

## Beliefs about Obesity among Parents, Peers and Teachers of Adolescents from Punjab, India

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**ABSTRACT** The present study was undertaken exclusively at Ludhiana city to assess the attitude of parents, peers and teachers of obese and non-obese adolescents about obesity. The sample consisted of 160 adolescents (between 13 to 19 years of age), their parents (mothers: 80 and fathers: 80), randomly selected classmates (n: 80) and teachers (n: 40). Half of the sample (n: 80) consisted of randomly selected normal-weight adolescents, equally distributed over the two sexes (girls: 40 and boys: 40). The other half of the sample consisted of obese adolescents (n: 80), distributed equally over the two sexes (girls: 40 and boys: 40). Beliefs were evaluated by administering a scale prepared by Rudd Institute, Yale University (2004). The belief pattern common to all the four groups of respondents included was that obesity is caused by those factors (*psychological and biological reasons*) which are not under control of an obese individual. The causative factors of obesity that involve self-control (*life style reasons*) were voted for by relatively less number of respondents. The belief pattern tends to convey that to be an obese is due to the reasons not under the control of the individual and hence the individual cannot be held responsible for it.

### INTRODUCTION

Under weight and overweight conditions co-exist in India for numerous reasons. Both the conditions are associated with a large number of debilitating and life threatening disorders. The term "Obese" and "Overweight" are used often, interchangeably. Technically "Obesity" is the upper end of "Overweight". Obesity is clinically diagnosed as greater than 90<sup>th</sup> percentile (age and sex specific) for weight for height. The national statistics of prevalence of overweight among children and adolescents is not available. There are studies that report prevalence of overweight/obesity among children and adolescents by socio-economic status and location (Ramachandran 2002; Geetha 2003; Kapil et al. 2002; Ramnath 2002; Popkin 2003; Mudur 2003; Mishra and Vikram 2006; Sharma et al. 2006; Unnithan and Syamakumari 2009). It is evident from these studies that the problem of overweight among children and adolescents dominantly belongs to the upper-middle and middle socio-economic strata and is mostly confined to the urban settings though rural areas are not completely de-

void of it. On the other hand, the problem of overweight has become almost like an epidemic among urban poor in the western world ( Benjamin 2001). The prevalence rates for overweight and obese people are different in each region. The Middle East, Central and Eastern Europe and North America showed higher prevalence rates (James 2004). Both the situations could be attributed to various different and/or similar reasons. However, both call for necessary, successful intervention models to ameliorate the existing world-wide overweight scenario.

Intervention models and strategies need to be designed for helping communities for successful prevention and cure of this condition. In this context, it is imperative to explore the cultural beliefs of a community for whom the intervention is being designed. The idea is to focus on what the community strongly believes about the excess weight condition. This exercise is desirable since beliefs are, indeed, powerful forces that affect our health and capacity to deal with psycho-social situations. Beliefs when challenged usually produce behavioral reactions and actually produce changes in the endocrine system. Therefore, it underscores the task of focusing on those belief patterns which could be intervened without inviting undue rejections from the community.

Being sensitive to the belief patterns (concerning overweight) of those people, who constitute

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intimate environment of adolescents, could help in designing effective intervention programmes at family and school level. Such interventions imbedded in the belief patterns can help overweight adolescents to make an important difference in their health outcomes. The present study is an attempt in this direction and aims to explore the beliefs about obesity among the parents, peers and teachers of adolescents (13 to 19 years old) from the Ludhiana city of Punjab, India.

### METHODOLOGY

The subjects for the present study were drawn from classes VIII to XII of randomly selected ten Public Schools of Ludhiana city so as to control socio-economic (middle/upper middle) status. The sample consisted of 160 adolescents (between 13 to 19 years of age), their parents (mothers: 80 and fathers: 80), randomly selected peers (n: 80) and teachers (n: 40). Half of the adolescents' sample (n: 80) consisted of randomly selected normal weight adolescents, equally distributed over the two sexes (girls: 40 and boys: 40). The other half of the sample consisted of obese adolescents (n=80), distributed equally over the two sexes (girls: 40 and boys: 40). The sample was evenly distributed by age and sex. The normal-weight adolescents had their Body Mass Index (BMI) ranging between 18.5-22.9, whereas, obese adolescents had their BMI range from 27.5 to  $e^{*}40$  (Garrow et al. 2000). Both types of adolescents had siblings and both parents alive and they lived with their family of origin.

Socio-economic status scale by Bharadwaj (1971) was used to ascertain the socio-economic status of the respondents. The questionnaire prepared by the Rudd Institute at Yale University (2004) was used to assess the beliefs of parents, peers and teachers about overweight/obesity. Each subject was measured for his/her weight and height following standard methods as given by Jelliffe (1966) for calculation of Body Mass Index (BMI).

### RESULTS

Most of the boys' fathers were post graduates (obese= 47.5%, normal= 35%) followed by graduates and senior secondary passed. Fathers of obese girls were mostly graduates (37.5%) or

post graduates (37.5%) and those of normal girls were senior secondary pass (32.5%), followed by graduates (25%) and post graduate (25%). No father was reported to be under matriculation. More of the mothers were matriculates, senior secondary passed or graduates. Only two mothers in the sample were under matriculation.

Table 1 shows the belief patterns about obesity of parents, peers and teachers of obese and normal-weight adolescent boys and girls expressed as their percentage distribution as per belief categories described below:

#### *I-Biological*

Majority of mothers (77.5% of boys and 92.5% of girls) and fathers (92.5% of boys and 72.5% of girls) of normal-weight adolescents believed that obesity is a biological disorder. Relatively much lesser percentage of mothers (45% of both obese boys and girls) and fathers (22.5% of obese boys and 55% of obese girls) of obese adolescents believed that obesity is a result of a biological disorder. Among all groups of family associates, highest percentage of fathers (77.5%) of obese adolescent boys did not believe that obesity is due to a biological disorder. On the other hand, all teachers (100%) agreed that obesity is a biological disorder and majority of peers (67.5%) also believed it to be so.

#### *II-Psychological*

Majority of mothers of both normal-weight adolescent boys (87.5%) and girls (70%) as well as those of obese adolescents (85% of obese boys and 87.5% of obese girls) believed that obesity occurs when eating is used as form of compensation for lack of love or attention. This belief of mothers was endorsed by majority of peers (85%) and a matching percentage of fathers of both normal-weight and obese adolescent boys and girls. However, only 47.5% of teachers believed so. Hence, unlike teachers, majority of both parents of normal-weight and obese adolescents of both sexes and peers believed that lack of love or attention triggers a compensating psychological response to eating and thus causing obesity.

A large percentage of mothers (77.5%) and all fathers (100%) of normal-weight adolescent boys believed that obesity is rarely caused by

**Table 1: Belief patterns towards obesity of parents, peers and teachers of obese and normal-weight teenage boys and girls expressed as their percentage distribution as per belief categories**

Belief categories	Family associates								Extra family associates	
	Mothers				Fathers				Peers and teachers	
	Agree Percentage		Disagree Percentage		Agree Percentage		Disagree Percentage		Agree Percentage	Disagree Percentage
<i>I-Biological</i>	MOB: 45	MOG: 45	MOB: 55.0	MOG: 55.0	FOB: 22.5	FNG: 72.5	FOB: 77.5	FOG: 55.0	P: 67.5	P: 32.5
In many cases, obesity is the result of a biological disorder	MNB: 77.5	MNG: 92.5	MNB: 22.5	MNG: 7.5	FNB: 92.5	FOG: 55.0	FNB: 7.5	FNG: 27.5	T: 100	T: 0
<i>II-Psychological</i>	MOB: 85	MOG: 87.5	MOB: 15.0	MOG: 12.5	FOB: 82.5	FOG: 72.5	FOB: 17.5	FOG: 27.5	P: 85	P: 15
i) Obesity often occurs when eating is used as a form of compensation for lack of love or attention	MNB: 87.5	MNG: 70	MNB: 12.5	MNG: 30	FNB: 97.5	FNG: 80	FNB: 2.5	FNG: 20	T: 47.5	T: 52.5
ii) Obesity is rarely caused by a lack of willpower	MOB: 47.5	MOG: 52.5	MOB: 52.5	MOG: 47.5	FOB: 47.5	FOG: 62.5	FOB: 52.5	FOG: 37.5	P: 57.5	P: 42.5
iii) People can be addicted to food, just as others are addicted to drugs, and these people usually become obese	MNB: 77.5	MNG: 45	MNB: 22.5	MNG: 55	FNB: 100	FNG: 70	FNB: 0	FNG: 30	T: 45	T: 55
<i>III-Life style</i>	MOB: 35	MOG: 50	MOB: 65	MOG: 50	FOB: 47.5	FOG: 60	FOB: 52.5	FOG: 40	P: 60	P: 40
i) Obesity is usually caused by overeating	MNB: 37.5	MNG: 17.5	MNB: 62.5	MNG: 82.5	FNB: 37.5	FNG: 77.5	FNB: 62.5	FNG: 22.5	T: 75	T: 25
ii) Most obese people cause their problem by not getting enough exercise	MOB: 5	MOG: 2.5	MOB: 95	MOG: 97.5	FOB: 17.5	FOG: 12.5	FOB: 82.5	FOG: 87.5	P: 13.75	P: 86.25
iii) Most obese people eat more than non obese people	MNB: 70	MNG: 7.5	MNB: 30	MNG: 92.5	FNB: 27.5	FNG: 22.5	FNB: 72.5	FNG: 77.5	T: 25	T: 75
iv) Majority of obese people have poor eating habits that lead to their obesity	MOB: 37.5	MOG: 22.5	MOB: 62.5	MOG: 72.5	FOB: 45	FOG: 37.5	FOB: 55	FOG: 62.5	P: 28.75	P: 71.25
	MNB: 75	MNG: 7.5	MNB: 25	MNG: 92.5	FNB: 5	FNG: 57.5	FNB: 95	FNG: 42.5	T: 20	T: 80
	MOB: 47.5	MOG: 25	MOB: 52.5	MOG: 75	FOB: 60	FOG: 47.5	FOB: 40	FOG: 52.5	P: 36.25	P: 63.75
	MNB: 75	MNG: 27.5	MNB: 25	MNG: 72.5	FNB: 47.5	FNG: 12.5	FNB: 52.5	FNG: 87.5	T: 57.5	T: 42.5
	MOB: 45.0	MOG: 15	MOB: 55.0	MOG: 85	FOB: 62.5	FOG: 17.5	FOB: 47.5	FOG: 82.5	P: 43.75	P: 56.25
	MNB: 72.5	MNG: 15	MNB: 27.5	MNG: 85	FNB: 45	FNG: 42.5	FNB: 55	FNG: 57.5	T: 30	T: 70

MOB: mothers of obese boys; MNB: mothers of normal-weight boys; FOB: fathers of obese boys; FNB: fathers of normal-weight boys; MOG: mothers of obese girls; MNG: mothers of normal-weight girls; FOG: fathers of obese girls; FNG: fathers of normal-weight girls  
P: normal-weight peers of obese teenagers; T: teachers of obese teenagers

lack of will power. Same was the belief held by majority of fathers of normal-weight (70%) and obese (62.5%) adolescent girls. Relatively much lesser percentage of mothers of obese boys (47.5%) and girls (52.5%) and fathers of obese boys (47.5%), peers (57.5%) and teachers (45%) attributed obesity to a lack of willpower. Thus, lack of will power was believed to be the rare cause of obesity by majority of parents of normal-weight adolescents whereas lesser number of parents of obese adolescents, peers and teachers believed it to be so.

A low percentage of mothers (35%) and fathers of obese boys (47.5%), mothers of normal-weight boys (37.5%) and girls (17.5%), fathers of normal-weight boys (37.5%) believed that people could be addicted to food, just as others are addicted to drugs and these people usually become obese. A larger proportion of fathers of obese girls (60%) and normal-weight girls (77.5%) and 50% of mothers of obese girls, majority of peers (60%) and teachers (75%), however, believed that obese people could be addicted to food. Thus majority of parents of obese girls, peers and teachers attributed obesity to addiction to food.

### III-Life Style

Only 5% and 2.5% of mothers of obese adolescent boys and girls and 7.5% mothers of normal-weight girls believed that obesity is usually caused by overeating. Similarly, a low percentage of fathers of obese boys (17.5%) and girls (12.5%) as well as those of normal-weight boys (27.5%) and girls (22.5%) believed that overeating leads to obesity. Only 13.75% of peers and 25% of teachers endorsed to this belief. Interestingly majority of family and extra family associates believed that overeating does not cause obesity.

A relatively low percentage of mothers of obese boys (37.5%) and girls (22.5%) as well as fathers (45% of obese boys and 37.5% of obese girls) believed that the cause of the problem for most obese people was not getting enough exercise. A very low percentage of mothers of normal girls (7.5%) and fathers of normal-weight boys (5%) believed lack of exercise as a cause of obesity. Similarly, lesser proportion of peers (28.75%) and teachers (20%) endorsed to this belief. It is a matter of great concern that a large proportion of parents of both obese and normal-

weight adolescents of both sexes, peers and teachers disagree that obesity is caused by not getting enough exercise, so to say that exercise has no role in causing obesity.

Majority of mothers (75%) of normal-weight boys and fathers (60%) of obese girls believed that obese people eat more than non-obese people. A lower proportion of mothers of obese boys (47.5%) and girls (25%) and that of normal-weight girls (27.5%) believed that obese eat more than non-obese people. Equal percentage (47.5%) of fathers of normal-weight boys and obese girls, peers (36.25%) and teachers (57.5%) endorsed to the belief that obese eat more than non-obese. A very low percentage (12.5%) of fathers of normal-weight girls, however, held this belief. Thus, most of the family and extra family associates do not believe that most obese eat more than non-obese people.

A low and equal proportion of mothers (15%) of obese and normal-weight adolescent girls and 17.5% of fathers of obese girls believed that majority of obese people have poor eating habits that lead to their obesity. A larger proportion of mothers of normal-weight boys (72.5%) and fathers of obese boys (62.5%), however, held this belief. Mothers of obese boys (45%); fathers of normal-weight boys (45%) and girls (42.5%), peers (43.75%) and teachers (30%) believed that obese people have poor eating habits. These observations indicate that a sizable proportion of individuals being considered here do not believe that obese people have poor eating habits.

### DISCUSSION

The results elaborated above showed that comparable belief patterns could be observed in all the four groups (*normal weight peers of obese adolescents, parents of obese adolescents, teachers and parents of normal-weight adolescents*). Most of the peers and both parents of obese adolescents believed that obesity often occurs because of psychological reasons (*when eating is used as form of compensation for lack of love or attention*) and/or biological disorder. Biological disorder was also believed to be the cause of obesity by majority of teachers and fathers of normal adolescents. However, majority of mothers of normal adolescents believed that obesity occurs due to psychological reasons (*People can be addicted to food, just as others are addicted to drugs, and these people usually*

become obese). These similar results are supported by Story et al. (2002). They reported that the development of eating addiction is due to availability of and preference for particular foods, portion size, cultural values regarding food types and preparation, parents' beliefs and practices, mealtime structure, and feeding styles that influences the onset of obesity. Life style reasons (*overeating; eating more than non-obese people; not getting enough exercise and poor eating habits*) were agreed upon by relatively lesser proportion of respondents of various groups. There are other research reports which were reviewed by Patrick H and Nicklas T H (2003), showing that children catch poor eating habits and are more likely to eat foods that are available and easily accessible, and they tend to eat greater quantities when larger portions are provided that lead to obesity. Relatively much lesser proportions of peers and teachers as compared to parents of obese and normal weight adolescents believed that obesity could be attributed to poor life style.' In a study, Davis B and Carpenter C (2008) also found that physical inactivity of children is a serious cause and those who fail to engage in regular physical activity are at a greater risk of obesity. The belief pattern thus seems to vary, however, not significantly in quantity, quality and direction across these four groups. The important observation of this belief pattern that is common to all the four groups of respondents is that the obesity is believed to be caused by those factors (*psychological and biological reasons*), which are not under the control of an obese individual. The causative factors of obesity that involve self-control (*life style reasons*) were voted for by relatively less number of respondents. The belief pattern tends to convey that to be an obese is due to the reasons not under the control of the individual and hence the individual cannot be held responsible for it. And such a belief pattern intends to evaluate overweight positively and therefore, it is neither a social stigma and nor a matter of ridicule rather stands as a symbol of economic prosperity. These findings suggest that the solution to the overweight problem does not lie within the doctor's clinic. Rather, it requires intensive efforts by the healthcare programmes in creating awareness among parents and teachers about the health-risks of overweight so as to help adolescents to make

healthy choices for activity and food to either prevent or treat this condition.

## REFERENCES

- Benjamin D 2001. Prevalence of obesity in adults in France: The situation in 2000 established from the OBETPI study. *Ann Endocri*, 63:154-158.
- Bharadwaj RL 1971. *Social Economic Status Scale*. Agra: National Psychological Co.
- Davis B , Carpenter C 2008. Proximity of fast-food restaurant to schools and adolescent obesity. *Am J Pub Health*, 99(3): 505
- Garrow JS, James WPT , Ralph A 2000. *Human Nutrition and Dietetics*. New York: Churchill Livingstone.
- Geetha S 2003. *Prevalence of Obesity in High School Girls of Trivandrum District, Kerala*. M.Phil Thesis, Unpublished. Thrivandrum: Kerala University.
- James PT 2004. Obesity: The worldwide epidemic. *Clin Dermatol*, 22: 276-280.
- Jelliffe DB 1966. The assessment of nutritional status of the community. *Monograph Series No. 53*, Geneva: World Health Organization.
- Kapil U, Singh P, Pathak P, Dwivedi SN , Bhasin S 2002. Prevalence of obesity amongst affluent adolescent school children in Delhi. *Ind Pediatr*, 39: 449-452.
- Misra A , Vikram NK 2006. High prevalence of obesity and associated risk factors in urban children in India and Pakistan. *Diabetes Res Clin Pract*, 71: 101-102.
- Mudur G 2003. Obesity: *Preventing and Managing the Global Epidemic*. *BMJ*, 326(7388): 515. Geneva: World Health Organization.
- Patrick H , Nicklas T H 2003. A Review of Family and Social Determinants of Children's Eating Patterns and Diet Quality. *Paper presented at the 44<sup>th</sup> Annual Meeting of the American College of Nutrition* , Nashville, T N, October 9-12, 2003
- Popkin BM 2003. Assessment of contributing factors of obesity in Indian children. *Arch Pediatr Adol Med*, 157: 882-886.
- Ramachandran R 2002. *Prevalence of Obesity in Adolescent Children of Thiruvananthapuram District*. M Phil Thesis ,Unpublished. Thrivandrum: Kerala University.
- Ramnath 2002. The growing prevalence adolescent obesity in India. *Ind Paediatr*, 157: 35-42.
- Rudd Institute 2004. Resource for Researchers. Yale University. From <<http://www.yale.edu/rudd/links.html>> (Retrieved on January 2005).
- Sharma A, Sharma K, Mathur KP 2006. Growth pattern and prevalence of obesity in affluent school children of Delhi. *Pub Health Nutr*, 10: 485-491
- Story M, Neumark-Sztainer d, French S 2002. Individual and environmental influences on adolescent eating behaviors. *J Am Diet Assoc*, 102: 40-51
- Unnithan AG, Syamakumari S 2009. Prevalence of overweight, obesity and underweight among school going children in rural and urban areas of Thiruvananthapuram educational district, Kerala State (India). *Inter J Nutr Wellness*, 6