU), which leads to a notable shorter time in healing and fast disinfection of ulcers.

Honey is also proven to have anti-oxidants and anti-cancer activities. Khalil and Sulaiman (2010) discovered that antioxidants available in honey derive from various origins including mono-phenolics, vitamin C, polyphenolics and flavonoids. Regular eating of flavonoid is associated with a lowered threat of cardiovascular illnesses. As for the coronary heart illness, the preventive impacts of flavonoids which are mostly anti-oxidant, anti-thrombotic, anti-ischemic, and vasorelaxant and flavonoids lower the threat of coronary heart disease by three major activities: (a) to make better coronary vasodilatation; (b) reduce the capability of platelets in the blood to coagulate; (c) stop LDLs from being oxidized. This investigation has obviously revealed that specific honey polyphenols have a favourable pharmacological function in stopping cardiovascular diseases (Khalil & Sulaiman, 2010). Shadkam *et al*. (2010) reported the finding of their research showed that taking a 2.5 mL dose of honey prior to sleeping has a better easing impact on upper respiratory infections (URIs)-induced cough in comparison to dextromethorphan (DM) and diphenhydramine (DPH) doses. Furthermore, Majid *et al*. (2013) found that taking natural honey notably restricts the raise in blood glucose together with a dominant lowering in the quantities of total cholesterol, LDL and triglycerides, and raise in HDL in young healthy adults in Pakistan. The WHO made a recommendation in 2001 based on accumulating evidence suggests that honey might have a role in treating cough and cold in children. This claim has been supported by Goldman (2014) in his study recommended 2.5 mL honey before bedtime for children older than one year of age with cough. Further study on the health benefit of honey has been conducted by Erejuwa *et al*. (2014), who discovered honey as a natural product that shows prospective results to impede or retard the growth and progress of tumour and cancer. Its anti-tumour, anti-proliferative, anti-cancer, and anti-metastic impacts are liaised via various mechanisms, which include cell cycle halt, operation of mitochondrial pathway, initiation of mitochondrial external layer permeability, initiation of apoptosis, modulation of oxidative tension, improvement of swelling, modulation of insulin signalling, and retardation of angiogenesis in cancer cells. Honey is particularly and selectively cytotoxic as opposed to tumour or cancer cells, while it is non-cytotoxic to normal cells. It can impede cancero-genesis by modulating or interfering with the molecular operation or episodes of initiation, promotion, and progress phases. It, therefore, can be regarded as a prospective and favourable anti-cancer agent, which demands more study, both in trials and clinical researches. Othman (2012) reviewed that there was a concrete proof that honey is a natural healer as an anti-inflammatory agent, anti-microbial agent, immune booster, “vaccine” to cancer, and advocate to improve persistent ulcers and wounds; which forms as the attribute elements for cancer growth. Finally, Ashaari *et al*. (2013) found that taking honey at a high dosage enhances the general and single indicators of allergic rhinitis (AR), and it could perform as a compatible therapy for AR.

Fruits and Vegetables

As for fruits and vegetables, the al-Quran stated that:

> "*And He it is who causes gardens to grow, [both] trellised and untrellised, and palm trees and crops of different [kinds of] food and olives and pomegranates, similar and dissimilar. Eat of [each of] its fruit when it yields and give its due [zakah] on the day of its harvest. And be not excessive. Indeed, He does not like those who commit excess"* (al-Quran 6:141). *"He causes to grow for you thereby the crops, olives, palm trees, grapevines, and from all the fruits. Indeed in that is a sign for a people who give thought"* (al-Quran 16:11). "*And in the earth, there are tracts side by side and gardens of grapes and corn and palm trees having one root and (others) having distinct roots-- they are watered with one water, and we make some of them excel others in fruit; most surely there are signs in this for a people who understand"* (al-Quran 13:4). *"Amid thornless lot-trees, and banana-trees (with fruits), one above another, and extended shade, and water flowing constantly, and abundant fruit, neither intercepted nor forbidden*" (al-Quran 56:28–33).

The Malaysian Dietary Guideline 5 stated that "Eat plenty of fruits and vegetables everyday". The key recommendations are namely: (1) Eat a variety of fruits every day; (2) Eat a variety of vegetables every day; (3) Eat at the minimum five portions of vegetables and fruits every day. It has been widely recognized that vegetables and fruits are beneficial for an individual and now substantial scientific data are available to support close associations between vegetable and fruit consumption and good health outcomes. Vegetables and fruits are good sources of dietary fibre, vitamin, minerals and various bioactive substances. Certain nutrients are lost during cooking so eating raw salads is encouraged. When consumed raw, vegetables must always be correctly cleaned. In some cases, cooking elevates nutrient availability, for example, carotenoids from cooked tomatoes are absorbed well than from raw ones. When vegetables are cooked, they should not be overcooked since this will cause nutrient loss. Stir fry vegetables is the best cooking method to minimize the loss of nutrients to the environment. Some fruits and vegetables are particularly plentiful in vitamin A and C. Good origins of beta-carotene, which are predecessors of vitamin A, are dark green leafy vegetables such as sweet vegetable, mustard greens, kale, water spinach, kai-lan, and yellow, orange vegetables and fruits such as tomatoes, bell peppers, sweet potatoes and carrots. Mangoes, papayas and watermelons are also rich origins of vitamin A and C.

There are various scientific proofs that fruits and vegetable intake can reduce hypertension, coronary heart diseases and stroke in the last decade (Liu *et al*. 2000, Moore *et al*., 1999). Holt *et al*. (2009) research showed that the favourable outcome of fruits and vegetables consumption on markers of inflammation and oxidative stress are already existed in early adolescence, which promotes the United States Dietary Guideline "to consume five or more servings per day" to prevent problems of the heart and blood vessels. WHO (2014) reported that some proofs recommend that eating vegetables and fruits is important in

lowering the threats of non-communicable diseases (NCDs). Bertoia *et al*. (2015) and Schwingshackl *et al*. (2015) highlighted that increased consumption of non-starchy vegetables and fruits is reversely related with alteration in weight. In addition, it prevents long-lasting gain in weight and furnish further food-specific guidance for the stopping of obesity, a principal attribute element for cardiovascular diseases, type 2 diabetes, cancers, and many other health conditions. Selection of food during adolescence might be extremely essential. Jiang *et al*. (2017) highlighted that the raised consumption of vegetables and fruits is related with a reduced threat of cognitive impairment and mental illness. Boeing *et al*. (2012), Borgi *et al*. (2015) and Joshipura *et al*. (2001) suggested that substantial long-lasting consumption and raised intake of whole fruits may lower the attribute of growing hypertension, coronary heart disease (CHD) and stroke. In addition, it can stop gain in body weight and as obesity is the most significant attribute for type-2 diabetes mellitus, a larger consumption of fruits and vegetables are hence, indirectly lowers the prevalence of type-2 diabetes mellitus. Besides that, it can lower the threat of specific eye diseases, dementia and the threat of osteoporosis. Similarly, recent data on asthma, chronic obstructive pulmonary diseases (COPD), and rheumatoid arthritis (RA) showed that a raise in fruit and vegetable intake can prevent these diseases. Joshipura *et al*. (1999) found out that eating vegetables and fruits, in particular citrus fruit and citrus juice, cruciferous and green leafy vegetables can protect one from ischemic stroke risk (Joshipura *et al*., 1999). In regards to fruits and vegetables role in fighting cancer, Jansen *et al*. (2004) found that commitment to the guideline for vegetables and fruits consumption has relationship with reduced cancer risk. Besides quantity, variety in consumption is also important. Farvid *et al*. (2016) reported that there is an association between higher intake of fruits and reducing threat of breast cancer.

Islamic Eating Practices

Islamic eating practices or manners consuming food in Islam are referred as *sunnah* to ensure the good health of a Muslim is maintained. A Muslim should emulate eating habits or dining etiquette of the Prophet Muhammad SAW as Muslims eat and drink to be healthy so that they can worship Allah SWT. This actually means that Muslims do not eat, if they are full and do not drink if they are not thirsty. Prophet Muhammad SAW said *"We are a people who do not eat until we are hungry. And when we eat, we do not eat to our fill."* The general practise before eating and drinking is to wash one's hands. Next is to recite the *bismillah* and kneel before the food. In this account, the Prophet Muhammad SAW uttered *"the devil considers food lawful for him when Allah's name is not mentioned over it."* Similarly, it is undesirable to eat with the left hand. Only the right hand should be used for eating and drinking purposes. This is because the left is reserved for unclean duties. It was reported by Ibn 'Umar RA that the Holy Prophet SAW said: *"None of you must ever eat or drink with his left hand because the devil (shaytan) does so."* An inclusion to this, the Prophet SAW also advised Muslims to take food when they feel hungry. This is to ensure easy digestion. Similarly, Muslims should not delay eating if food is already being served. Our Prophet SAW uttered: *"It is not right to eat your food quickly, besides, one should eat from what lies nearest*

to one." (Bukhari, 63: 1888). In addition, the Prophet Muhammad SAW recommended that one should stop eating, while there is extra room for the stomach to digest food more easily. The Prophet SAW said: *"If you must eat more, be sure that only one third of your stomach is filled with food, one third is left for water and the remaining one third for air."* (Nurdeng, 2009). Muslims are discouraged to blow air on food to prevent transmission of bacteria via one's breath. After finishing his meals, the Prophet SAW always thanks Allah SWT for the food. The eating practices are divided into three sections, which are before, during and after eating.

Before eating

A Muslim should consume only halal food and prepares his food from halal sources and free from any haram contamination. If he is eating outside his home, he should make sure that the food he is eating is halal. In this modern world now, one should look for halal logo on halal certified products and premises. It is an obligation to all Muslims to look for halal food as instructed by Allah SWT in the al-Quran. In this modern world, food is packaged and displayed on shelves in the supermarket. The only way to select which food to be purchased is to look for the halal logo. Likewise, when we want to eat food outside our homes, look for food premises with the halal logo or an evident that it has been halal certified by the competent authority. We must not be misguided by a scanty claim "No Pork, No Alcohol", which does not prove that its chickens, cattles or lambs are halal slaughetered in accordance to the Islamic regulations and requirements. We must take extra precaution by asking directly the owner of the food premise of the halal status of their food resources. Otherwise, it is better to buy halal sources and then cook and eat at home. The purpose of consuming food is to make oneself stronger and be healthy to worship Allah SWT. The intention of eating is not "live to eat", but "eat to live". One, whoeats like the Prophet Muhammad SAW is one who eats very little, just enough to survive and worship the Almighty, Allah SWT. The person should wash his hands before eating to clean any dirt or harmful microorganism from his hands. Washing hands is the basic principle for every individual for his or her self-hygiene. Whenever there is a contact between our hands with any dirty surfaces, dangerous microorganisms can be transferred onto our hands. From then on, contaminated hands will transmit diseases to surrounding people when they become into contact with the microbes (Alwis *et al*., 2012).

Higgs (2015) reported that normal social influence on eating is strong and prevalent. The presence of other people at an eating event or when selections are made about food has a strong effect on behaviour. This may due to humans having a greatly developed capacity to learn from the behaviour of others and find the approval of others rewarding and disapproval aversive. It is recommended that eating norms are followed because they provide information about safe foods and facilitate food sharing. They are a powerful influence on behaviour because following or not following norms is associated with social judgements. Following the norm is more likely when there is uncertainty about what constitutes correct behaviour

and when there is a greater shared identity with the norm referred group. Social norms may influence food selection and consumption by altering self-perceptions and the sensory or hedonic evaluation of foods. The same neural systems that mediate the rewarding effects of food itself are likely to reinforce the eating norms. Larsen *et al*. (2015) highlighted that parents may function as the gatekeepers to his children and support them in attending to internal signals of satiety, while simultaneously controlling healthy dietary behaviour. They may do so by covertly: (1) avoid eating of 'junk-food'; (2) avoiding food for reward or emotional regulation; (3) providing clear and healthy rules about when and what can be eaten; (4) providing larger portions with a variety of healthy foods and vice versa lower portions with less variety of unhealthy foods; (5) stimulating healthy intake by repeated exposure; (6) rewarding the child for trying new and healthy foods; (7) active healthy food modelling e.g., smiling when eating healthy food themselves. Nevertheless, as child's appetitive traits have high genetic origin (Carnell *et al*., 2008), and it is the environment that drives up obesity rates (Hill *et al*., 2003; Swinburn *et al*., 2011), we suggest that the most pertinent food parenting practices underlying the epidemic on obesity are those e.g., rules, monitoring, structure, modelling practices that directly influence the home food environment i.e., food availability and modelling compared to those food parenting practices e.g., restriction, pressure, rewarding, encouragement that act more directly on child appetitive traits.

During eating

A Muslim should start his dining by saying, "In the name of Allah SWT" or "*Bismillah*" (Sahih Muslim: 1305). In case a Muslim forgets to say *Bismillah*, Abu Dawud reported that Prophet Muhammad SAW stated that *"If any of you is about to eat, he should mention the name of Allah. If he forgets to mention the name of Allah SWT at the beginning, he must say, "In the name of Allah over the beginning and the ending."* The person should praise Allah SWT at the end of every meal. Prophet Muhammad SAW said *"If a person eats any food and then says "Praise be to Allah SWT who fed me this and provided for me without any strength or power on my part," all of his previous sins will be forgiven."* (Al-Tirmidhi).

Next, the person should eat with his right hand using three fingers, taking small portions and chew them well. He should eat the food that is closest to him and do not take any food from the middle of the plate. Prophet Muhammad SAW told Umar bin Salamah: *"O young man, mention the name of Allah SWT, eat with your right hand and eat from what is close to you."* (Al-Bukhari 63: 1888 and Muslim 1301). Shah *et al*. (2014) reported that eating leisurely notably reduced meal energy consumption in the normal-weight, but not in the overweight or obese category. It reduced rate of consumption and energy density in both categories. Consuming leisurely results in reduced hunger ratings in both categories and raised fullness ratings in the normal-weight group at 60 minutes after the meal started. The same applies to a study by Andrade, *et al*. (2008), who reported that consuming leisurely can assist to maximize satiety and lower energy intake between meals. In 2014, it was reported by Angelopoulos *et al*. that slow paced consuming enhanced fullness and lowered hunger

ratings in obese and overweight participants with Type-2 Diabetes Mellitus (T2DM), minus the development in gut hormone reactions found in normal-weight respondents. Leisure paced consumption may be a beneficial stopping strategy, but might also assist in limiting food consumption in those already facing diabetes and obesity. Al-Tirmidhi reported that Muhammad SAW said *"The blessings descend from the middle of the food. So eat from the edges and do not eat from the middle."*

A Muslim should chew his food well and should lick his fingers after eating. Al-Bukhari and Muslim reported that Prophet Muhammad SAWsaid that *"When one of you eats, he should not wipe his fingers until he licks them or has them licked."* (Muslim 1302). Zhu and Hollis (2014) highlighted that eating leisurely subscribes to a reduced threat of obesity, maybe because it could guide hunger management. Thorough munching is a constructive approach to lower the rate of eating and raising the number of chews prior to swallowing might be a behavioural strategy to lower food consumption and potentially support body-weight control. This study concurs with Li *et al*. (2011), who reported that intercessions targeted at improvising munching practices could become a practical mechanism for tackling obesity. Shah *et al*. (2014) also reported that chewing may also help you feel fuller longer, leading to less eating overall. The study printed in the Journal of the Academy of Nutrition and Dietetics revealed that 70 normal and overweight or obese men and women eat a test meal two times: once eating slowly, and the second, eating quickly. When they ate slowly and chewed their food thoroughly, the respondents reported feeling less hungry one hour after consuming the meal compared to when they ate quickly. If any food is dropped, it should be cleaned and eaten. Prophet Muhammad SAW said that *"If a morsel of food from any of you, he should take it and wipe it clean of any dirt and then eat it. He should not leave it for the Satan (Evil)."* (Muslim 1304).

A Muslim should not blow over very warm food. Alternatively, he should delay until the food chills down. He also should not blow into a glass of water, while drinking from it, alternatively, he should respire three times outside the glass whilst drinking the water.

A Muslim should not overeat. Prophet Muhammad SAW said that *"A human does not fill any container worse than his stomach. It is enough for a human to have some morsels to strengthen his back (keep his back straight). If he must eat more, then it should be one third of his stomach for food, one third for drink and one third for breathing"* (Ahmad Tirmizi: 2380). This is in line with the first Malaysian Dietary Guidelines (MDG) Key Message, which is "Eat a variety of foods within your recommended intake". Its key recommendations are choosing your daily food intake from a combination of foods based on the Malaysian Food Pyramid and select your daily food consumption according to the portion size suggested. It is very crucial that a person ensures getting proper foods and include the principles of good nutrition such as variety, a balanced intake of nutrients and eating in moderation. Different foods provide different combinations of energy and nutrients. The best way to meet the daily requirements is to eat a variety diet that integrates cereals, fish, poultry,

meat, fruits and vegetables, legumes and dairy products. Food and drinks should be served to the eldest in the gathering and then to those on the right. Prophet Muhammad SAW said that *"(Begin with) the eldest. (Begin with) those on the right, and those on the further right"* (Al-Bukhari and Muslim).

After eating

Muslims should stop eating before he becomes full as showed by the Prophet Muhammad SAW. A person should lick his fingers, brush his teeth and rinse his mouth, after eating to maintain oral health. Muslims must praise Allah SWT for all the food he had eaten to show his gratitude.

3. Methodology

The study was conducted at the main campus of Universiti Malaysia Sabah (UMS), Kota Kinabalu. Respondents involved were students from various faculties from the main campus including Faculty of Science and Natural Resources (FSSA), Faculty of Humanities, Arts and Heritage (FKSW), Faculty of Psychology and Education (FPP), Faculty of Food Science and Nutrition (FSMP), Faculty of Engineering (FKJ) and Faculty of Medicine and Health Sciences (FPSK). The method used in the study was convenience sampling. This methodology was selected based on the total number of undergraduate students in the main campus, which is 14,228 people. According to Sekaran and Bougie (2009), this sampling technique is simple to get information and less sources are needed. Based on the table of Determination of size sample from Population by Sekaran and Bougie (2009), 500 students have been identified as respondents. However, only 414 respondents completed the whole questionnaires. In this study, justification from Rascoe's rule of thumb has been applied. Rascoe (1975) said that the total number of respondents that answered the questionnaire between >30 and <500 is suitable in most studies. The technique used for the study was using a questionnaire. There were five parts in the questionnaire, which consisted of choice selections of "Yes/ No/ Not sure" and category questions. They were: (1) demographic profile of the respondents; respondents' level of: (2) knowledge, (3) attitude, (4) practices on *sunnah* food; (5) Islamic eating practices on *sunnah* food. There were 500 students, both Muslim and non-Muslims being selected. This selection is based on the age between 19 years to 30 years and they were studying at a University level. Different aspects of demography such as gender, race, knowledge cluster and faculty have also been considered to achieve the objectives of the study. Data analysis in this study was conducted by using Statistical Package for Social Science (SPSS) version 25.0. Results of this study were using quantitative and qualitative applications. The sample data were analysed by using descriptive analysis, percentage and Chi-Squared Test.

4. Results

Table 1: Demographic profile of the respondents

Item	Parameter	Frequency (n = 414)	Percentage (100%)
Gender	Male	99	23.9
	Female	315	76.1
Age	19–21 years	177	42.8
	22–24 years	225	54.3
	25–30 years	12	2.9
Race	Malay	127	30.7
	Chinese	76	18.4
	Indian	29	7.0
	Others	182	43.9
Marital status	Single	405	97.8
	Married	9	2.2
Faculty	FKJ	44	10.6
	FKSW	56	13.5
	FPP	64	15.5
	FSMP	125	30.2
	FSSA	48	11.6
	FPSK	77	18.6
Type of Education	Undergraduate	411	99.3
	Postgraduate	3	0.7
Religion	Islam	212	51.2
	Christian	105	25.4
	Buddhist	72	17.4
	Others	25	6.0

Note: Abbreviations used to represent each faculty in UMS; Faculty of Science and Natural Resources (FSSA); Faculty of Humanities, Arts and Heritage (FKSW); Faculty of Psychology and Education (FPP); Faculty of Food Science and Nutrition (FSMP); Faculty of Engineering (FKJ); Faculty of Medicine and Health Sciences (FPSK).

From Table 1, it is noted that there were more females, 76.1%, rather than males, 23.9% participated in the study. The dominant age of the respondents, 54.3% was between 22-24 years old, which is the age of active life studying at the university. The race was dominated with others (43.9%) which comprised of ethnic groups making up of students in Universiti Malaysia Sabah, which can be Kadazan, Dusun, Bajau or Murut, followed with Malay (30.7%). Most of the respondents were not married (97.8%). Respondents were mainly from Faculty of Food Science and Nutrition (30.2%), followed by Faculty of Medicine and Health Sciences (18.6%) and Faculty of Psychology and Education (15.5%). Majority of the respondents were undergraduates (99.3%), Muslims (51.2%) and Christianity (25.4%).

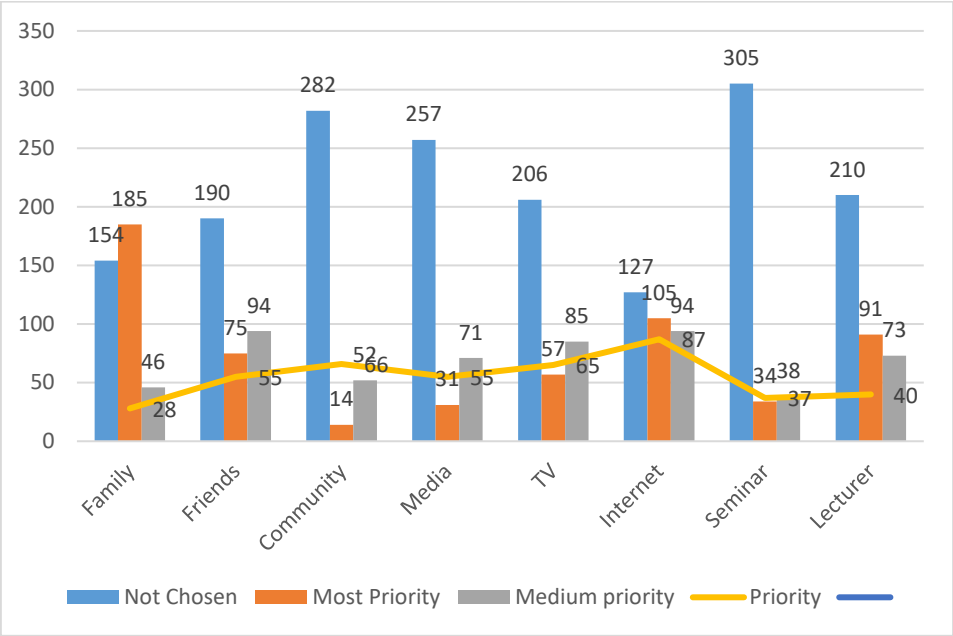

Figure 1: Sources of information on *Halal* food.

Figure 1 summarizes the sources of information on halal food received by the respondents. Majority 185 of the respondents agreed that the family was the main sources of information on halal food. This finding however is found to be in line with a study by Yusoff and Adzharuddin (2017), whose respondents showed that Muslim families had the highest level of awareness towards halal food. Apparently, the families do not rely information from the Department of Islamic Development Malaysia (JAKIM) alone, but they seek information on halal food products on their own. This finding showed clearly the importance of communication between families in regards to halal food products. This finding also showed the next important source of information on halal food was the internet, as per responded by 105 respondents from USM population. This is true because the respondents selected in this study were mainly university students who use internet as the main medium in searching for information. The study also highlighted that only 34 respondents received information on halal food from the University seminars, followed by 31 respondents from the media and 14 respondents from the community. The low number of respondents reflected that the respondents did not refer to the information obtained from the seminar, community nor the media such as newspapers on information on halal food products. However, 57 respondents exhibited their preference towards obtaining information pertaining to this matter from the television, as visual is the best mode to attract consumers on food in the form of advertisement or news, now accessible via internet. Being university students, they do not have time to ask the society nor refer to the newspapers. But 91 respondents preferred to inquire their fellow lecturers and 75 respondents inquired their friends for such information, as they were always together with their friends in campus.

Table 2. Faculty perspective on the knowledge level on Halal food among respondents.

	Faculty	**Yes**	**No**	**Not sure**
1. Do you understand about the halal and haram concept?	FSMP	100	2	16
	FPSK	60	3	14
	FSSA	42	0	6
	FKJ	38	2	4
	FKSW	54	0	2
	FPP	61	1	2
2. I understand about Islamic law on halal food and beverages.	FSMP	89	11	18
	FPSK	53	10	14
	FSSA	27	5	16
	FKJ	34	3	7
	FKSW	50	2	4
	FPP	58	4	2
3. I understand the difference between halal product and halal premise certification.	FSMP	64	21	33
	FPSK	38	18	21
	FSSA	22	6	20
	FKJ	21	9	14
	FKSW	37	6	13
	FPP	40	4	20
4. halal is something which is allowed by the Shariah and does not impose punishment on the doer.	FSMP	75	15	28
	FPSK	34	13	30
	FSSA	21	3	24
	FKJ	23	7	13
	FKSW	41	3	12

	Faculty	Yes	No	Not sure
	FPP	49	4	11
5. Halal food means food and beverages and their ingredients are allowed in *Shariah* and fulfils the set conditions.	FSMP	110	3	5
	FPSK	54	4	19
	FSSA	36	1	11
	FKJ	36	2	6
	FKSW	49	3	4
	FPP	60	0	4
6. Food intake from halal sources as well as wholesome is the main factor in choosing food in a Muslim's daily life.	FSMP	100	5	13
	FPSK	45	6	26
	FSSA	24	0	23
	FKJ	27	2	15
	FKSW	44	1	11
	FPP	53	3	8

Note: Abbreviations used to represent each faculty in UMS; Faculty of Science and Natural Resources (FSSA); Faculty of Humanities, Arts and Heritage (FKSW); Faculty of Psychology and Education (FPP); Faculty of Food Science and Nutrition (FSMP); Faculty of Engineering (FKJ); Faculty of Medicine and Health Sciences (FPSK).

The total analysis on the level of knowledge among respondents on their diets in Islam were categorised into various faculties. According to Table 2, the results indicated that all members of the faculties at the main campus of University Malaysia Sabah has a high level of knowledge about the concept of halal and haram in halal food, followed by all respondents of the faculties have good knowledge on Islamic law on halal food and beverages. This maybe attributable to courses on halal and haram foods being offered at various faculties in UMS. The study also found that all the faculties can differentiate between product and premise halal certification and understand that halal food means food and beverages and their ingredients are allowed in accordance to Shariah and fulfilled the set conditions. All faculties' members were able to define halal food clearly. All faculties' members do agree that food intake from halal sources as well as wholesomeness or *tayyib* are the main factor in choosing food in a Muslim's daily life.

Among the faculties, the Faculty of Food Science and Nutrition represented the highest rank for all items measured by the greatest number of respondents on the knowledge level of halal food and its concept. Second greatest was the Faculty of Psychology and Education, followed by the Faculty of Medical and Health Sciences. Faculty of Science and Natural Resources and Faculty of Engineering ranked among the lowest on their knowledge level of halal food and its concept as per exhibited in Table 2. The reason of the inclination and declination of knowledge depends on the faculty, may be subjected to the intensiveness of courses linked to the halal and haram concept in food being offered semesterly and throughout the academic programme.

Table 3. Religious perspective on respondents' practices on halal food consumption.

		Not often	2–3 times a month	Once a week	2 times/ more a week
1. Dates	Muslim	153	45	8	6
	Non-Muslim	177	19	1	5
2. Fig	Muslim	180	20	8	4
	Non-Muslim	174	22	5	1
3. Pomegranate	Muslim	182	20	6	4
	Non-Muslim	178	18	4	2
4. Milk	Muslim	34	42	53	83
	Non-Muslim	38	55	44	65
5. Honey	Muslim	114	65	16	18
	Non-Muslim	107	55	26	13
6. Watermelon	Muslim	68	81	37	26
	Non-Muslim	74	69	45	14
7. Pumpkin	Muslim	98	86	17	11
	Non-Muslim	72	36	17	77

Table 3 reflected that all Muslim and non-Muslim respondents had very low level of eating practices of Islamically recommended (*sunnah*) fruits' intake frequency as per indicated by not often consumption of dates, figs and pomegranates. This finding has been influenced by the unaffordability of fellow respondents to purchase the fruits at an expensive price and the *sunnah* fruits not easily accessible in the city of Kota Kinabalu. Pumpkin (122 of respondents), watermelon (150 of respondents) and honey (120 of respondents) are quite often consumed like 2–3 times a month and 148 of respondents cosume milk is often taken 2 times and more in a week. This is due to the fact that pumpkin, watermelon and honey are easily accessible and affordable in the market and college cafeteria.

Table 4. Religious perspective on respondents' practices on the Islamic eating practices.

		Yes	No	Not sure
1. When you get stomach ache, do you use honey as one of your treatments.	Muslim	19 (4.6%)	170 (41%)	23 (5.6%)
	Non-Muslim	18 (4.3%)	158 (38.2%)	26 (6.3%)

		Yes	No	Not sure
2. Do you wash your hands every time you want to handle food?	Muslim	207 (50%)	2 (0.5%)	3 (0.7%)
	Non-Muslim	172 (41.5%)	16 (3.8%)	14 (3.4%)
3. Do you choose food with halal logo when you purchase food at the supermarket?	Muslim	206 (49.7%)	2 (0.5%)	4 (0.9%)
	Non-Muslim	52 (12.6%)	98 (23.7%)	52 (12.6%)
4. Do you say "*Bismillah*" before you eat?	Muslim	208 (50.2%)	1 (0.2%)	3 (0.7%)
	Non-Muslim	31 (7.5%)	148 (35.7%)	23 (5.6%)
5. Sharing food with my friend is my habit.	Muslim	168 (40.6%)	22 (5.3%)	22 (5.3%)
	Non-Muslim	136 (32.8%)	39 (9.4%)	27 (6.5%)
6. I always chew my food until it is fine before I swallow it.	Muslim	131 (31.6%)	37 (8.9%)	44 (10.6%)
	Non-Muslim	115 (27.8%)	40 (9.7%)	47 (11.4%)
7. Do you buy halal food products since they are widely sold in the market?	Muslim	152 (36.7%)	31 (7.5%)	29 (7%)
	Non-Muslim	38 (9.2%)	112 (27%)	52 (12.6%)

With regards to the practice of consuming halal food, Table 4 exhibits that 41% (170 respondents) and 38.2% (158 respondents) Muslim and non-Muslim students, respectively, do not use honey as one of the treatments for stomach ache. Both Muslim and non-Muslim students (50%) and (41.5%), wash their hands every time they want to handle food. 49.8% Muslims practice by choosing food with halal logo during food selections at the supermarket, whilst 23.7% non-Muslim students do not practise it. 50.2% Muslims practice by saying "*Bismillah*" before they eat, whilst 35.7% non-Muslim students do not practise it. This is acceptable as they are not Muslims so they are not obligated to do so.

Both Muslim (40.5%) and non-Muslim students (32.9%) practice by sharing their food with their friends, whilst 31.6% and 27.8% always chew their food until they are fine before swallowing them. Finally, 36.7% Muslim students always buy halal food products since they are widely sold in the market, whilst 27.1% non-Muslim students do not. It is significant that both Muslims and non-Muslims in this study were communal in observing and performing Islamic eating practices such as washing hands before eating, sharing food with friends and families, as well as chewing food until it is fine. However, the non-Muslim

students were less likely on the usage of honey to alleviate illness, choosing food with halal logo as well as saying their prayers before eating.

To the Muslims, nutrition alone is not enough. It has to be halal nutrition as it is their basic rights to have access and to be able to consume food that they choose and are obligated to, as commanded by the Almighty Allah, the Creator. They should emulate the diet of the Prophet Muhammad SAW (halal and *tayyib* food) and the Prophet's Islamic eating practices (hand washing, less eating, moderation, balanced diet and communal/family meals), which have positive effects on their body, brain, mental, personality and health**.**

Results obtained were statistically analyzed, it proved that knowledge on *sunnah* food was significantly correlated with attitude ($r = 0.217$; $p < 0.05$) and practices ($r = 0.085$; $p < 0.05$) of the UMS students showing positive linear correlations, which confirms that better knowledge can lead to positive attitude and subsequently results in good practices.

5. Discussion

It is noted that most respondents have high level of knowledge on *sunnah* food, but do not practice eating them because of their availability and capability of securing them from the Malaysian local market. It takes the government to reduce the costing of the *Sunnah* foods such as olives, pomegranate, figs and dates and to make them available at all times to the population of Eastern Malaysia such as Sabah and Sarawak. Results also showed that knowledge on *sunnah* food was significantly correlated with attitude ($r = 0.217$; $p < 0.05$) and practices ($r = 0.085$; $p < 0.05$) of the UMS students showing positive linear correlations, which confirms that better knowledge can lead to positive attitude and subsequently results in good practices.

The awareness and understanding on halal concept were high among the respondents probably because of the dominance and popularity of the Department of Islamic Development Malaysia (JAKIM) being the authority of halal certification in the country besides the courses on halal and haram in food have been offered in various faculties in UMS.

It is hoped that more people will adhere to practising in consuming *sunnah* food and Islamic eating practices in order to reduce or resolve the criminal rate in consuming alcohol and also the non-communicable diseases.

6. Conclusion

This study highlighted that family is the main reference for source of information on halal food products, followed by the internet and lecturer. All faculties at UMS has high level of knowledge on the concept of halal and haram in halal food, followed with Islamic law on halal food and beverages. This maybe influenced by courses on halal and haram foods being offered at various faculties in UMS. This study also showed that although the majority of respondents have high level of knowledge on halal food, but the practices of respondents

consuming the halal food is still minimal. This happens because the fruits such as dates, pomegranates and figs are quite expensive and not easily accessible in the city of Kota Kinabalu. The study also found that the Muslim respondents have positive attitude towards halal food and eating practices, whereby they will always choose halal and *tayyib* food, whenever they want to eat and they dine in congregation. The respondents have satisfactory level on Islamic eating practices such as washing hands before and after eating, saying "Bismillah" before eating and sharing food with friends, but not because it is encouraged by Islam, but because it has become a custom or a part of their daily eating practices. Results also showed that knowledge on *sunnah* food was significantly correlated with attitude (r = 0.217; $p < 0.05$) and practices (r = 0.085; $p < 0.05$) of the UMS students showing positive linear correlations, which confirms that better knowledge can lead to positive attitude and subsequently results in good practices. The author would like to suggest that future studies can be conducted throughout Sabah as well as Malaysia to better understand the level of knowledge, attitude and practices on Sunnah food and Islamic eating practices.

Conflict of Interest

The author would like to declare that she has no conflict of interest associated with this publication. The author received no financial support for the research.

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