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Original Article

Fitness consequences of dietary patterns and consumption in young girls

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Abstract

The investigation of usual dietary patterns are of physiological significance including carbohydrate rich diet, caffeine consumption, protein intake specifically red and white meat along with intake of dietary supplements, milk and juices utilization as they have known to effect BMI and body fat distribution of those with increasing body weight, underweight and normal weight. The study was carried out on 435 university girls aged between 18 to 25 Years, we used the multiple logistic to investigate the relationship of dietary habits, family history, BMI, waist-hip ratio and body fat distribution. The result showed that there is no direct relation of body mass with dietary habits as the Girls with BMI <18 found to take the diet characterized by decrease consumption of good diet (milk, juices, egg, mineral supplements) and increase consumption of bad diet (junk food, fried and oil rich food), while girls with > 23 considered as overweight found diet conscious and were taking healthy diet. The association of these dietary patterns with raised body fat distribution, BMI and hip to waist ratio may specify the risk of developing health maladies but we conclude that in our population the lean girls are taking more junk food and are prone to various diseases more than the obese. We recommend that these unhealthy dietary patterns should be avoided as they may be a silent cause of many health issues.

Keywords

Dietary, Fitness, BMI, vitamins, overweight

Introduction

Since 1971 till now rate of prevalence of Childhood obesity has reached epidemic levels in developed countries. In the US, 11% are obese children and 25% are overweight. In adults, about 70% of obese adolescents grow up to become obese adults. In some European countries such as the Scandinavian countries the prevalence of childhood obesity is minor as compared with Mediterranean countries; however, the proportion of obese children is rising in both cases. However, we have also seen its high prevalence in developing countries as well. The prevalence of childhood obesity is high in the Middle East, Central and Eastern Europe. In Saudi Arabia, one in every six children aged 6 to 18 years old is obese. In addition, in both developed and developing countries there are proportionately more girls overweight than boys, particularly among adolescent. (Kate, 2010 & Clifton, 1992). Studies suggest that South Asians follow varying dietary patterns. There are those that intake high protein diets, meat, some depend more on fried snacks while many do follow a vegetarian diet and go for vegetables and legumes (Gadgil, 2015).

Obesity is the result of a chronic imbalance, with energy intake exceeding expenditure. (PK Newby, 2003) An excess of Body Fat (BF) is also defined by the term called obesity or overweight. It has changed over time. The Center for Disease Control and Prevention defined overweight as at or above the 95th percentile of BMI for age and "at risk for overweight" as between 85th to 95th percentile of BMI for age. According to the European researcher's categorization overweight as at or above 85th percentile and obesity as at or above 95th percentile of BMI. (Kate, 2010).

As it is confirmed that obesity occurs when energy intake exceeds energy expenditure but mechanism of obesity development is fully not understood. For this imbalance there are number of etiologies. For this reason, the rising commonness of obesity cannot be addressed by a solo etiology. (Kate, 2010) First and the major factor which induces obesity is the genetic factors. It influences the vulnerability of a given child to an obesity-conducive situation. Though, other factors seem to play a key role are like environmental, lifestyle preferences, and cultural environment in the growing of obesity wide-reaching (Majeed, 2015). Some cases in which, childhood obesity is due to genes such as leptin deficiency or medical causes such as hypothyroidism and growth hormone deficiency or side effects due to drugs for e.g. – steroids (Kate, 2010). Parents provide children with both genes and environments, so it is not surprising that there are strong family resemblances in adiposity (Moria, 2004) On the other hand, behavior genetic analyses reveal substantial genetic influence on adiposity. (PK Newby, 2003).

The family environment plays a vital role in shaping their eating and activity patterns for children. (PK Newby, 2003) In number of studies, involving girls and their parents, find out those parents' obesity-related behaviors, including their dietary intake and

physical activity behaviors, aggregate within and across family members. While those mothers and fathers also reported low level of physical activity that shows poor dietary patterns. (PK Newby, 2003) So earlier work that indicates that parents' eating and activity behaviors clustered within families to create obesogenic vs. non-obesogenic family environments. (PK Newby, 2003)

Evidence of other environmental or behavior factors including the percentage of energy from fat in the diet and physical activity, in explaining unpredictability in adiposity or weight status. (PK, Newby, 2003) Not enough supporting evidence for such phenomenon, although overweight and obesity are assumed to be consequences of increase in caloric intake. (Kate, 2010).

The perception of 'food' over the last decades has changed from a means of nourishment to a marker of lifestyle and a source of pleasure. Clearly, increases in physical activity are not expected to counterbalance an energy rich, poor nutritive diet. It takes between 1–2 hours of extremely vigorous activity to counteract a single large-sized (about greater or equal to 785 kcal) children's meal at a fast food restaurant. The average child or adult frequent consumption of such a diet can barely be counteracted. (Kate, 2010) Different contradictory results of longitudinal and cross sectional studies have been claimed for many years that increase in high fat intake also increases in pediatric obesity. Fat eaten in excess leads to obesity, there is not strong confirmation that fat intake is the principal reason for the rising trend of childhood obesity. While some other cross-sectional studies have found a positive relationship between fat intake and adiposity is still a puzzling factor in children even after controlling. (Kate, 2010) Gregory et al. reported that in the UK the average fat intake of children aged 4–18 years is close to the government suggestion of 35% energy. (Kate, 2010).

Too much calorie intake in the form of a number of macronutrients has been related with weight gain. (Clifton, 1992) Evidence suggesting that increasing dairy intake by about two servings per day could reduce the risk of overweight by up to 70%. Longitudinal studied showed that higher calcium intake and more dairy servings per day were associated with reduced adiposity in children. Reporting in few data that the relation between calcium or dairy intake and obesity among children. (Kate, 2010) Several studies showed that the energy intake from sugar-sweetened carbonated beverages (SSCB) relation with the major fraction of total calories intake in Youngers and consumptions promoting obesity. Poor diet quality and fast food consumption associated with Sucrose, fructose and glucose-sweetened beverage intake. (Kate, 2010) SSCB drinking correlates with poor dietary choices for instance fast food meals, savory snacks, and ice cream desserts in both males and females. (Clifton, 1992)

Consumption of soda instead of milk would end result in elevated intake of total energy, it cannot be accomplished definitively that sugar containing soft drinks support weight gain because they displace dairy products. (Kate, 2010). On the other hand, in both genders the consumption of milk was inversely associated with BMI and positively associated with fruit, vegetable, dates, eggs and cheese intake. SSCB and fast food meal intake may be significant factors in evaluating the link between overall dietary intake and dietary choices in the adolescent population. (Clifton, 1992) One of the recent studies of nutrient intake in British schoolchildren revealed that calcium intakes in teenage girls are low in comparison with suggested levels. (Joanna, 1997)

Dietary changes in male and female: relative amount of energy consumption Intakes of vitamins C and A, calcium, magnesium and potassium, were lesser in men than women, while sodium intake was considerably higher in men. (Milligan, 1998) Ease foods were the greatest contributors to sodium intake (27% in men, 22% in women) followed by bread, meat, sauces and soups. Larger consumption of fruit, vegetables, cereals, and low-fat foods in young women of higher SES (social economics status) was reflected in their nutrient profile with higher intake of fiber and vitamin C and lower intake of fat. Men are more cereals, meat and sugary foods and less fruit, vegetables and low-fat foods. Only 2.5% of men and 4.1% of women conformed to the health promotion message, widely publicized locally, to eat two fruits and five vegetables daily. (Milligan, 1998) In both gender not eating breakfast was associated with lower calcium intake and lower iron and fiber intake in women. In young adults achieving behavioral changes must take into account differences in dietary behavior related to gender and SES. (Milligan, 1998)

It has been hypothesized in all age group that a steady decline in physical activity has heavily contributed to growing rates of obesity around the world. Several studies have shown that inactive behaviors like playing computer games and watching television are linked with increased occurrence of obesity. It is not surprising that overweight children be likely to have overweight parents and are themselves more likely to grow into overweight adults than normal weight children. In response to the major impact that the

cultural environment of a child has on his/her daily choices, promoting a more active lifestyle has wide range of health benefits and minimal risk, making it a promising public health recommendation. (Kate, 2010).

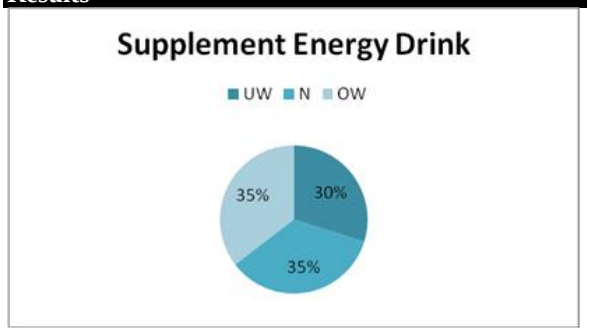
In childhood obesity and overweight have bad effect on psychological and physical health. It causes risk factor of hypertension, glucose tolerance, hyperlipidaemia, infertility, and certain types of cancers, respiratory difficulties, and musculoskeletal disorders. Obesity also related with increase in wrist circumference that interrelated with the risk factor of insulin resistance and metabolic syndrome. (Kate, 2010 & Clifton, 1992) On the other hand it causes depression type psychological disorders. Children with overweight are on the risk factor of digestive and cardiovascular diseases in their fourteens and fifty five and die from any reason when compared with the lean one. (Kate, 2010) It was also reported that in both children and adults increase in body mass index (BMI) great chance of occurrence of asthma. Intake of fresh seafood, vegetable and fruit has positive association with the decrease of BMI and asthma symptoms. (Soo Jong, 2006)

It was reported in recent studies that were on nutrient intake British schoolchildren and discovered calcium in teen girls is relatively low as compared with the suggested levels. They concluded that this age group may insufficient calcium intake meet the demands of rapid skeletal growth. (Joanna, 1997) Dramatically increased in obesity and overweight in the last two decades throughout the world was one of the major considerations in industrialized countries and have impact on the people living in developing countries at very high growth rates (Clifton, 1992).

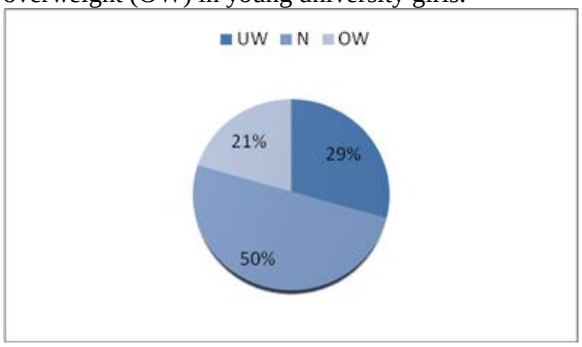
Methodology

The study was carried out on 435 university girls aged between 18 to 25 Years, we used the multiple logistic to investigate the relationship of dietary habits, family history, BMI, waist-hip ratio and body fat distribution. The result showed that there is no direct relation of body mass with dietary habits as the Girls with BMI <18 found to take the diet characterized by decrease consumption of good diet (milk, juices, egg, mineral supplements) and increase consumption of bad diet (junk food, fried and oil rich food), while girls with > 23 considered as overweight found diet conscious and were taking healthy diet.

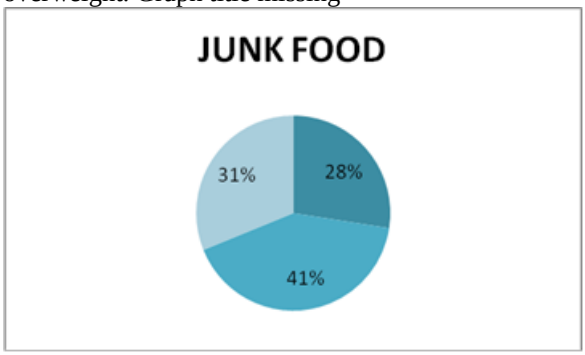
Results



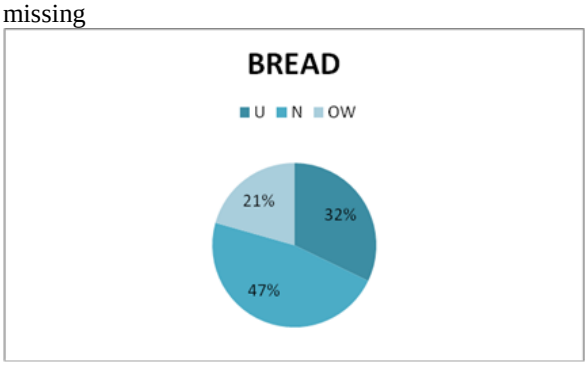
Figure#1 shows intake of supplement energy drinks among underweight (UW), Normal (N), and overweight (OW) in young university girls.



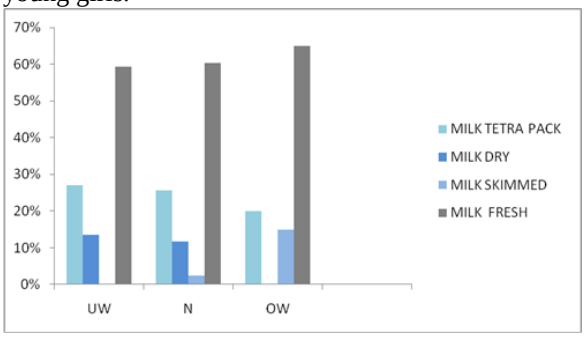
Figure#2 shows the daily intake of egg in young girl's comparison among underweight, normal and overweight. Graph title missing



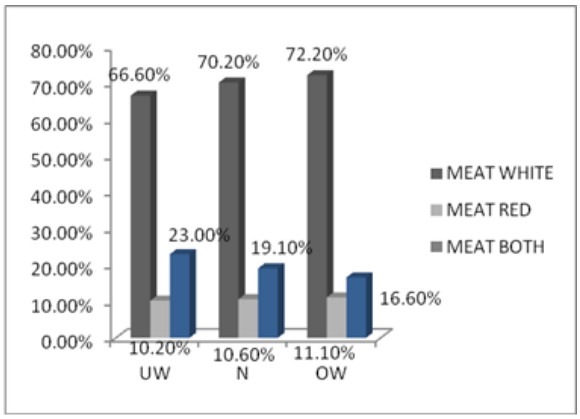
Figure#3 representation of young girls who take junk food and the respondent were divides into underweight, normal, overweight. Graph symbols missing



Figure#4 the graph is the representative of utilization of bread in underweight, normal and overweight young girls.



Figure#5 shows that consumption of milk in underweight (UW), normal (N) and overweight (OW) young girls in variant forms like tetra pack, fresh, dry and skimmed milk.



Figure#6 shows the dependence of white and rad meat in young girl's categories as underweight, normal, overweight to fulfil their protein requirement.

Discussion

We found that intake of energy drinks is higher in girls having normal body mass index as compare to obese girls whereas underweight girls showed minimum intake of energy drinks this indicate that consuming diet that high in fruit or energy could not lead a significant increase in BMI (Joel, 1998). Reason of insignificant change might be this that energy drinks only help to boost body rather than raise BMI. The eggs have significant amount of cholesterol in egg yolk but it was observed that consumption of egg is lower in obese girl and higher in normal furthermore underweight girls showed average intake of eggs that means eggs do not take place in order to increase body fat. Utilization of junk food and bread is also observed higher in normal, medium in obese and lower in underweight women shows that protein diet has no considerable impact on obesity whether consumption of fresh milk is higher in all girls as compare to tetra, skimmed and dry milk furthermore obese girl use more milk. Higher intake of meat specially white meat was observed in obese girls. Overall result shows that food intake factors could not consistently envisage changes in BMI or obesity development whether Age factor may also play key role in increment of body fat distribution (Huon, 2000) Whether specific pattern of food consumption may be associated with obesity (Kirsten, 2008). The lean girls are taking more junk food and are prone to various diseases more than the obese (Mahshid, 2005).

Conclusion

No significant relationship was found between increase BMI and the outcome of the present study provide further evidence that it is not the foods consumed as in our population the overweight girls have gain weight mainly due to history of obesity and it is also observed that from very young age these females are anxious about body weight and place lofty value on façade, which is spectacularly increasing day by day influenced by various social aspects. The association of these dietary pattern with rise body fat distribution, BMI and hip to waist ratio may specify the risk of developing health maladies. But we conclude in our population lean girls are taking more junk food. We recommend that these unhealthy dietary patterns should be avoided as they may be a silent cause of many health issues.

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Ethical clearance

Ethical approval was obtained from Institution Review Board of AEIRC.

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Conflict of Interest

Authors declare no conflict of interest.

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