

## Conference Paper

# Obesity Review in GCC and New Evaluation Strategy

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## Abstract

**Purpose:** This paper aims to review literature in the area of obesity phenomena and solution for identifying existing research themes and future opportunities to better understand the relationship between factors that affect the obesity and Intervention done and make compassion on what is done globally and in GCC. **Approach:** This paper reviews articles related to obesity factors in GCC such as behavioural and cultural and its effect on behaviours outcomes. This review attempted to identify the main trends in the literature on obesity focussing on environmental, people's eating habits and their attitude toward western foods, governance and policies, socio-economic and socio-cultural causes. **Findings:** Risk factors associated with being overweight or obese are similar in GCC and the rest of the world. However, as the literature indicates that high family income associated with obesity, lack of physical activity and time spent in sedentary activities such as TV watching is significantly associated with an increase in the risk of overweight or obesity in GCC.

**Keywords:** Obesity/Overweight; obesity causes; Obesity Intervention; obesity rate; obesity socio-Behavioural /cultural factors, Obesity barriers, actions towards obesity framework.

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## 1. Introduction

Obesity and overweight are considered as an accumulation of excessive fat that may impair health. It has been acknowledged that the prevalence of obesity and overweight extremely increased globally. The growing rate of obesity and overweight has increased the risk of non-communicable disease that deteriorates the healthy lifestyle of people around the world (World Health Organisation 2014; Kilpi et al, 2014; Ahmad et al. 2015). The non-communicable diseases arising from obesity can lead to approximately 36 million deaths each year (Banjare et al, 2016).

According to WHO statistical data for the year 2016, the number of overweight adults is approximately 1.9 billion and on the other hand, approximately 650 million people were obese. On the other hand, 39% of people of age 18 years were found to be

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overweight while 13% were obese. It is a matter of fact that obesity is a serious issue, which can affect people from all over the world.

The similar issue persists in different GCC countries such as Kuwait according to WHO is approximately 30-40% of adolescents and children are obese or overweight and the prevalence rate has been increased to a higher level in Kuwait (El-Bayoumy et al., 2009).

There are different factors, which can contribute to the development of obesity and overweight and the fundamental reason associated with this issue is the imbalance of calories taken and consumed by a person. The other reasons that contribute to the development of obesity or overweight are increased intake of fatty foods, which are also termed as energy dense foods and another global cause of obesity is the decreased physical activity due to sedentary life style resulted from urbanisation (Chahine 2013). In GCC countries including Kuwait, the factors, which contribute towards the development of obesity and overweight are the absence of physical activity, inappropriate eating pattern, and use of sweet beverages, sedentary lifestyle and misconception of people about body image (Musaiger 2011).

## 2. The Methodology of the Literature Review and Major Literature Trends

This paper associated with the literature review, therefore, the use of key search terms was carried out for the determination of relevant research articles for critical review. The CASP (Critical Appraisal Skills Programme) tool was used for the evaluation of the study. Based on the use of the key search term for the identification of relevant articles from different databases. articles were selected based on the measure of the quality and relevance of these articles.

## 3. Obesity in the Gulf Cooperation Council (GCC) Countries

Like other countries, obesity and overweight are also prevalent issues in the GCC and there are several reasons behind this issue. In the Gulf countries, the prevalence of obesity among the male population is between 5% and 14%, whereas, among the female population is between 3% and 18%. In adult women, the prevalence of obesity increases significantly with the incidence rate of 2-55% and the incidence of adult males is 1% to 30% (ALNohair 2014). During the last two decades, fast food consumption and

the intake of carbonated drinks with high-sugar content have increased among the younger population (Mandoura, et al. 2017).

### **3.1. Additional factors with strong impact on obesity in GCC**

#### **3.1.1. Economic Boom**

Alhyas et al. (2011) carried out a study to examine the prevalence of different risk factors associated with diabetes and complication of diabetes in GCC region. This was literature research, which has determined that prevalence of obesity and overweight is higher in these regions; however, the changes in the prevalence is reported with respect to age, gender, location, and some other factors. Berger and Peerson, (2009) carried out a study to determine the association with lack of physical activity and obesity in females. The mixed research methodology was used for the determination of this association. The outcomes of this study determined that there is a strong association between obesity and different chronic issues.

Klautzer et al. (2014) demonstrated the prevalence rate of obesity and the intensity of the issue.

The research approach was the critical review of the literature. The outcomes obtained from this research have demonstrated that marked increases in the prevalence of obesity and different chronic diseases have been reported. Among different diseases that are associated with the increased prevalence of obesity is type 2 diabetes. The changes in the diet, as well as a sedentary lifestyle due to economic growth, have led to a significant increase in the burden of obesity and diabetes type 2.

In addition, Kumanyika et al. (2013), the complexity of obesity has affected different countries and therefore global action plan is required to tackle this issue. The literature research was carried out to determine prevention and treatment strategies for obesity. According to the outcomes presented by this report, the prevalence of obesity and overweight has not only increased in adults but also in the children. The investment in the prevention of obesity should be carried out for long-term and must be cost-effective.

#### **3.1.2. Lifestyle choices in relation to dietary and physical activity patterns**

The change in the lifestyle and dietary habits of GCC countries occur during the last few decades due to increases in the level of their income. Moreover, the GCC countries have

experienced a rapid change in dietary habits and lifestyle during the past three decades (Chomistek et al., 2015). The population of the GCC countries has been adopting the sedentary lifestyle, such that the individuals are habitual of leading a luxurious life having either no or very limited physical activity levels (Klautzer et al, 2014).

Approximately 20-25% of males of the GCC countries are habitual of performing physical exercises, whereas, only 6-10% of the females have been practicing physical exercises. (Mabry et al. 2016)

### **3.1.3. Body image Perception and Beliefs of People about Obesity in GCC countries**

Grenon et al. (2016) and Tatangelo et al. (2016) presented the fact that the image dissatisfaction is higher in females in comparison to males. Mabry et al. (2016) assessed the physical activity levels of approximately 3000 adult males by using the population-based household survey and found that the unmarried males belonging to the age groups of 30-39 years were more than twice as likely to be physically active.

In addition, Mabry et al. (2016) also found that the unmarried females aged 40+ years were less likely to be active as compared to their married counterparts. In addition, working women were found to be more active, as compared to the housewives. In the adolescence, the body image perception is a significant factor, such that the obese or overweight young individuals are at an increased risk of underestimating as compared to the individuals with normal body weight (Tatangelo et al. 2016). Most of the population in GCC countries believed that the individuals receive illness and wellness on the will of God (Klautzer et al, 2014).

## **3.2. Background to the GCC Healthcare System**

A systematic review of the GCC countries assessed 20 Saudi studies, 7 Kuwaiti studies, 3 Bahraini studies, 8 Emirati studies, 4 Omani studies and 1 Qatari study of the relevant populations within those countries (Alhyas et al, 2011). The review demonstrated that there were differences in the pattern of obesity and diabetes in the GCC region. There was an observed bias of being overweight and obesity in the female population but that was not clear mirror in the population distribution of diabetes.

The total expenditure of the GCC government on the health care is approximately 7% of the annual budgets for the management of the health of the patient; however, the total expenditure of Organisation for Economic Cooperation and Development countries

(OECD) is 17%. The reformation of the healthcare system of Kuwait is designed by considering the Kuwait Development Plan (KDP) and the total amount decided for this developmental plan is KD31bn. This reformation is based on a five-year plan 2015-2020. Considering the KDP framework, the plan of the KDP framework is aimed to construct different hospital extensions and eight hospitals. The critical review of the health care system in the GCC has demonstrated that the health care system is good, yet there are some gaps in the social system (Winnick and Porretta 2016)

### **3.3. Approaches to mitigate against obesity/being overweight in GCC**

#### **3.3.1. Public health initiatives**

Saudi Arabia Health Vision 2050 involves all sectors of government for controlling the issue of obesity, cardiovascular diseases, and diabetes (Kumanyika et al., 2013).

Ministry of Health in Bahrain is also working on the vision to reduce the prevalence of obesity Musaiger et al. (2011). Likewise, Kuwait responds to the obesity crisis in 2013 by implementing the National Program for the Construction of Health Housing in Kuwait (Behbehani 2014). Examples of initiatives include the National Obesity Program in Kuwait and National Support for Saudi Arabia that put effort against overweight and obesity and to promote exercise and healthy eating (Kumanyika et al., 2013).

#### **3.3.2. Nutritional and lifestyle programmes**

Considering the importance of preventive measure for obesity, the national committees have been developed by Kuwait for the introduction of healthy nutrition for children and engage them in different physical activities (Boodai et al., 2014). The Sultanate of Oman proposed a National Nutrition Monitoring Program (2006-2010) to collect data on nutritional status (Alshaikh et al, 2017). The Ministry of Health of the United Arab Emirates formed a national committee in 2010 to develop a national strategy for reducing obesity and diabetes. (WHO, 2010)

#### **3.3.3. Bariatric surgery in the Gulf region**

The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) have presented the fact that Kuwait is considered the second rank among 50 countries worldwide who are carrying out bariatric surgery cases (Buchwald 2013). Written and

informed consent and positive psychological evaluation were done for the children and adolescents aged 5 to 21 years with obesity.

### 3.4. Actions taken against Obesity in GCC and Other Countries

#### 3.4.1. Global Weight Management Market Overview

The healthcare authorities have been emphasizing on the intake of a low-calorie diet, fresh fruits and vegetables, proteins and fibres are likely to assist in reducing the risk of prevalence of obesity (Buckland et al, 2015). In addition, the healthcare authorities have also emphasized that avoiding the consumption of beverages and soft drinks, sweeteners, fast food, and fatty diet can assist in reducing the risk of weight gain and leading a healthy life as obese individuals. In addition, the research outcomes also declared that the utilization of strength training equipment, body composition analyzers, and the fitness monitoring equipment could also assist the individuals at risk of weight gain and suffering from obesity in the adulthood. Other techniques, which are used for dealing with the epidemic of obesity, includes a surgical interventions (Buckland et al, 2015)

#### 3.4.2. Obesity surgical strategies

TABLE 1: Table data reference KLSC. **GCC AND MENA Obesity & Diabetes Report -2015.**

<p><b>Global obesity surgery devices Market Overview</b></p>	<ul style="list-style-type: none"> <li>● Expenditure global obesity surgery device market approximately USD 1.43 billion in the year 2014.</li> <li>● Market is anticipated to increase from the year 2014 and reach USD 2.49 billion in the year 2030.</li> <li>● Roux-en-Y gastric bypass is the most common surgical procedure performed for treating obesity.</li> </ul>
<p><b>The obesity surgery devices market in GCC overview</b></p>	<ul style="list-style-type: none"> <li>● Most countries of the world including the GCC countries have been focusing on a nutrition plan.</li> <li>● GCC countries have taken Public Health initiatives and have been running national campaigns to disseminate the awareness regarding the healthier practices and the health issues related with obesity.</li> <li>● But still special attention is required to change the attitude towards the food and its contents in relation to obesity.</li> <li>● Among highest rate of countries do bariatric surgery.</li> </ul>

### 3.4.3. Market Dynamics:

Global market for obesity treatment, which was estimated at US\$ 1.43 billion in 2014, is projected to grow at CAGR 9.6% to US\$ 2.49 billion by the year 2020 (Swinburn, et al., 2011) and expected to reach USD 1.23 billion in the year 2020.

The increment in the market of the surgical procedures for obesity is due to the continuous increment in the rates of prevalence of obesity, the sedentary lifestyle, intake of junk food, and lack of physical activity levels (Swinburn, et al, 2011).

### 3.4.4. Barriers to Implement Obesity Prevention Interventions

A range of interventions could assist in reducing the rates of prevalence of obesity. However, the healthcare authorities are at risk of having trouble in prescribing the most effective interventions for reducing the prevalence of obesity (Weichselbaum et al., 2013).

## 4. Framework Overview Discussion

In this regard, a number of studies were conducted to evaluate and analysed the factors that play a vital role in the incremental ratio of obesity throughout the world. In the prior studies, researchers adopted various research framework depending on the need and requirement of the studies conducted with the light of theme (Sherif and Sumpio, 2015).

Michie, et al. (2014), conducted a qualitative research study evaluate behaviour change wheel in the context of obesity issues faced by people. behaviour of consumer towards the food, activity is expressed as the dependent variable. to ensures these people behaviour is one of the key influencing the variable on obesity. Therefore, it has also observed that motivation, capability and opportunity are independent variables resulting strong impact on consumer behaviour.

In another research study by Novak, & Brownell, (2012), analysed the USA government policy roles in the obesity epidemic. To conduct this study, researcher adopted a qualitative research approach to evaluate the behaviour of people in the context of obesity. In this study, researchers moved with descriptive and explanatory research approach in light of the constructed research question. Finding was summarised in reducing obesity will need cahnges done on policy that could improve food and physical activity defult for all americans.

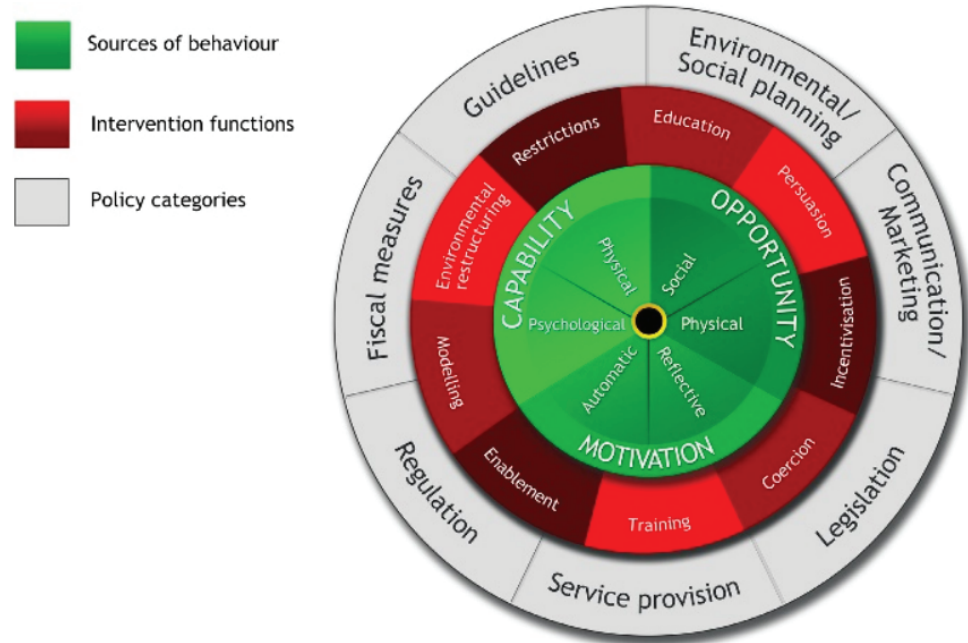


Figure 1: Behaviour Wheel. Adapted from Michie, et al. (2014).

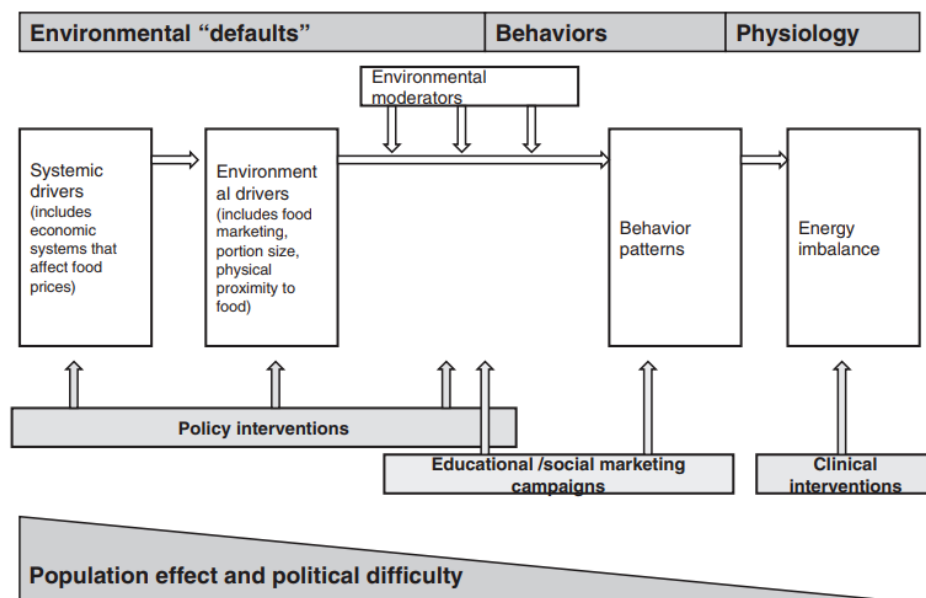


Figure 2: Framework to classify causes of obesity and matching policy responses. Adapted from Swinburn et al,2011.

Eldredge et al.2016, also conducted a study, streamline with the above studies and analyse different perspective of research by induction of programs to control the overweight. A major reason for obesity, to conduct this study qualitative research techniques was adopted by implemented and analyse the ethical framework in public health through primary and secondary research data. However, primary data in this study was collected through research questionnaire techniques. This study follows the



qualitative research approach and highlights the ethics framework for public health presented by Kass

## 5. Recommended Framework

In light of the above discussion, a research framework is recommended to conduct this research study. As mentioned above, the research framework is an auspicious standard designed guideline to conduct the research study. In the context of constructed research aims and objectives, it is recommended to adopt a mixed research methodology approach. Whereas, this study is conducted on a demographic basis of the GCC region to evaluate the research questions about obesity awareness among the said region people.

## 6. Limitations

The literature review possesses complex nature, resulting in limitations to the applicability of research outcomes. Literature review lacked the perspectives of healthcare professional and the perspectives on of the GCC countries, which is the potential limitation of this paper.

## 7. Discussion and Conclusions

Almost all of these research studies have shown that obesity is a serious issue but the people are neglecting health, consume several junk foods, and are spending life in a sedentary way, which can lead to several issues (Zaghloul 2013). The review has presented different factor, and most common factors identified are an economic boom, intake of fatty foods, which are also termed as energy dense foods and another global cause of obesity is the decreased physical activity due to sedentary life study due to urbanisation. Most of the studies have demonstrated different risks factors and interventions for the reduction of obesity, yet the significance and outcomes obtained from the practical implication of interventions are not presented in most studies. In summary,. Over the last two decades, more emphasis is placed on the consideration of the psychological, social, cultural and behavioural aspects related to the treatment of obese people and to decrease the chances of people to get overweight and obese. Different treatment approaches, which are available for the management of diabetes are not only effective to make changes in the dietary pattern of people but is also

effective to provide social, behavioural, and emotional strength to the people to bring changes in lifestyle. That lead to impact on prevention of obesity.

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