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Smoking Cessation Efforts in Special Population: A Review of Research on Muslim Countries and Communities

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Abstract: Although scenarios in global health are witnessing benefits from new medicines and technologies, nonetheless there are unprecedented reversals. As a consequence, the concerning international organizations have supported more novel approaches in promoting health risk reduction. The idea of culture understanding has emerged as a key factor in the agenda of health promotion and education. The rising consciousness about culture argues both for a shift in the philosophical and theoretical approaches and in methods underpinning health communication, promotion and education. It has been argued that norms are not a unitary concept and the assessment of different kinds of norms can improve its predictive power. According to some theories, social and religious norms are one of the key influences on people's behaviour. Evidence in support of the theories has been established across a wide range of behavioural domains including smoking and in a variety of populations. An awareness of their religious beliefs and rulings might increase the effectiveness of antismoking campaigns. On the other hand, a lack of understanding of Muslims and their cultural and religious tradition contributes to potential conflicts in health promotion. Smoking prevalence is generally high among Muslims which considered as a special population according to their religious and social norms and believes. Knowledge of Muslim religious beliefs and customs is important to understanding smoking behaviour and considering how best to deliver appropriate health promotional messages and interventions. Therefore, this review study was intended to summarize smoking cessation research efforts in Muslim world and communities in the Western World and help researchers to design effective smoking prevention programs targeting Muslim smokers, in the hope of restriction the rising smoking epidemic in the Muslim world.

Key words: Smoking cessation, Islam, cultural and religious traditions, health promotion

INTRODUCTION

Tobacco smoke contains over 4000 chemical compounds and a lot of these agents are toxic and at least 43 can cause cancer (Pera, 2003; Shevchenko, 2012). Examples of these are nitrosamines and benzopyrines. Nicotine is the chemical responsible for the addictive nature of cigarette smoking but is not the major component associated with disease caused by smoking (Shihadeh and Saleh, 2005; Schmeltz and Hoffmann, 1977). Smoking is also the risk factor accountable for the furthest trouble of disease (loss of health and premature mortality) in the world (La Greca and Mackey, 2009). About one in two regular smokers dies of a smoking related disease (Jha, 2009). Tobacco is a known or probable cause of at least 25 diseases, including lung and other cancers, heart disease, stroke, emphysema

and other chronic lung diseases (Firoozrai *et al.*, 2007; Khan *et al.*, 2012; Banerjee *et al.*, 2010; Ebisike *et al.*, 2004; Tassaduq *et al.*, 2004). People who smoke have higher rates of wound infection following surgical procedures (Guo and Dipietro, 2010).

The spread of tobacco use is a tiring obsession for those interested in health care, where the number of smokers in the world today (1.2 billion), Tobacco use resulted in (100 million) deaths in the world during the twentieth century and statistics indicate the possibility of the estimated increase in the number of deaths due to the use of tobacco (1000 million) death at the end of the 21 century. Smoking is responsible for the death of a considerable number of people every year. This is estimated to be 80% of all drug related deaths (Stewart *et al.*, 2009; Glynn *et al.*, 2010; Fiore and Baker, 2009).

It is vital to personalise the health effects of smoking and discuss the issues that are relevant for the smoker and about which s/he is concerned. The hazards are not only for the person who smokes, as exposure to environmental tobacco smoke has also been shown to produce increased risk of ischaemic heart disease and lung cancer in non-smokers (Colagar *et al.*, 2007; Fawzy *et al.*, 2011). The effects of maternal smoking on the developing foetus and the effects of environmental tobacco smoke exposure on children is a significant cause of morbidity (Rogers, 2009; Thompson *et al.*, 2009). Women who smoke in pregnancy have a higher rate of miscarriage and complications of pregnancy and labour (Johri *et al.*, 2011).

The adverse effects of smoking are reversible, with cardiovascular risk decreasing substantially within the first 2 years of smoking cessation (Gratziou, 2009). Significantly, the mortality from coronary heart disease is reduced more through smoking cessation than by other secondary preventive therapies such as cholesterol lowering (Adedeji and Etukudo, 2006; Alavi *et al.*, 2011; Keloglu-Isler and Erdogan, 2007; Sadeghniaat-Haghighi *et al.*, 2011; Ramesh *et al.*, 2007). Smoking cessation is a highly effective way to improve cardiovascular health in smokers and extremely cost-effective. However, smoking cessation therapies are not implemented maximally if they are implemented at all, perhaps because smoking is seen as a lifestyle choice or because smokers frequently relapse, as indicated by very low long-term quit rates (Kanter *et al.*, 2010). Too often, healthcare professionals, including lipidologists and cardiologists, do little to address their patients' smoking status, in spite of its impact on cardiovascular health. With the advent of new therapies to treat the nicotine addiction that results from smoking and other tobacco use, it is hoped that physicians will be more proactive in encouraging and implementing smoking cessation programs for their patients, with the goal of increasing long-term quit rates and reducing the morbidity and mortality associated with cardiovascular disease (Erhardt, 2009; Critchley and Capewell, 2003).

Given the multitude of health benefits of smoking cessation, considerable effort has been focused on identifying mechanisms to assist smokers in quitting. However, smoking cessation is challenging and behavioural interventions have had only modest success. Drug therapy has been increasingly relied upon to assist in smoking cessation. The most common of these has been nicotine replacement therapy [NRT] (Wu *et al.*, 2006; Ranney *et al.*, 2006).

Tobacco smoking remains by far the largest preventable cause of many human ailments (Parkin *et al.*, 2005). Reducing uptake and promoting cessation are both important. Considerable scientific advances have been

made in methods of encouraging smokers to stop. However, not all interventions work equally well in all countries. A particular country needs to be able to adapt best proven intervention strategies to be implemented in its own population (Lantz *et al.*, 2000; Critchley and Capewell, 2003). New findings and recent development in behavior change theory offer the opportunity to advance the science and practice of smoking cessations as soon as possible. In some countries where religion is essential to the daily lives of people, religious campaigns have also been conducted to discourage smoking among its populations (Kungskulniti *et al.*, 2011). Thus, one would expect religious norms on smoking to be changing over time in some countries as well (Lantz *et al.*, 2000; Kungskulniti *et al.*, 2011).

Behaviour, especially addiction-associated behaviour, cannot be changed in the span of a few years: it requires dedicated action and time (Hood, 2011; Hodge, 2011). In the Eastern Mediterranean regional plan of action for tobacco control 1999, it was considered advisable to use religion-based approaches in a wider context with other measures that are well known for being effective in controlling tobacco use (El-Awa *et al.*, 2010; Sinha *et al.*, 2009; Aberg *et al.*, 2011). What to implement and what to exclude is a national choice. Religious leaders are key social players. On many occasions and in many countries they have played a key role in promoting healthy lifestyles. A clear example is the role of Iranian scholars in promoting family planning, which has led to notable success. In the philosophy and strategy of health for all it is stated that all sectors of society should be involved in health promotional activities; in some countries this is not possible without the involvement of religious leaders (Ahmad *et al.*, 2008; Ghouri *et al.*, 2006). Consensus is not always essential in order to conduct various activities. In the area of tobacco control, for example, the lack of consensus on the use of health education campaigns does not mean that they should stop (Hammond and Reid, 2009; El-Awa, 2004). In WHO Member States, however, there is considerable agreement on the use of religion in support of public health, confirmed by the many activities and literature concerning not only tobacco control but also other areas, such as the recently adopted strategic plan 2002-2005 for HIV/AIDS which states that "protective cultural and religious values are key determinants in the development of an effective response to HIV/AIDS/STD" (El-Awa, 2004; Maman *et al.*, 2009; Zou *et al.*, 2009; Muula *et al.*, 2012).

Studies have shown that religion has effectively worked as a coping and prevention strategy in health-related issues (Ahmad *et al.*, 2011; Salem and Ali, 2008; Koenig, 1991). Religion has an important role in social integration and control. Religion is part of the culture or the way of life of a society and it helps to maintain cultural

traditions (Turner, 1991; Gordon, 1964; Etounga-Manguelle, 2000). Society can only survive if people share some common beliefs about right and wrong behaviour (Wood *et al.*, 1988). Durkheim saw religion as a kind of social glue, binding society together and integrating individuals into it by encouraging them to accept basic social values. So, it is mainly through religion that an individual is socialized into the values of the society. This set of moral beliefs and values may have been so deeply ingrained through socialization that it may have an effect on the everyday behaviour of believers and non-believers alike. If some rule is broken, most individuals will experience a guilty conscience about doing something „wrong? and this is a powerful socializing and controlling influence over the individual. Another important sociological function of religion is social support (Regnerus, 2003). Religious doctrines encourage positive social attitudes and self-sacrifice (Salem, 2006; Carone and Barone, 2001).

Involvement in religion may also be associated with increased responsiveness to fear-arousing messages (Agho *et al.*, 2007). In fact, fear-arousing messages in the context of faith-based institutions have not been empirically examined. Analysis is needed to determine the effectiveness of this type of message in helping adherence health outcomes and the degree to which responsiveness to such messages is related to religiosity. It is hypothesised that these pathways could lead to lower disease risk and enhanced well-being through a Salutogenic orientation (Antonovsky, 1996). The possibility of the salutogenic orientation that links between religion and health can be illustrated as in Table 1 (Ahmad *et al.*, 2008).

Ultimately, the study of culture provides a fertile ground for developing health communication theories and practices that respond to the cultural needs of communities (Ahmad *et al.*, 2008, 2011). The increasing emphasis on culture suggests the relevance for developing meaningful fusion of theory and practice in order to best understand the ways in which culture may be mobilized for health application. Thus examining conception of Islamic persuasion will lead to an understanding of how Islamic health promotion works and how it impacts Muslim health behaviour. Although Islamic communication approach in health promotion discussed in this study sounds potential, yet more empirical research need to be done (Baasher, 2001;

Ahmad and Harrison, 2007; Ahmad *et al.*, 2008; Ahmad *et al.*, 2011). For example, religious authorities have initiated anti-smoking activities in countries like Malaysia and Saudi Arabia (Li *et al.*, 2012).

When tobacco was first introduced in Muslim countries, religious scholars found no reason to ban it. However, because of the foul smell and the apparent wasteful nature of smoking, they classified smoking as disliked (makruh). When evidence emerged showing the link between smoking and cancer, religious scholars appointed medical experts to understand the health issues related to smoking. After getting their expert medical advice, smoking was declared as forbidden (haram) (Gafar, 2011; Fontaine, 2008).

A general rule of the Islamic *Shariah* is that it is haram for the Muslim to eat or drink anything which may cause his death either quickly or gradually, such as poisons or substances which are injurious to health or harmful to his body (Arif and Ahmad, 2011). It is also haram to eat or drink large quantities of a substance if large quantities of it cause illness. For the Muslim is not entirely his own master; he is also an asset to his religion and his community and his life (Nurdeng, 2009; Arif and Ahmad, 2011).

In the Muslim world, males were at a much higher risk for smoking behaviour than females. This may be due to cultural factors associated with patriarchal societies, such that smoking may be viewed as an acceptable male social behaviour, while being considered a cultural taboo for females. Accordingly, the relatively low smoking rates among females may simply be a reflection of a cultural taboo and may be an underestimate of the true female prevalence, since many young females may be reluctant to admit to smoking (Denscombe, 2001; Islam and Johnson, 2005; Salawu *et al.*, 2010).

The connection between Islamic regulations and smoking was not initiated by the WHO Regional Office for the Eastern Mediterranean (EMRO). It began as early as 1602, when a Fatwa was issued in Morocco completely prohibiting the use of tobacco; 19 similar edicts followed. At the present time there is no doubt about the negative health consequences of tobacco use. All religions, with the well-being of humans at heart, are in a position to show disfavour with tobacco use, if not to prohibit it totally. EMRO supports its Member States in this field, when requested. A prime example is the Saudi Arabian Tobacco-Free Mecca and Medina initiative: EMRO

Table 1: Religion and health the salutogenic effect

Religious dimensions	Pathways	Mediating factors	Salutogenic mechanism
Religious commitment	Health-related behavior and lifestyle social support and networks	Avoidance of smoking, alcohol, drug use, poor diet, unsafe sex, etc.	Lower disease risk and enhanced well-being stress-buffering, coping and adaptation
Involvement and fellowship		relationships friends and family	

nominated the two cities for the global Tobacco-Free Cities project, launched in 2002, after the Saudi Arabian authorities took steps towards restricting the use of tobacco in the area of the two holy mosques. A similar situation occurred with the mass distribution of the fatwa in Egypt, at the Ministry of Health and Population's request. EMRO published Islamic ruling on smoking, in 1988 which included the views of Islamic scholars and the Christian view of tobacco use (El-Awa, 2004; El-Awa *et al.*, 2010).

The WHO Regional Office for the Western Pacific (WPRO) has also supported religion-related events. The first was the International Seminar and Exhibition on Tobacco or Health, held in Brunei Darussalam in July 2002, whose main focus was to discuss the Islamic perspective on tobacco use. The second, held in Cambodia, was on Buddhism and tobacco (El-Awa, 2004; El-Awa *et al.*, 2010; Khayat, 2000; Aldossary *et al.*, 2008).

It should be noted that if national authorities tend to use religion-based campaigns in addition to other measures, it is because they are less costly and there are no complications at the level of authority. Earmarking or taxation-related policies take much longer to adopt and implement and involve so many parties that conflicts of interest often arise (El-Awa, 2004). As suggested by Jabbour & Fouad, it is believed that religion-based initiatives should be evaluated and developed in light of the evaluation, in order to ensure evidence-based activities. Withdrawing from the use of religion-based activities, however, would be a setback for public health (Jabbour and Fouad, 2004).

SMOKING STATISTICS IN SAUDI ARABIA

Although Saudi Arabia does not grow tobacco or manufacture cigarettes, smoking has existed in this country for more than 50 years. Tobacco imports in the form of manufactured cigarettes have increased dramatically over the years and an average of 600 million Saudi Riyals (about \$150 million) is spent annually on tobacco. Also the social, health and economic burden of tobacco use, costs the kingdom up to five billion Riyals nearly per year (1.3 billion US\$). Where the estimated economic burden of the Kingdom due to productivity wastes and premature deaths due to tobacco from (1961-2004) nearly 83 billion Riyals (22.1 billion US\$), as well as 594000 premature death case due to disease due to smoking as, Laryngeal and lung cancer, renal tumors and cardiovascular diseases (Jarallah *et al.*, 1999).

Lose in waste may increase to 104 billion Riyals (27.7 billion US\$) and 743000 deaths if we add to it the tobacco smuggled to the Kingdom, according to global rates. Yet,

in the period between (2005-2010), the estimated economic burden of the Kingdom due to productivity waste and premature deaths is nearly 25 billion Riyal (6.7 billion US\$), Also the official income from tobacco products is estimated to be about 13 billion Riyals (3.5 billion US\$), Also the Smuggling is estimated to be 3 billion Riyals (800.000.000 US\$), with total economic lose about 31 billion Riyal (8.3 billion US\$) and the premature deaths in the same period estimated to be 177000 deaths (Jarallah *et al.*, 1999).

No nationwide studies on the prevalence of tobacco smoking have been performed in Saudi Arabia. Small-scale studies have shown a prevalence of between 8 and 57% 4-13; few of these, however, were community-based. A household survey to study the prevalence and determinants of cigarette smoking in three regions in Saudi Arabia, using the data from the national survey of chronic metabolic disorders (Bassiony, 2009; AL-Doghether, 2004). The proportion of smokers in Saudi Arabia, on the basis of a number of studies, nearly (35 to 45%) among adult males and (24%) in preparatory schools' students.

According to the International bank, countries with high income, pay yearly to treat diseases resulted from smoking between 6-15 % from the healthcare total cost. And the International bank explained that, the Tobacco Control efforts had a role in the reduction of the health and economic burden in communities where these efforts exist. Therefore, it's very important to have a comprehensive national program to be against the spread of tobacco use with all its types and thus limits the health and economic consequences of the tobacco epidemic on everybody, family and community in Saudi Arabia (Bassiony, 2009; AL-Doghether, 2004).

CURRENT RESEARCH ON SMOKING CESSATION IN SAUDI ARABIA

Considerable scientific advances have been made in methods of encouraging smokers to stop. After an intensive search in all the accessible and available databases, we have found that the current research on smoking cessation in Saudi Arabia is very poor. However, not all interventions work equally well in all countries. A particular country needs to be able to adapt best-proven intervention strategies to be implemented in its own population (Wong and McMurray, 2002; Covey *et al.*, 2000; Abolfotouh *et al.*, 1998; Kulwicki and Hill Rice, 2003).

In a study by Saleh and colleagues reported the results of a smoking cessation programme in one city in the Kingdom. They obtained a quit rate of 38.3% at six

months of follow up and they explored psychological and behavioural factors affecting the success in quitting. That study lays the foundation for a possible large-scale intervention programme for tobacco control in the Kingdom. Such a programme should be well coordinated, comprehensive, national in scope and consistent with the WHO's recent recommendations (Jarallah *et al.*, 1999).

A one-day antismoking programme was conducted for 289 students in a male secondary school in Abha, Saudi Arabia based on an Arabic version of the WHO standard questionnaire for young people. The results showed that the prevalence rate of regular smoking was 14.5%. With the exception of smokers, the students showed an overall positive attitude towards public action, but the impact of the one-day programme was less than satisfactory (Abolfotouh *et al.*, 1997).

There only one study that conducted to evaluate the efficacy and tolerability of Zyban in Saudi and to investigate potential differences in the therapeutic response to Zyban. This study has employed only 11 persons in two sites (Bolliger *et al.*, 2011).

OTHER MUSLIM COUNTRIES

Religious attitudes and religious leadership towards smoking and their association with quitting among Malaysian Muslims have been studied by ITC-SEA (International Tobacco Control Southeast Asia Survey) project team. In addition to the Islam, the team studied also the role of Thai Buddhism on smoking quitting. Interesting results have been published by this team in many conferences and periodicals (Yong *et al.*, 2012; Li *et al.*, 2012). Muslim Malaysian smokers were more likely to make a quit attempt if they perceived that their religion discourages smoking whereas the Buddhist Thai smokers were more likely to do so if they believed that their society disapproves of smoking. However, normative beliefs from both secular and religious perspectives did not appear to influence quit success among those who tried. Majority of both religious groups perceived that their religion discouraged smoking (78% Muslim Malaysians and 86% Buddhist Thais) but considerably more Buddhist Thais than Muslim Malaysians perceived that their society disapproved of smoking (80% versus 25%). Among Muslim Malaysians, religious, but not societal, norms had an independent effect on quit attempts. By contrast, among the Buddhist Thais, while both normative beliefs had an independent positive effect on quit attempts, the effect was greater for societal norms. The two kinds of normative beliefs, however, were unrelated to quit success among those who tried. The findings of ITC-SEA project team suggest that religious norms about smoking may play a greater role than secular

norms in driving behaviour change in an environment, like Malaysia where tobacco control has been relatively weak until more recently, but, in the context of a strong tobacco control environment like Thailand, secular norms about smoking become the dominant force. The differences in effects between the two religious groups could also stem from differences in the two religions. The precepts of Buddhism are less prescriptive than that of Islam and this might explain why religious views on smoking are less important and influential for the Buddhist Thai smokers as compared with the views on smoking espoused by the society at large (Yong *et al.*, 2012; Li *et al.*, 2012; Siahpush *et al.*, 2008; Young *et al.*, 2008; Li *et al.*, 2009).

ITC-SEA also conducted a prospective examination of the perceived relevance and role of religion and religious authorities in influencing smoking behaviour using data of 1482 Muslim Malaysian adult smokers. Results revealed that over 90% reported that their religion guides their day-to-day behaviour at least sometimes. About 61% reported that their religious leaders had encouraged them to quit before and a minority (30%) said they would be an influential source to motivate them to quit. Taken together, results from of this research group indicated that religion and religious authorities are both relevant and important drivers of quitting (Li *et al.*, 2009; Yong *et al.*, 2012; Young *et al.*, 2008).

Correlates of smoking behavior among Muslim Arab-American adolescent have been investigated (Islam and Johnson, 2003). Researchers in this study believed that factors influencing susceptibility to smoking among the ethnic group of Muslim Arab-American have received little research attention. The overall prevalence of susceptibility to smoking, experimentation (ever smoking), 30 day and current smoking was 50, 45, 18 and 12, respectively. Almost twice as many males as females were susceptible to smoking and reported to have experimented with cigarettes. Peers smoking was the most significant risk factor associated with both susceptibility and experimentation for both genders, while perceived peer norms were a risk factor for ever smoking but not for susceptibility to smoking. Religious influence and perceived negative consequences of smoking were protective against ever smoking for both genders. Social influences-based smoking prevention programs may be effective for adolescents from Muslim Arab cultures; however, they should be modified to address culturally based gender norms and may benefit from the incorporation of Islamic messages denouncing smoking behavior (Yong *et al.*, 2012; Young *et al.*, 2008).

An Egyptian study point to the notion that some of the known smoking risk factors associated with western adolescents' smoking behavior, such as positive beliefs about smoking and refusal self-efficacy skills, are

consistent smoking risk factors across both cultures and genders, while the strength of the influence of family smoking versus peer smoking, perceived adult smoking norms versus perceived peer smoking norms, may depend on the type of society being studied (collective versus individualistic). This study did not mention the role of Islam on smoking quitting.

Religious officials' knowledge, attitude and behavior towards smoking and the new tobacco law in Turkey. The study group was comprised of 492 Imams and 149 Quran course instructors working in Kahramanmaraş city of Turkey, 641 religious officials in total. 99.8% of the religious officials believed that smoking was harmful and/or prohibited in terms of religion. While 43.6% respondents thought smoking was "haram" (forbidden by Islam), 56.2% believed it was "makruh" (something regarded as reprehensible, though not forbidden by God according to Islam). 85.2% of the participants were aware of the recent tobacco law. 55.5% of the respondents, who were aware of the recent tobacco law, evaluated their knowledge level on the law as adequate, whereas 44.5% evaluated it as inadequate. 92.4% of the participants noted that religious officials should play active roles in tobacco control effort. Smoking rate among religious officials is much lower than that of general public. In order to help religious officials to take a more active role on this issue, they should be trained on the subject and appropriate platforms should be established (Sucakli *et al.*, 2011).

Evaluation of smoke-free policy implementation in Padang Panjang city West Sumatera, Indonesia was evaluated (Gafar, 2011). The study was a qualitative study with case study. Subjects of the study were Government officials i.e head of executive and legislative, Islamic and youth leaders. The results of this Indonesian study showed that smokers and non smokers had positive attitude towards the policy and supported the implementation of the policy. One of the target groups of this study was Alim Ulama. Alim ulama as religious leader were also involved in the policy socialization. Their main role is to provide a review from Islamic point of view regarding smoking. The alim ulama help to inform the public regarding the smoke free policy and explained to the public in their speech during every religious event that smoking is not sinful to do, but avoidance of smoking yields merit (Gafar, 2011).

To gain detailed understanding of influences on smoking behaviour in Bangladeshi and Pakistani Muslim communities in the United Kingdom to inform the development of effective and culturally acceptable smoking cessation interventions, a community based-qualitative study was conducted by Bush *et al.* (2003). The study employed 87 men and 54 women aged 18-80

years, smokers and non-smokers, from the Muslim communities. The Results of this study showed that four dominant factors on smoking attitudes and behaviour: gender, age, religion and tradition. Smoking was a widely accepted practice in Pakistani and particularly Bangladeshi, men and was associated with socialising, sharing and male identity. Among women, smoking was associated with stigma and shame. Smoking in women is often hidden from family members. Peer pressure was an important influence on smoking behaviour in younger people, who tended to hide their smoking from elders. There were varied and conflicting interpretations of how acceptable smoking is within the Muslim religion. Tradition, culture and the family played an important role in nurturing and cultivating norms and values around smoking (Bush *et al.*, 2003).

CONCLUSION

The current review paper discussed all the issues related to smoking cessation efforts in Muslim countries and communities. Although no appreciated efforts have been done to encourage smokers to quit by using Islamic regulations. National authorities in Muslim countries have to use religion-based campaigns in addition to other measures, it is because they are less costly. Earmarking or taxation-related policies take much longer to adopt and implement and involve so many parties that conflicts of interest often arise (El-Awa, 2004). Religion-based initiatives should be evaluated and developed in light of the evaluation, in order to ensure evidence-based activities. Withdrawing from the use of religion-based activities, however, would be a setback for public health. This current review study is an attempt to continue in our research in smoking (Wee *et al.*, 2010, 2011; Al-Bayaty *et al.*, 2008; Rahim *et al.*, 2012).

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