

# Weight Problems in Urban Indian Adolescents - Our Double Burden

Rahul Verma

International Baccalaureate Student, Cathedral and John Connon School

**Abstract:** *The aim of this study is to study weight related psychological and social issues that are impacting middle income Indian adolescents. This becomes relevant as the rise of weight problems is growing at an unprecedented pace, with nearly a quarter of this population classified overweight or obese by BMI. To study the psychological and other consequential impacts, three focus group discussions of seven people each, helped form clear hypothesis on societal attitudes and stigmatization towards adolescent weight issues, which were further explored and tested via a questionnaire that was administered to 200 school going adolescents in Mumbai and Delhi. Further, in depth one on one Interviews were conducted with the managements of certain schools as well to further validate the study and triangulate findings. The findings are as follows: 1. Weight issues lead to social stigma in adolescents: it's measurable and increases markedly in older adolescents. 2. Social stigma leads to inhibited behaviors and passive avoidance of the corrective behaviors required. 3. Response of schools and society to this matter is absent or insufficient and implicit and explicit bias is measurable. India has a well recognized "double burden" of malnutrition and weight related problems, two problems confronting Indian society simultaneously but in different socio economic categories. Our focus on malnutrition has worked wonders, we need to replicate that focus to tackle adolescent weight problems.*

**Keywords:** Overweight, adolescents, stigma, obesity, bias, India

## 1. Introduction

Worldwide the prevalence of overweight and obesity incidence has almost tripled since 1975, reaching 1.9 billion overweight and 600 million obese adults. In an estimation by WHO, it is predicted that around two-thirds of the global burden of disease will be accredited to chronic non communicable diseases, most of them strongly associated with diet and lifestyle. Developing countries experienced a more dramatic rise in the prevalence of obesity in recent decades. Surprisingly, more recently weight related problems are increasing in countries where hunger is still endemic, linked possibly to changing lifestyle and urbanization (Luhar, 2018). WHO also detected that there was higher risk of high blood pressure, heart disease, and type-2 diabetes at an earlier age among people who were undernourished in younger age and obese in adulthood.

India has shown a worrying pattern as evidenced by the national surveys, NFHS-4 (2015-16), NFHS-3 (2005-06) and NFHS-2 (1998-99). The prevalence of overweight/obesity incidence among men and women has **doubled** in the last two decades from NHFS-2 to NHFS-4. Developing countries like India carry a "double burden" of both under nutrition and over-weight/ obesity (WHO), with the latter increasing rapidly with urbanization and wealth creation while the former problem of malnutrition has improved though still is the subject of much greater public focus. We seem to be leapfrogging from the ills of malnutrition to those of weight related issues. Sample three facts (Bhat, 2017; National Family Health Survey (NFHS – 4 /3/2/1, Government of India, Ministry of Health and Family Welfare)

- India has the second highest absolute number of obese children in the world after China.
- At the same time, India has the highest number of moderately and severely underweight children and adolescents in the world.

- The NHFS 4 conducted in 2015-16 suggests that the proportion of overweight women in India at 20.7% is only 2 % lower than the proportion of underweight women. The trend among men is similar, with nearly one in five men overweight today, a sharp increase from NHFS2/3.

Previous reviews have (Durso et al., 2008; Phul et al., 2010) focused on the stigma and /or societal bias. This study seeks to extend these thoughts in the Indian context, seeks to study differences within the broader adolescents' category and to explore reasons for societal apathy in the Indian context, both quantitatively and qualitatively. Conscious effort has been in the study to triangulate findings across the FGDs, interviews and depth interviews of schoolsto string together a better understanding of the stigma and its consequences but also the societal/policy apathy to this issue in India.

## 2. Methodology of the Study

### 2.1 Design

The study, conducted in 2<sup>nd</sup> quarter 2019, started with the Design construction with 3 focus group (with varying profiles) of 7 people each, supplemented by in depth interviews with 3 school administrations. This helped formulate clear postulates to be tested which were then put under review via a questionnaire. The survey itself was administered by a questionnaire to 200 adolescents aged between 12 and 16 in mid to upper income schools in Delhi and Mumbai in June-July 2019 and draws upon secondary research (Lillis et al., 2012; Durso et al., 2008). The study at the outset calculates BMI for age, via information on height, weight and age sought as part of the questionnaire and slots respondents into overweight and not overweight basis with BMI – for – age, with 85% percentile and over being classified as overweight and over 95% being classified as obese. In addition to BMI the survey uses a 5 point Likert

scale to test for

- a) Awareness.
- b) Social stigma and its impact (Jason et al., 2012).
- c) Societal attitudes towards this issue from the respondents' perspectives (Puhl et al., 2007)

**Participants and Data Collection**

The initial participants the focus groups were divided into three categories of adolescents 12-13 years and 16 year old adolescents and the third group was of 7 parents of adolescent children. Post questionnaire construction, the survey was administered to 200 adolescent school going children with equal weightage between younger (12-13 years) and older adolescents (16 years). In depth interviews were collected as supplemental data from 4 teachers which included 2 Physical Education Teachers.

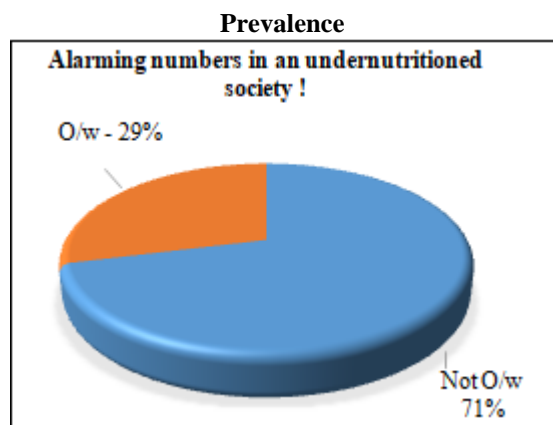
**Triangulation**

The three focus group discussions and the survey of the adolescents was followed by talking to school teachers to complete our understanding of the problem and hear all perspectives. Also it helped to triangulate the findings and correlating the responses. We found a high degree of validation between the responses across the groups though clearly the FGD and school management interviews were subjective and hence not statistical.

**Consistency checks**

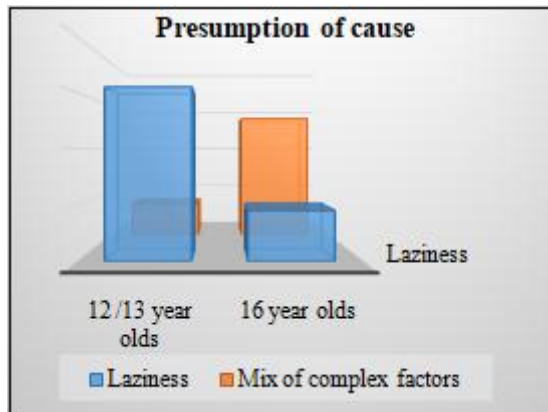
Cronbach's Alpha is an estimate of the reliability of a psychometric test. We calculated Alpha for the survey, also within sub categories of questions (social stigma, impact of social stigma, attitudes towards social stigma) and arrived at values ranging from 0.78 to 0.80, implying an acceptable level of consistency in the responses.

**3. Analysis and Discussion**



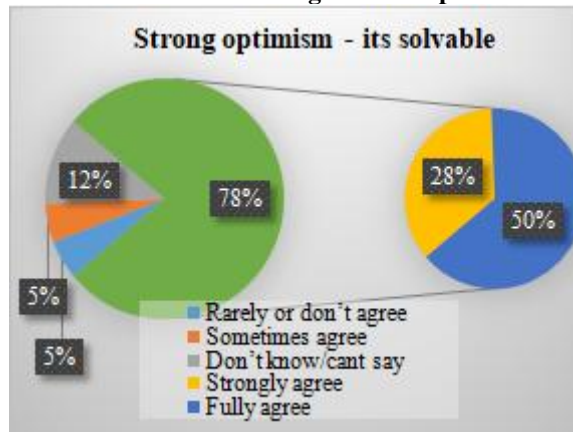
In this limited sample, a worrying trend was seen. Out of a total of 200 adolescents, overweight children - 85 percentile on the BMI for age chart - accounted for a worrying 29%, equally distributed across the survey age brackets. About 9% of the total sample could be classified as obese as per BMI for age classifications. This simple result shows us a mirror, and the image that reflects back is that of neo-affluent India, that suffers from a toxic combination of an inactive lifestyle, a carbohydrate heavy diet and as we will see below, poor societal sensitization of the psychosomatic impact of this malady.

Presumption of cause for weight related problems:



A key question on the cause of overweight people -lack of will/laziness (blue bar) versus diverse factors such as genetics, societal and lack of will (red bar) - produced a very dramatic reversal through the age brackets. I can only postulate, basis this result, that younger children echo the prejudices of their parents and families and older children have possibly gained more nuanced, sensitive independent views and demonstrate greater empathy to the causes. Basis this data, I believe that sensitization at an earlier age can yield important results to reduce the stigma, which we describe in the following passages. The clearest parallel that comes to my mind is the eradication of Diwali crackers which have reduced materially, through awareness and activism of school children against pollution.

Attitudes related to weight related problems:



**Optimism Index:**

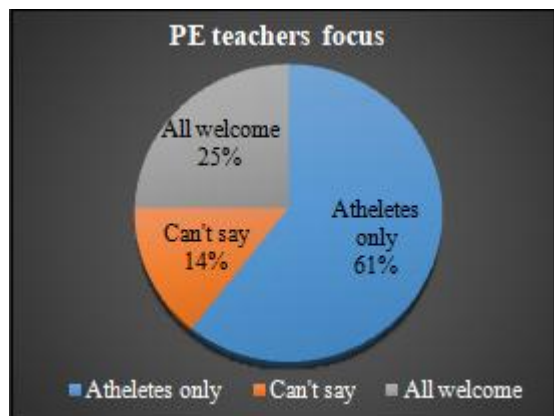
To the question, can overweight people cure their condition, there was an overwhelming sense of optimism that this can be done. Only 10% of respondents felt that this is not curable, 78% identified strongly with the statement that weight related problems can be cured through self-will.

**Social stigma**



Perceived social stigma was measured across 3 questions on the 5 point Likert scale and then averaged to get a composite rating. Social stigma is real and sensitivity to societal perceptions climbs rapidly in the adolescent period. This suggests that older adolescents have a more formed image of body image and societal stereotypes, hence the results are consistent with the intuitive expectation that the depth of sensitivity for older adolescents of social stigma will be higher.

Schools /educators have an important role to play in inculcating or freeing children from bias. While I believe explicit bias is less common, implicit bias may be widely prevalent. I tested this by asking respondents to opine on whether schools provided the necessary support system by asking whether PE was seen as a means of school glory for athletes OR a means for fitness all. While the response was not as unequivocal as expected, nevertheless a majority, i.e. 61% of students did say that PE was focused on athletes only. In my view, this does indicate implicit bias that significantly impedes the need to focus on broader health goals for all (Walter et al.2013).



4 b): The impact of social stigma

Perceived impact of social stigma –testing through questions for whether this inhibits the motivation for corrective steps like more exercise or diet control - was measured across 3 questions on the 5 point Likert scale and then averaged to get a composite rating.

The scores especially for older adolescents suggest a worrying agreement, almost by consensus, that social stigma leads to avoidance of activities that would help address weight problems and perhaps contrasts quite starkly with the optimism quotient above. It's like the rabbit frozen in fear in

the headlights of an approaching car, which knows what's coming and should know what to do but cannot take action.

#### 4. Key Conclusions

- 1) The survey indicated an alarming incidence of weight related issues in the respondent set with nearly 29% of the respondents overweight as per BMI for Age (Luhar et al., 2018; CDC.gov, 2018).
- 2) It was observed that “presumption of cause” for weight related problems differed markedly with age, with older adolescents showing much more sensitivity to ascribing other possible causes such as genetics, metabolic rate in addition to the universal association of weight with diet and lifestyle.
- 3) Stigma and bias against overweight people is real and is intuitively understood widely by all (overweight and underweight) though the extent of this “felt stigma” increases markedly, and worryingly, in older adolescents.
- 4) Interestingly, the survey found that differences in attitudes varied sharply between older and younger age brackets, but were remarkably consistent within the age bracket, independent of BMI, suggesting that young (non overweight) India was sensitive to their mates and aware of regressive societal attitudes despite the stereotyping.
- 5) An important observation conclusion was the feeling that PE teachers /schools too practice implicit discrimination by ignoring general health needs and focusing on athletes, instead of wider good (Walter et al.,2013).
- 6) Societal stigma is real and can be a powerful and debilitating factor in the treatment of what is often a lifelong condition.

The impact of social stigma seemed to manifest in what can be termed as “avoidance behavior” i.e. avoiding the actions to correct weight related issues given the social stigma, for instance its possible that Overweight kids are avoiding physical activity to avoid being made fun off and this avoidance behavior arises from stigmatization in schools and in society. Psychosocial and emotional problems of obesity generally act as “maintaining” factors of obesity and thus need to be part of any solution. (Gupta et al., 2018).

#### 5. Key Recommendations

- 1) The first step is to recognize and actively discuss it as a pressing problem which needs our attention. The large incidence of weight problems in adolescents of “middle India” calls for urgent, organized interventions, both by civil society (by families and more importantly, by schools) and by the government, before this becomes a national health emergency.
- 2) Secondary research indicated that we can learn from the successful actions of several governments for a multi-pronged attack on this problem (Vine et al.,2013). Equally there is a need for further research to improve health disparities as has been seen in different social classes in the developed world (Harvey et al.,2014). However, I believe that in a country of India's complexity, the best solutions lie in simplicity – in other words in the hands of their schools and children.



3) To conclude finally I would like to draw a parallel where public opinion, largely from school children, forced the hands of the policy makers and courts to restrict crackers at Diwali. What is needed here is a similar groundswell of public opinion from schools and civil society, and this article is a humble attempt at that.

## 6. Acknowledgments

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### Annexure:

#### The Questionnaire

Age : Gender : Height : Weight:

1. Which of the two statements comes **closest** to your view of obesity? Choose one option: [QA SPECIAL]

**A) Overweight/ Obesity is a lifestyle choice, resulting from eating and exercise habits**

**OR**

**B) Overweight / Obesity is a disease resulting from a combination of many different social, environmental and genetic factors.**

Scaled on a 5 point Likert scale (1-5),

1. Rarely or don't agree with the statement

2. Sometimes agree with the statement
3. Don't know/ Can't say
4. Often agree or associate with the statement
5. Strongly or always agree or associate with the statement

- 2) Overweight people are stereotyped in media and movies. [QSS1]
- 3) Teased or shamed or made fun of due to their weight issues in educational institutes [QSS2]
- 4) Left out of social activities or parties. [QSS3]
- 5) Overweight / obese people have caused their own weight problems. [QA1]
- 6) They are overweight because they did not have the self will. [QA2]
- 7) I believe overweight people can cure their condition with self-will. [QA3]
- 8) Weight related reasons are the root cause of serious diseases such as heart problems and diabetes [QAW1].
- 9) Weight bias against overweight people worsens their already poor eating behaviors. [QSSI1]
- 10) Weight bias against overweight people contributes to further avoidance of physical activity. [QSSI2]
- 11) If given an option to choose between subjects, physical education (PE) on one side and others options on the others (e.g. art, social service, computer science etc.), overweight children generally would avoid PE. [QSSI3]
- 12) PE teachers are focused on building strong school sports teams and not on general physical activity for all. [QSSISpecial]

Special questions – please tick the most appropriate options:

- 13) What % of adults in India are overweight /obese in your estimate (A):
  - a) <10%
  - b) 10-20%
  - c) 20-30%
- 14) Obesity / weight related problems are increasing at a rapid pace in India and is becoming a serious health issue. Y/N (A)
- 15) What % of children <16 years old are overweight/ obese in India (A):
  - a) <10%
  - b) 10-20%
  - c) 20-30%
- 16) India compared to the US is home to how many obese people (A)
  - a) Much Lesser
  - b) Equal
  - c) Much More

### Index:

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|-------------|------------------------------------|
| QA –        | Questions on Attitudes             |
| QSS[no]     | Question on Social Stigma          |
| QSSI[no]    | Question on Social Stigma's Impact |
| QSSISpecial | Question on implicit bias          |
| A[no]       | Question on awareness              |