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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v8-i5/4085>

DOI:10.6007/IJARBSS/v8-i5/4085

*Received: 20 Feb 2018, Revised: 25 Mar 2018, Accepted: 05 April 2018*

Published Online: 08 April 2018

**In-Text Citation:** (Ullah, Ghani, & Baig, 2018)

**To Cite this Article:** Ullah, S., Ghani, N. A., & Baig, A. A. (2018). A Systematic Review of Determinant-Social Factors Related to Obesity among Malays Obese Community in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 61–73.

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**Vol. 8, No. 5, May 2018, Pg. 61 – 73**

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# **A Systematic Review of Determinant-Social Factors Related to Obesity among Malays Obese Community in Malaysia**

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## **Abstract**

The pervasiveness of obesity has been increasing day by day in the country like Malaysia. The principal objective of this systematic article review is to evaluate the determinant-social factors of obesity among Malays obese people from the previous researches held from 2009-2017 as obesity among Malays community prevails higher than other. Google scholar, Wiley Online Library, BMC public health, Science direct, PubMed and Springer Link were utilized to find the data. From this particular data, this article has seen the precise relationship between “feelings (low self-esteem), body image and weight dissatisfaction, eating habits and diet behaviors, health knowledge, physical inactivity and its barriers, media influence and religious knowledge & practices” and obesity. The children or adolescent subjects were focused in most of the studies. There is absolute lack of data about these social factors specifically among adult obese people of Malaysia and need to conduct research to prevent people from chronic diseases due to obesity.

**Keywords:** Obesity, Social Factors, Prevention, Obesity Risks, Prevalence.

## **Introduction**

Obesity and overweight are characterized as abnormal or inordinate fat accumulation may impact health while overweight as a BMI greater than or equivalent to 25kg/m and obesity as a BMI more noteworthy than or equal to 30kg/m (WHO, 2015). The increasing pervasiveness of overweight and obesity has explained as a global pandemic (Popkin et al. 2012; Swinburn et al. 2011; Roth et al. 2004) in several countries. (Stevens et al. 2012); (Finucane et al. 2011); (De, Onis et al. 2010); (Wang et al. 2007); (Rennie et al. 2005). In the U.S, the first ratio of obesity is 36.5% (one-third) among adults. The pervasiveness of obesity was more significant in females (38.3%) than in males (34.33%). (Cynthia et al, 2015). Comparing with developed countries, obesity has increased dramatically in Malaysia, which is alarming and proved risk for public health according to report of Malaysian Institute for Public Health survey, 2011 and Ministry of Health Malaysia,

1996. The pervasiveness of obesity identified 4.4% in adults (Fatimah et al, 1999), according to the National Health Morbidity Survey (NHMS II) in 1996. Also, many times quoted that pervasiveness is 20.7% among individuals aged 20 years and above whom were overweight and 5.8% obese. (Lim et al, 2000). After six years, the Malaysian Adults Nutrition Survey (MANS) conduct study in October 2002 and July 2003 (Azmi et al, 2009) determined that pervasiveness of obesity has doubled. It was hard to believe the rapid increment of obesity in the population, but NSCVDRF 2004, formed it again (Rampal, 2007). Third National Health and Morbidity Survey (NHMS III, 2006) conducted among 33,055 adults population identified 14.0% were obese respectively (Institute for Public Health, 2008).

According to Azmi et al. (2009) 14.66% adult women and 9.72% adult men are obese. Obesity prevailed 12.1% among Malaysian adults. Nearly one in two adults (age 25 – 64) found overweight and obese, with the greater pervasiveness between Indian and Malays, with lower ratio among Chinese community. The next NHMS survey conducted after five years in 2011, and found that ratio of obesity is increasing (Institute for Public Health, 2011) with the greater pervasiveness between Indian and Malays community, and Chinese stands lower in Malaysia. Thus, the report of NHMS (2015) determined the results with comparing the previous findings of NHMS 2011 that the pervasiveness of overweight, obesity and abdominal obesity had raised by 0.6%, 2.6%, and 2.0% respectively, at the national level.

In past few decades, obesity is also associated with numerous factors like demographics, socio-economic status, feelings (low self-esteem), weight and body weight dissatisfaction, eating habits, dieting behavior, health knowledge, physical inactivity and its barriers, media influence and religious knowledge and its practices. The speedy development in economy and industries were determined, particularly in the urban areas. This situation develops the health inequalities among urban and rural areas including obesity (Moy et al. 2004). However, residence ought to be an essential view to be paid attention. The living standards and uplift economy are the phenomena for working parents that are finally adding more pocket money of children. With the extension of spending capacity, the mass media would influence adolescents in their eating habits, attitude and behavior towards foods, social and physical activities as well as religious practices.

Since, obesity is associated with multi-factorial illness consequence of the associated factors and obesity prevailed up to 60-70%, due to the contribution of these associated factors. Overweight and obesity is leading towards cardiovascular disease, hypertension, stroke, osteoarthritis, diabetes and some cancers (Moghaddam et al. 2007). The burden of cardiovascular diseases associated with overweight and obesity seems to be substantially among Malay ethnic. Demographic and extension of urbanization, socio-economics (Hoelscher et al. 2004), cultural and environmental influence, adoption of sedentary lifestyle, poor diet, lack of physical exercise results of obesity, which is now alarming health concern in remote communities, like Kuala Terengganu, putting the public health in danger with infectious disease (Ismail et al. 2002). Manifest determined a higher risk for overweight and obesity in both Malays sexes. Testified studies assessed that adults have obesity with the highest percentage in Malaysia (Khambalia et al. 2010), including Terengganu, where obesity is 14.1%, and overweight is 32.8% among adults (NHMS, 2011). Thus, identifying the determinant-social factors of obesity is of hugely keen interest and the subject of this article.

## **Objective**

This article aims to evaluate the contribution of determinant-social factors affecting on obesity among Malays community since years 2009-2017.

## **Material and Methods**

Electronic sources were used like Google scholar, Wiley Online Library, BMC public health, Science direct, PubMed and Springer Link to search the particular data from 2009-2017. National Health and Morbidity Surveys, original articles and experimental studies were adopted as inclusion criteria. The studies held before 2009 were excluded. The most specific keywords were utilized (associated factors obesity, social factors obesity, eating behaviors, physical inactivity obesity, dieting habits Malaysia, prevalence of obesity in Malaysia, media role on obesity, adoption of Islamic way of eating, Sunnah practices and obesity) in order to find data of social factors of obesity among Malays obese community. Only 22 studies had met the inclusion criteria to see the determinant-social factors of obesity between Malays obese community.

## **Findings**

### **Feelings (low Self- esteem)**

For quite a long time, researchers have looked to analyze and build up a connection among obesity and self-esteem. Loth et al. (2011) and Nabors et al. (2011) discovered negative connections amongst obesity and self-esteem certifying prior examinations itemizing the mental concerns coming about because of body weight. To additionally understand the relationship, Orth and Robins (2013) developed our understanding by detailing a correlational relationship where those with low self-esteem are more inclined to misery, and discouraged individuals will probably feel useless, uncouth, and insufficient which is more prone towards the social anxiety (Abdollahi & Talib, 2014). Some obese individuals report social anxiety, whereby they are humiliated to go out in light of the fact that they may not 'fit' into a seat in a hotel or a plane, for instance. Being obese lessens their self-esteem and the impact on their social life abandons them isolated and useless (Mark et al. 2008).

### **Body Image and Weight Dissatisfaction**

Like other factors, body image and weight dissatisfaction can be found in obese people. According to Muda (2015), 95.0% housewives of was not happy with their present body image and want to reduce their weight. There was a noteworthy contrast of mean score in stress with overweight and obesity. In a further study, its revealed that, employees are more dissatisfied with their body image at the worksite in Malaysia, and have significant difference  $P=0.001$  (Cheong et al., 2010). Markowitz, Friedman, & Arent (2008) have revealed a positive connection amongst Body image. A confirmation demonstrates that perception of body image dissatisfaction, obese ladies of low SES backgrounds are especially in danger of depression (Gavin, Simon and Ludman, 2010).

### **Diet and Eating Habits**

In light of numerous examines it gives the idea that eating habits additionally have critical factor in obese person. In an examination Zuraida et. al (2013) indicated a noteworthy positive connection between eating behavior and obesity; therefore a higher score in all areas of eating

behaviors would mean a poor overall eating conduct among overweight and obese respondents. Females detailed a higher mean score in eating because of negative Emotion when contrasted with males in this research. While Madiha (2016), has verified that utilization of unhealthy food (Junk food, sweet food and snacking), while outer eating anticipated sugary food consumption have noteworthy predictor with regards to obesity. By relationship between eating behavior and nature of food utilization, acknowledging people eating habits can have suggestions for tailoring successful nutritional projects with regards to obesity and cardiovascular diseases epidemic. In another research from Denni et al. (2013) determined that there is a relationship between Intuitive eating and dieting behavior with obesity. There are various reasons disarranged eating habits of Malaysians, including causes of devour skipping, notably, eating between dinners, breakfast and late night supper, more energy intake, fast food chains and outlets (Rezali et al. 2012; Ganasegeran et al. 2012).

### **Health Knowledge**

Survey data indicate that poor health knowledge also influences obesity. Less health knowledge is preventing correspondences in the health care surrounding and changing health results (Parker and Ratzan, 2010). According to Alexis et. al (2013) women's knowledge of the specific risks associated with obesity was very low and poor. According to NHMS 2011, individuals don't have much information that obesity may reason for cardiovascular diseases, and not getting healthy eating diet and fruits as NHMS, 2011 discoveries demonstrated that there were 92.5 % (95% CI: 92.0 - 92.9) of Malaysian adults not taking satisfactory vegetables/fruits as prescribed intake by WHO. Sharma, Gernand, and Day (2008) determined that nutritional knowledge was a prescient factor for the adequate utilization of meats, dairy, grains, and beans in adults. In another research by Rutkowski and Connelly (2011) found that obesity risk knowledge was not related to youth, despite the fact that a connection between parental physical activity level and obesity chance learning existed. Malays community has less health knowledge than groups like Chinese and Indians (NHMS, 2015).

### **Physical inactivity and its Barriers**

In research by Rampal et al. (2012) uncovered that there is a relationship of obesity with physical activity level. Further, Affira et al., 2011, found the relationship of physical inactivity with obesity in working ladies and also positive connected with physical barriers in Petaling Jaya, Malaysia. As indicated by Kabir et al. 2014, the low level of physical activity was the main modifiable factor for obesity and overweight. Ayeisah et al. (2013) showed poor constant physical activity which clarifies the high frequency of obesity among the hospital staff in Malacca. A study by Hazizi et al. 2012, demonstrated that physical activity level is a significant factor related to obesity. The most well-known external barriers among the adults were "insufficient time" (46.7% vs. 48.4%), "nobody to practice with" (40.0% Vs. 28.3%) and "lack of facilities" (33.4% versus 35.0%). The most widely recognized internal barriers were "too tired" (48.3%), "already active enough" (38.3%), "don't know how to do it" (36.7%) and "too lazy" (36.7%) (Maria et al. 2013). As indicated by Ibrahim et al. (2013), other recreational activities with friends and family were more enjoyable was the most often detailed barrier, followed by climate, lack of money and discipline, lack of a friend, and lack of free time. Other perceived barriers were found in marital status, income, education level, physical activity and body mass index. This study indicates to implement the

intervention programmes as high score were found of physical inactivity and obesity among this population.

### **Media Influence**

In this modern world, media is great source for knowledge and information, but besides this TV advertisement promoting fast food. Ethnicity and Television viewing time significantly impacted all enlistment factors for non-core foods. In the wake of amending for all impacting factors, “favorite commercial” (IRRfinal adj: 1.06; 95 % CI: 1.04 to 1.08), “purchase request”(IRRfinal adj: 1.06; 95 % CI: 1.04 to 1.08) and “product reference” (IRRfinal adj: 1.04; 95 % CI: 1.02 to 1.07) still were fundamentally connected with TV seeing time. Malay population spent more time than Chinese and Indians (See Hoe Ng et al. 2015). Further In an overview from Muniandy, B. (2013), correlated the rising obesity issue among Malaysians by the usage of “exciting electronic gadgets and social media”. Eating and physical activity behavior directly affected because of social media in youth (Cavallo et al., 2012; O’Keeffe & Clark-Pearson, 2011).

### **Religion Knowledge and Practices**

According to the study from Hassan, 2012 revealed that there is a relationship between health-related behavior and religiosity. Sherina et. al (2009) determined the a significant association between obesity and religion in her study, therefore the results shown that obesity had significantly connected between “Muslim and Buddhist” ( $p = 0.000$ ,  $OR = 3.63$  95% CI = 1.81–7.30) “Christians and Buddhist” ( $p = 0.011$ ,  $OR = 0.31$  95% CI = 0.12–0.79), “Hindu and Buddhist” ( $p = 0.000$ ,  $OR = 0.30$  95% CI = 0.14–0.61) and other “religions and Buddhist” ( $p = 0.041$ ,  $OR = 0.16$  95% CI = 0.03–0.91). Another study from Abdullah et al. (2017) has revealed the results that 62.8% respondents never performed the healthcare practices recommend by Prophet (SAW), only 13.8% were known the knowledge and practices of Prophet Mohammad, follow by 6.1% of them occasionally practice it, 30% practice it rarely out of 210 respondents. Eating habits and dieting behavior is associated with obesity where 98.6% consumed food with no limits. Healthy food consummation was found only 1% and 1.4% take it rarely and the rest of people simply ignore it.

### **Discussion and Conclusion**

However, analysts have assessed obesity patterns and indicators, just limited country or particular population researchers exist. In 2010, a systematic review led in Malaysia, and only 44 articles over a 10-year period tended to obesity issues (Khambalia and Seen, 2010). However, current obesity information or data are alarming, “Half of adults Malaysians are either overweight or obese” (Chang, 2007; Malaysian Ministry of Health, 2007). Studies directed to date have not sufficiently given proof of circumstances and causes of the connections to predict health results related to obesity in Malaysia. There is an absence of confirmation based research to address the difficulties of obesity in nations where culture, language, and government policies contrast from those of developed nations, where most of the researches have been conducting (Harkness et al., 2010).

This systematic review article concludes that the related variables or factors of with obesity have profoundly strong connection with obese individual’s people in the Malaysia. It is also observed that mostly researches have done on childhood obesity in Malaysia. Researchers were been

focusing on Genetics and nutrients problems of obesity only and neglected the determinant-social factors of the obesity. Overweight and obesity in developing and middle-income countries Popkin (2006); Schmidhuber (2005); WHO, (2000) like Malaysia particularly remote areas such as Kuala Terengganu has ignored, as there is a need to focus on famine as well. There is a need to conduct study in all ethnics communities especially among Malays, as obesity prevails higher in Malays community (Pell et al. 2016) in Kuala Terengganu. The first step is supposed to analyze the determinant-social factors of obesity between Malay obese community to design the most appropriate strategies or tools to eradicate obesity that may leads towards cardiovascular diseases and higher death rate.

Table: Studies identified the determinant-social factors related with obesity

Sr.No	Authors/Year	Method/Sample	Determinants	Findings
1.	Sherina et al. (2009)	Cross-sectional, size=972	Demographic including religion	Significant relationship of obesity and religion with ( $p = 0.002$ ) Significant correlation was found between obesity and body image perception in with $p < .001$
2.	Cheong et al., 2010	Cross-sectional, size=367	Demographic , Psychosocial factors	Obesity had positive correlation with body image dissatisfaction ( $\beta=1.38, P < .001$ ) in females
3.	Gavin et al., 2010	size= 4543	Body image dissatisfaction	Lacking of knowledge regarding obesity and cardiovascular diseases
4.	NHMS Survey, 2011	size=28,498	Health knowledge	Obesity risk knowledge and physical activity level has relationship
5.	Rutkowski and Connelly, (2011)	Cross-sectional, size=94	Health knowledge for physical activity level	

6.	Loth et al. (2011)	Longitudinal study, size=995	Body dissatisfaction and low self esteem	Correlation of body weight with low self- esteem with mean (29.6, 95% CI: 29.1– 30.1)
7.	Nabors et al., (2011)	size=161	Low self-esteem	Negative emotion a significant main effect, $F(1,$ $190) = 7.79, p < .01$
8.	Rezali et al., 2012	Cross-sectional size=382	Eating habits, energy intake	Energy intake and eating habits has significant corrleation ( $r =$ $0.153, P < 0.05$ ) with obesity gender, age, occupation, smoking, alcohol intake including physical inactivity were main predicator of obesity
9.	Rampal et al. (2012)	Cross-sectional size=454	gender, age, occupation, smoking, alcohol intake and physical inactivity	Found relationship between obesity and physical inactivity in Government employees
10.	Hazizi et al., 2012	Cross sectional, size=233	Physical activity	
11.	Alexis et al. (2013)	size=353	Obesity and health knowledge	Lack of poor knowledge associated with obesity in women
12.	Zuraida et al. (2013)	cross-sectional study, size=135	Eating habits and behaviors	Eating behavior positive correlated with obesity $p < .001$



13.	Maria et al., 2013	Cross-sectional, size=300	Physical activity barriers	Too tired' (48.3%), Lack of facilities' (33.4% vs. 35.0%), lack of motivation' (38.4%) , not enough time' (46.7% vs. 48.4%), no one to exercise with' (40.0% vs. 28.3%), 'too lazy' (36.7%) lack of discipline, activities with family, lack of free time and weather were identified as physical activity barriers in obese adults
14.	Ibrahim et al. (2013)	Cross-sectional, size=300	Physical activity barriers	Strong relationship found between Obesity and physical inactivity with $r =$ 0.713, $p < 0.001$ ).
15.	Ayeisah et al. (2013)	Cross-sectional, size=90	Physical inactivity	Causing social anxiety with $p < .01$ in obese persons Obesity and Low and moderate physical inactivity has connection
16.	Abdollahi & Talib, (2014)	Cross-sectional, size=207	Sedentary lifestyle, Low self esteem	95% women not happy because of their body image and perception
17.	Kabir et al., 2014	Cross-sectional, size=945	Physical inactivity	Promoting fast food, and Malay spent more time than Chinese and Indians
18.	Muda et al., 2015	Cross-sectional, size=421	Body image satisfaction	
19.	See Hoe Ng ., 2015	Cross-sectional, size=402	Media advertisement	

20.	NHMS Survey, 2015	size=30,548	Health literacy	Malay race found less health literacy than Chinese and Indians
21.	Madiha, 2016	Cross-sectional study, size=588	Eating behavior	Significant association of eating behavior and obesity in Malaysian adults
22.	Abdullah et al. (2017)	size=280	Religious knowledge and practices	Less religious knowledge and practices in Muslim Malay community causes the issue of obesity and illness

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