Original Article

A STUDY ON OBESITY IN RELATION TO SOCIO - ECONOMIC STATUS IN MEN AND WOMEN

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ABSTRACT

Introduction: Obesity now a day's considered an epidemic earlier was considered a disease of western world, and highly affluent society. But now days it is seen more in low socio economic group also.

Objective: To investigate obesity in relation to socio economic status inmen & women in Indians.

Methods: We reviewed data from a health check up program of workers at Municipal Corporationworking as sweeperswhich was done at SAIMS Medical CollegeIndore and executives coming for routine health check up. Data was pooled, and was used to compare ratio of obesity and socio economic status.

Results: Obesity was observed more in men & women of low socio economic status as compared to high socioeconomic status, and in the same low socioeconomic group it was observed more in women.

Conclusion: Higher education and high socio economic status were associated with low risk of obesity in men & women, where as higher occupation status was associated with lower riskof obesity. It has been shown in some studies that the group having low socio economic status had increased risk of obesity

Keywords: BMI, Socio-economic status, Obesity, Sex

INTRODUCTION

In recent years there is extensive work being done on obesity which is now considered as epidemic. Earlier obesity was considered a disease of western world, and highly affluent society, but nowdays it is seen more in low socio economic group also.[1]

Socio economic status is most often measured as one of these indicators, income, occupation status and education.[2] Income primarily affects the ability to buy food and do physical exercises. Low status jobs are also having less autonomy, which make it difficult to spare and manage time for healthy life style, but in males it involves more physical activity in low occupation than high occupation which protect them from obesity.[3] Education is the third commonly used indicator and is associated with knowledge and beliefs. Mirowksy and Ross[4] have suggested that education enable people to apply healthy lifestyle and even pass it to their children.

As these all 3 variables namely education, occupation and socioeconomic status operate in different ways. The relationship between sex and Socio economic status and obesity may vary according to index used. An US study[5] compared education, income and occupation in predicting risk of cardio vascular diseases. In finland, Sarlio-lahteenkorva and lahelma[6] found sex differences in relationship between various measure of SES and obesity. WHO'S MONICA

(monitoring trends and determinants in CVD) project showed association between educational level and obesity was stronger among women than man. [7]

In present study we examined the association of obesity with socioeconomic status

METHODS

We retrospectively reviewed data from health checkup program of workers employed at Municipal Corporationof low socioeconomic status and another data from an urban center where the executives came for routine health checkup program. We included 200 persons each of having high socioeconomic status and low socioeconomic status

Adults more than 18 yrs were included; their height in meters, weight in Kg and BMI was calculated. Pregnant females were excluded; persons suffering from chronic illness were excluded from the study

Measurements

To measure weight electronic weighing machines were used. All participants advised to remove shoes and heavy garments. Body Mass Index (BMI) was calculated by formula wt (kg)/ht (mt2) and obesity defined as BMI of 30 or more

Indicators of socio-economic status were primarily based on occupation. Occupation status was coded as per national classification of occupation 2004 India.

Division 1 to 10 aredefined, we included division 1 as high socioeconomic status which includes executives and division 9 as low socioeconomic status which includes sweepers. As an indicator of income they were categorized as per their occupation. Their occupation indirectly indicated their income. Age was noted and grouped in 10 yr segments. Statistical analysis was doneusing chi square method, where we observed.

RESULTS

In our study we observed obesity in 23 persons (11.5%) in high socio economic group, while 30 persons (15 %) were obese in low socioeconomic group.

In high socioeconomic group we had 13 (8.22%) male were obese while10 (23.80%) of obese female were seen

In low socioeconomic group14 (13.08%) males were obese and 16(17.20%) females were obese

When we applied statistical formulas for its significance ,Significant interaction effects were found between sex and occupational status , p value of 0.199 was observed in male with obesity in high socioeconomic group and low socioeconomic group and p value of 0.516 was observed in female with obesity in high socioeconomic group and low socioeconomic group.

Table: 1 -Obesity in relation to Socio Economic status (SES) and sex

	Total	Obese (%)	P Value
Socio Economic Status			
High SES	200	23 (11.50)	0.30
Low SES	200	30 (15.00)	
High SES			
Male	158	13 (8.22)	0.004
Female	42	10 (23.80)	
Low SES			
Male	107	14 (13.08)	0.416
Female	93	16 (17.20)	
Male			
High SES	158	13 (8.22)	0.199
Low SES	107	14 (13.08)	
Female			
High SES	42	10 (23.08)	0.516
Low SES	93	16 (17.20)	

DISCUSSION

Our Data showed differences in the ways in which, occupational status, and economic status are associated with obesity. Men and women who had low socio economic status were more likely to be obese than were those with high occupation group, analyses showed that this effect was similar in men and women, This observation is in line with results of other studies conducted in the United States [8,9] , Sweden [10] , and Finland[11] showing similar linear associations between education and obesity.

By contrast, the association between occupational status and obesity differed between men and women, as has also been found in the United States.[12] Among women, lower occupational status was associated with an increased risk of obesity

Economic predictors of obesity have attracted the least attention in the literature, with some studies revealing an association between low

income and obesity (but not in multivariate analyses) [6] and others indicating less clear-cut patterns. [8,9,12]

The present results could be considered informative about the mechanisms through which SES might influence obesity. And also the group of LSE we included was sweepers; some bioaeresol exposure has been linked to increased prevalence of obesity.

The male–female differences in relation to occupational status are important and might have a number of different explanations. Lower occupational status is associated with restrictions in time and opportunity to make healthy eating and activity choices as well as with higher levels of work stress, either of which could affect obesity risk, [13] but further research is necessary to determine whether these processes could account for the sex difference in risk. It has been shown that people in higher occupational status groups are more concerned about body shape and engage in more efforts to lose weight, [14] perhaps reflecting shared beliefs about the unacceptability of obesity; although there are sex differences in level of weight concern, however, the occupational gradient is similar in men and women.

Manual occupations tend to be more physically demanding, especially for men. These higher activity jobs could contribute to prevention of weight gain among men in manual occupations. Alternatively, reverse causation could be in operation, such that female obesity is more discouraged than is male obesity in higher-SES occupations.

Without a direct measure of income, it is difficult to be precise about the effect of income on obesity risk, but it does appear that economic deprivation is associated with an increased risk of being obese. There is a good but comparatively little research on the effects of poverty on food choices, and it is important to note that any such effects appear to function independently of the effects of education and occupational status.

In view of the well-established differences in the patterns of obesity and SES in developed as compared with developing countries,[1] our results can be generalized only to industrialized nations similar to England. The present findings are somewhat limited by the lack of a direct measure of income, although the economic markers used provided a good indication of income and wealth. Because of the size and representativeness of the sample, the use of measured rather than self-reported heights and weights, and the inclusion of potentially confounding variables in multivariate analyses, the observed pattern of obesity by SES and sex can confidently be assumed to reflect true patterns in many Western societies.

Education is one of the SES variables which are most amenable to change. Other studies have demonstrated the importance of educational level in predicting weight-related behaviors,diet [15] and physical activity [16] and have suggested that knowledge might play an important role in a range of health-related behaviors. Although many other mechanisms are likely to be involved, these results suggest that raising levels of understanding of the diet and activity choices that might protect against weight gain could make a substantial contribution toward tackling the public health problem of obesity. Targeting education interventions to lower-SES groups could also assist in reducing the increasingly wide inequalities in health

CONCLUSION

Higher education and high socio economic status were associated with low risk of obesity in men & women, where as higher occupation status was associated with lower risk of obesity. It has been shown in some studies that the group having low socio economic status had increased risk of obesity

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