ABSTRACT

Religious teachings are potential health-promoting tools as religion is an imperative part of an individual’s lifestyle. Health promoters should identify religious teachings which match the intended health objectives and innovatively package them to be acceptable yet effective. In the context of the proposed Islamic-based intervention, the intended behaviour change is fasting. Fasting can control total energy intake and thus correct energy imbalance in overweight and obese persons. The health objectives are to obtain a significant initial weight loss during Ramadan and to maintain the weight loss by practicing Islamic voluntary fasting after Ramadan. Significant initial weight loss and adherence to treatment are positive predictors for sustained weight loss. Intervention that is religiously suitable would be more acceptable and thus more effective.

Key Words: Islamic-based health intervention, initial weight loss, adherence to treatment

1.0 Introduction:

Religious teachings influence health decision at all levels because religion is an important part of an individual’s life and a community’s norm (Fischer 2008; Heiman et al. 2001). The process of adopting medical and health interventions as national health policy requires careful consideration especially in religious cognizant countries. For Islamic countries considerations as whether to adopt a new medical or health intervention are guided by the experts in the relevant fields and also by religious rulings known as ‘fatwa’ (an agreed ruling about matters by a group of religious scholars after reviewing religious evidences). Overlooking issues which are religiously sensitive can cause major failure in implementing the policy. On the
other hand choosing issues which harmonized with religion could be a catalyst for acceptance and thus enhanced implementation (Tiliouine et al. 2009).

Fasting is a known religious practice among Muslims. Muslims perform the obligatory fasting during the whole month of Ramadan. Muslims are also encouraged to voluntary fast in other months besides Ramadan. The guidelines for obligatory Ramadan fasting and voluntary fasting practices are explained in the reference texts used in Islam which are the Qur’an and the ‘hadith’ (sayings and conduct of Prophet Muhammad (PBUH)). The teachings related to fasting include the fasting etiquette comprising of the type of food, sequence of consumption and quantity, the days to fast, the number of days and the rewards in the hereafter for practicing them. Rewards in the hereafter are something Muslims strived for.

In this article, we will put forth the evidence that the act of fasting (both the obligatory and voluntary fasting) can be a potential tool or opportunity in reducing excess weight and maintaining weight loss especially among overweight and obese Muslims in Malaysia. This intervention is perceived to be culturally appropriate in Malaysia because about 16.5 million (60.4%) of the Malaysian population are of the Malay ethnicity, who are Muslims. Furthermore, this effort is also in line with the encouragement by the Regional Office for Eastern Mediterranean in their article ‘Health Promotion through Islamic Lifestyles’, ‘Health as a Human Right in Islam-The Right Path to Health Education through Religion’ and ‘A Strategy for Health Promotion in the Eastern Mediterranean Region 2006-2013 (WHO 1996; WHO 2004; WHO 2008). In these articles Muslim countries are encouraged to seek local solutions for their health problems without depending too much on the resolutions from the western studies which might not be appropriate to their targeted population.

2.0 The strategy of the intervention

The strategy consists of two phases. The first phase is the intensive phase which includes obligatory fasting during the whole month of Ramadan and the second phase is the maintenance phase which is the voluntary fasting during the months after Ramadan. The aim of the intensive phase is to control the food quantity consumed to obtain a significant weight loss. The aim of the maintenance phase is to maintain the weight which has been lost during Ramadan. This strategy is based on several relevant studies as discussed below.

2.1 The intensive phase during Ramadan

During Ramadan Muslims are not allowed to eat or drink between dawn and dusk. Due to this unique Ramadan eating behaviour and its global happening, many studies were conducted to see changes during this month. The common variables studied were the dietary, body weight and blood biochemical changes. Table 1 shows 20 studies which studied these variables including studies which were carried out in Malaysia.

2.1.1 Reduced frequency of eating during Ramadan

In general, the frequency of eating should reduce in Ramadan because the number of waking hours to engage in eating is reduced. On average, Muslims in Malaysia eat three times per day during Ramadan that is before dawn (‘suhoor’), during breaking fast at dusk (‘iftar’) and for some, a meal before going to sleep. When there is reduced frequency of eating, the quantity of food consumed will also reduce and therefore will correct the energy imbalance in overweight
and obese persons leading to weight loss. The popular hypotheses regarding eating frequency and weight is ‘reducing frequency of eating will increase risk of becoming overweight and obese’. However recent findings show otherwise (Yannakoulia et al. 2007; Forslund et al. 2002; Stote et al. 2007; Howarth et al. 2007). In fact a systematic review of 18 researches showed that only seven support the popular hypothesis while 11 others showed otherwise (La Bounty et al. 2011). Therefore, although there are many other variability of eating frequency at the individual level, as a whole reducing frequency of eating during Ramadan might serve as an opportunity to reduce weight.

2.1.2 Reduced carbohydrate and increased protein consumption during Ramadan

Referring to Table 1, most studies show that during Ramadan the carbohydrate consumption reduced (9 out of 10 studies) while the protein consumption increased (5 out of 8 studies) (Mafaouzy et al. 1990; Poh et al. 1996; Suriani 2014; Barkia et al. 2011; El Ati et al. 1995; Al-Hourani & Atoum 2007; Khaled & Belbraouet 2009; Al-Numair 2006; Sadiya et al. 2011, Vasan et al. 2012). As studies have reported that high carbohydrate intake is associated with weight gain and low carbohydrate diet regime with weight loss (Foster et al. 2003; Feinman et al. 2006; Hite et al. 2011), the low carbohydrate diet regime in Ramadan as shown in many studies could serve as an opportunity for weight loss. Concurrently, during Ramadan most studies show increased protein consumption and high protein diet had been shown to induce reduced food intake, and loss of body weight and fat, but sparing the lean mass in laboratory experiment (Stengel et al. 2013). In summary, in most studies, the dietary changes during Ramadan seem to promote weight loss (lowering of carbohydrate and increasing of protein intake).

2.1.3 Significant initial weight loss

Referring to Table 1, 16 out of 19 studies showed that body weight/BMI/waist circumference reduction during Ramadan and 13 of which were significant reduction (Ibrahim et al. 2011; Mafaouzy et al. 1990; Poh et al. 1996; Suriani 2014; Haghdoost & Pooranjbar 2009; Ziaee et al. 2006; Memari et al. 2011; El Ati et al. 1995; Al-Hourani & Atoum 2009; Mansi 2007; Khaled & Belbraouet 2009; Furuncuoglu et al. 2007; Al-Numair 2006; Sadiya et al. 2011, Saleh et al. 2005; Hajek et al. 2012). Studies had reported that significant weight reduction in the first month in the attempts to lose weight is the most certain factor in predicting the subsequent weight loss and maintenance of weight loss (Elfhag & Rossner 2010; Rossner et al. 2008). It was explained that one of the reasons is that a significant initial weight loss could motivate individuals to stay in the weight loss programme (reduces the attrition odds) and increases the programme’s effectiveness (Handijieva-Darlenska et al. 2011). Thus the traditional belief that weight reduction should be carried out gradually as to control the rebound weight gain is challenged. (Astrup & Rossner 2000) In brief, a significant weight loss during Ramadan is a positive predictor for the subsequent weight loss and weight loss maintenance for the months after Ramadan.
Table 1: Summary of dietary (carbohydrate and protein) and body weight/ body mass index (BMI) changes during Ramadan

<table>
<thead>
<tr>
<th>Country &amp; Researcher</th>
<th>Year</th>
<th>Study population</th>
<th>Carbohydrate</th>
<th>Protein</th>
<th>BMI/ Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td></td>
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</tr>
<tr>
<td>Mafauzy et al.</td>
<td>1990</td>
<td>22 diabetics</td>
<td>↓*</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Poh et.al</td>
<td>1996</td>
<td>171 adolescents</td>
<td>↓*</td>
<td>↑↑</td>
<td>↓*</td>
</tr>
<tr>
<td>Ibrahim et al.</td>
<td>2011</td>
<td>76 adults</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Suriani I.</td>
<td>2014</td>
<td>140 women</td>
<td>↓*</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Iran</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ziaee et al.</td>
<td>2006</td>
<td>81 women</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Haghdooost &amp; Pooranjbar</td>
<td>2009</td>
<td>93 students</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Memari et al.</td>
<td>2011</td>
<td>12 athlete</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>Tunisia</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>El Ati et al.</td>
<td>1995</td>
<td>16 women</td>
<td>↓*</td>
<td>↑*</td>
<td>↓</td>
</tr>
<tr>
<td>Barkia et al.</td>
<td>2011</td>
<td>36 adults</td>
<td>↓*</td>
<td>↑*</td>
<td>-</td>
</tr>
<tr>
<td>Jordan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al Hourani &amp; Atoum</td>
<td>2007</td>
<td>57 women</td>
<td>↓</td>
<td>↓</td>
<td>↓*</td>
</tr>
<tr>
<td>Mansi</td>
<td>2007</td>
<td>70 student</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
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<tr>
<td>Algeria</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Khaled &amp; Belbraouet</td>
<td>2009</td>
<td>276 diabetics</td>
<td>↓*</td>
<td>↑*</td>
<td>↓*</td>
</tr>
<tr>
<td>Ait Saada et al.</td>
<td>2010</td>
<td>66 diabetics</td>
<td>-</td>
<td>-</td>
<td>↑</td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Furnucouglu et al</td>
<td>2007</td>
<td>39 adults</td>
<td>-</td>
<td>-</td>
<td>↓</td>
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<tr>
<td>Saudi Arabia</td>
<td></td>
<td></td>
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<tr>
<td>Al-Numair</td>
<td>2006</td>
<td>45 men</td>
<td>↓*</td>
<td>↓*</td>
<td>↓*</td>
</tr>
<tr>
<td>Bakhotmah</td>
<td>2011</td>
<td>173 families</td>
<td></td>
<td></td>
<td>↑</td>
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<tr>
<td>United Arab</td>
<td></td>
<td></td>
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<tr>
<td>Sadiya et al.</td>
<td>2011</td>
<td>19 adults</td>
<td>↓</td>
<td>↓*</td>
<td>↓*</td>
</tr>
<tr>
<td>Kuwait</td>
<td></td>
<td></td>
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<tr>
<td>Saleh et al.</td>
<td>2005</td>
<td>60 women</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
<tr>
<td>India</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vasan et al.</td>
<td>2012</td>
<td>70 diabetics</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Britain</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Hajek et al.</td>
<td>2012</td>
<td>202 adults</td>
<td>-</td>
<td>-</td>
<td>↓*</td>
</tr>
</tbody>
</table>

* significant changes
# waist circumference

2.2 The maintenance phase after Ramadan

Unfortunately, despite favourable Ramadan changes, studies also show that those who lose weight during that month return to their pre Ramadan weight within two weeks to a month after Ramadan (Poh et al. 1996; Khaled & Belbraouet 2009; Mansi 2007; Hajek et al. 2012). This could be because they returned to their pre-Ramadan dietary practices and could be worsened with the post Ramadan feasting which is practiced by some. Therefore a maintenance program should be established. The maintenance program should be similar to the intensive
program but with lesser intensity. Thus the Islamic voluntary fasting, that is fasting outside the month of Ramadan can play a role in the maintenance program.

2.2.1 Adherence to treatment

Studies show that to successfully maintain the weight which has been lost in any weight loss program, the individual must adhere to the weight loss programme. An analysis of 33 clinical experiments shows that adherence to the weight loss programme is the main factor to further weight loss and maintenance of weight lost (Acharya et al. 2009). In the context of this intervention the treatment is Islamic fasting, thus the adherence to treatment means to continue fasting. According to the teachings of Islam, there are many choices of days and number of days to practice voluntary fasting. Among the recommended days are every Mondays and Thursdays, six days in the month of Syawal (the month after Ramadan), three days in the middle of every month, alternate days and many other choices of days to fast. Muslims are encouraged to perform voluntary fasting and are taught that there is much benefit associated with it in this life and more importantly the rewards in the hereafter.

The studies done regarding religious voluntary fasting are limited. However studies on non-religious fasting are available. For example, findings of studies on alternate day fasting (ADF) might reflect a similar pattern in a type of voluntary fasting, that of Prophet David’s. These studies show that ADF could significantly reduce risk of chronic diseases and it was effective in reducing body weight and maintaining muscle mass (Varady & Hellerstein 2007, Varady 2011). Another recently popular non-religious diet approach called ‘5:2 diets’ promotes eating normally for 5 days a week and restricting caloric intake for the other 2 days as the key to sustained weight loss. Nurses were encouraged to support patients who wish to try this intermittent fasting (Trueland 2013). This approach is similar to the Islamic voluntary fasting of 2 days every week that is fasting on Mondays and Thursdays. In short, these encouraging observations could further provide support that Islamic voluntary fasting is a potentially effective as a weight maintenance intervention.

2.2.2 Sustainability issues

The issues with any weight loss programme is sustainability in the programme. In this faith-based intervention, there are a few factors which could support sustainability and they could be explained by using the Theory of Planned Behaviour (TPB). According to TPB, behaviour change has a positive correlation with ‘intention to change’ and it is predicted by three predictors that is ‘attitude’, ‘subjective norm’ and ‘perceived behaviour control’ (Omondi et al. 2010; Armitage & Conner 2001; Baranowski et al. 2003). In the context of Islamic teachings, fasting is attached with both, the worldly benefit (health) and also benefit life in the hereafter. The advantage of belief in the benefits in the hereafter could increase one’s ‘intention to change’.

As for the predictors to ‘intention to change’, the advantage of belief in the hereafter could also increase one’s ‘positive attitude’ because according to the teaching of Islam, reward in the hereafter is the highest goal. Fasting is also known as a commendable action and this ‘subjective norm’ among Muslims encourages its sustainability as long as this norm is held. Fasting is also an easy practice, a known ‘perceived behaviour control’ since Muslims had been trained to fast since young and they fast every year during Ramadan. Most importantly this belief will prevent the possibility of feeling frustrated and giving up when weight loss is
not swiftly apparent because the definition of success in Islamic fasting does not depend solely on tangible result such as weight loss. Furthermore this Islamic faith-based intervention is very economical and can be taken up by anyone regardless their socio-demographic and socioeconomic characteristics.

3.0 The challenge

Although most Muslims practice the obligatory Ramadan and voluntary fastings, the details on fasting etiquette which includes encouraged type of food, sequence of food consumption and quantity are not adequately emphasized or reminded. In most situations the cultural practices are more pronounced than the religious teachings. For example although the religious teaching encourages eating in moderation during breaking of the fast, the cultural practices on the other hand incites feasting. Therefore, promotion of Ramadan fasting and voluntary fasting must include the explicit teaching of its etiquette especially with regards to the control of the quantity of food consumed.

4.0 Conclusion and recommendation

Obligatory Ramadan fasting and post-Ramadan voluntary fasting according to the teachings of Islam could serve as a promising opportunity to reduce weight and maintain weight loss for overweight and obese Muslims. It is religiously appropriate, economical, potentially sustainable and supported by scientific principles. Thus it should be seriously considered in the treatment of overweight and obesity.

Declaration of conflict of interest

We authors of the article declare that there is no conflict of interest regarding publication of this article.

References:


