RESEARCH PAPER — FOOD SCIENCE RESEARCH JOURNAL
e ISSN-2230-9403 ■ Visit us : *www.researchjournal.co.in*
Volume 7 | Issue 1 | April, 2016 | 70-73
DOI : 10.15740/HAS/FSRJ/7.1/70-73

Socio-economic profile of selected obese school going children

RAJKUMAR M. KAMBLE AND ANURADHA DUBEY

The present study was to assess the prevalence of obesity in school going children and their socio-economic status. The study was carried out in 1500 school going children of 6-16 years of age having different SES from Pune, Nashik and Ahmednagar districtof Maharashtra. The overweight and obesity were considered using BMI reference. The socio-demographic factors were assessed by using self-structured questionnaire. Overweight (16.52)and obesity (7.21)for boys and 43.12 and 23.32 per cent, respectively in girls were found as high and alarming specially in high SES with nuclear families. Therefore nutrition awareness programme should be provided to parents for better and healthy nutrition of their children.

Key Words : Socio-economic, Profile, Children, Obese school

How to cite this article : Kamble, Rajkumar M. and Dubey, Anuradha (2016). Socio-economic profile of selected obese school going children. *Food Sci. Res. J.,* **7**(1): 70-73.

INTRODUCTION

Obesity can be seen as the first wave of a defined cluster non-communicable disease referred as "New World Syndrome" creating an enormous socio-economic and public health burden in developing (poorer) countries. The World Health Organization has described obesity as one of today's most neglected public health problems, affecting every region of globe. Obesity is a complex problem related to food habits as well as fats accumulated by child which increase his weight more than required. It has been observed that "Childhood obesity is a condition where excess body fat negatively affects a child's health or well-being"(Kopelman,2005).

MEMBERS OF RESEARCH FORUM

Author for correspondence :
RAJKUMAR M. KAMBLE, Department of Home Science, Rajaram College, KOLHAPUR (M.S.) INDIA
Email : rajkumarkamble69@gmail.com

Associate Authors' :
ANURADHA DUBEY, Department of Home Science, Rajaram College, KOLHAPUR (M.S.) INDIA
Email : anuradha.dubey74@gmail.com

Globally, an estimated 43 million preschool children (under age 5) were overweight or obese in 2010, a 60 per cent increase since 1990.The problem affects countries rich and poor, and by sheer numbers, places the greatest burden on the poorest: Of the world's 43 million overweight and obese preschoolers, 35 million live in developing countries (Ramchandran *et al*.,2002). By 2020, if the current epidemic continues unabated, 9 per cent of all preschoolers will be overweight or obese – nearly 60 million children (de Onis and Blossner,2000). Various studies done in India from 2002-2012 inicate a rising trend in the prevalence overweight and obesity in children and adolescents (Chattrejee, 2002; Moha *et al*., 2004; Khadilkar and Khadilkar, 2004; Marwaha *et al*.,2006 and Chakraborty *et al*.,2012).

Internationally recognized cut off points of BMI for defining overweight is BMI >25.0kg/m and obesity is >30.0kg/m. However percentage of body fat is not uniform among regional populations (Lissner *et al*.,2010). Increase in health related risk factors and co

morbidities associated with obesity occur at lower BMI in Asian populations than in other ethnic groups. Thus lower cut- off points for Asians were identified for overweight (BMI>23.0kg/m) and obesity (BMI>25.0kg/m) (WHO, 2004; Shree *et al*., 2013).

The relation between socio- economic states and weight shows interesting dichotomy. Urban poor I developed countries appear vulnerable due to poor diet and decreased physical activity; urban rich in developing countries remain at risk due to an increased affinity to the western type of lifestyle. Increased prevalence of obesity in high Socio- Economic States private schools could be the result of generous pocket money, availability of domestic help and traveling to school by vehicles (Singh *et al.*, 2008). Against this background, the present study was undertaken to observe the relation between prevalence of overweight and obesity in school going children and socio-demographic factors in the economically, industrially and culturally fast growing districts of *i.e.* Pune, Nashik and Ahmednagar in Western Maharashtra.

METHODOLOGY

An exploratory research has been conducted in three districts such as Pune, Ahmednagar and Nasik of Western Maharashtra. Total 600 children having age between 7 to 12 years including male and female were selected from obese children by (purposive) simple random sampling method. About 200 obese children were randomly selected from each district. Out of 600 obese children 224 were male and 376 were female. The obese children were selectedby calculating BMI through school information of height and weight of the children.

Socio-demographic data were collected in the form of type of family, size of family, parents' educational status,family income, number of family members and Family's surrounding area. All the anthropometric measurements were taken in the school premises with standard procedure described by Jelliffe (1966). Overweight and obesity was assessed by BMI for age. Student who had BMI for age>85th and <95th percentile of reference population were classified as overweight. Students who had BMI for age >95th percentile of reference population were classified as obese. The lower cut- off points for Asians were identified for overweight (BMI>23.0kg/m) and obesity (BMI> 25.0kg/m) (WHO, 2004).The collected data is pooled, tabulated andanalysed statistically.

OBSERVATIONS AND ASSESSMENT

The calculated values of body mass index (BMI) is reported in Table 1 and Fig. 1.

It indicates that 62.22 boys and 68.33 per cent girls were overweight having BMI between 23 to 27 while 37.78 and 31.67 per cent boys and girls were obese having more than 27 BMI.

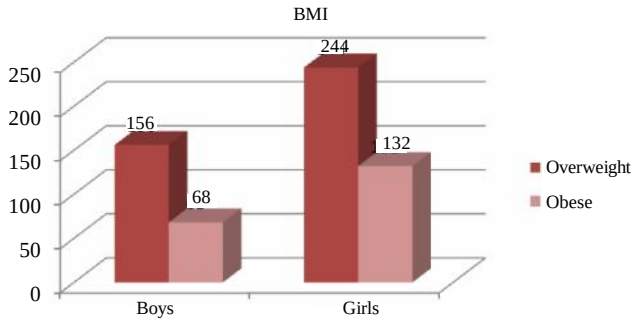

Fig. 1 : Classification of selected obese children on BMI

BMI of overweight and obese children:

Hypothesis: there is no significant difference between boys and girls with respect to BMI

H0: Oi = Ei H1: Oi ≠ Ei (Oi: observed frequency, Ei: expected frequency of BMI)

Calculated value of $\chi^2 = 1.07$, Critical value of χ^2 at 5 per cent level of significance = 3.841,

As Calculated value of χ^2 lies in the acceptance region, accept H0.

Therefore, there is no significant difference between boys and girls with respect to BMI.

The data about the type of family of the obese children is presented in Table 2 and Fig. 2.Socio demographic variables of overweight and obese children revealed that majority of children *i.e.* 64.44 and 62.9 per cent boys and girls were from nuclear families, respectively, while 35.56 and 34.84 per cent boys and girls were from joint family.

Table 1 : BMI of obese school going children

BMI	Boys (90)	Percentage	Girls(221)	Percentage
Overweight	56	62.22	151	68.32
Obese	34	37.78	70	31.67

Table 2 : Demographic profile of selected obese school going children

Demographic details	Boys(224)	Girls(376)
Type of family		
Joint	79 (35.27)	131(34.84)
Nuclear	143(63.84)	237(63.03)
Extended	02(7.14)	8(2.13)
Size of family		
Small	61 (27.23)	41 (10.90)
Medium	106 (47.32)	212(56.38)
Big	57 (25.45)	123(32.71)
Living surrounding of family		
Urban	97(43.30)	173(46.01)
Semi-urban	42(18.75)	55(14.62)
Slum	02(.89)	08(2.13)
Rural	83(37.05)	140(45.21)
Religion of the Family		
Hindu	202(90.18)	349(92.82)
Muslim	12(5.36)	14(3.72)
Christian	08(3.57)	09(2.39)
Jain	02(0.8)	4(1.06)
Mother's Education		
Higher secondary	47(20.98)	68(18.09)
Graduate	153(68.30)	182(48.40)
Post graduate	24(10.71)	126(33.51)
Father's Education		
Higher secondary	19(8.48)	61(16.22)
Graduate	116(51.78)	203(53.99)
Post graduate	89(39.73)	112(29.79)
Annual Income		
Up to 2 lacs	49(21.88)	87(2.14)
2-5 lacs	78(34.82)	119(31.65)
More than 5 lacs	97(43.30)	170(45.21)
BMI		
Overweight	156(61.64)	244(64.89)
Obese	68(30.36)	132(35.11)

Figures in parenthesis indicate percentage

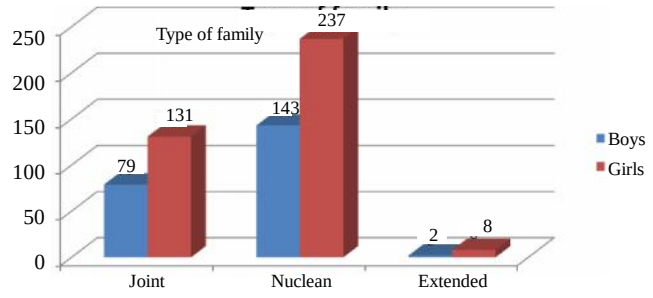

Fig. 2 : Type of family of obese children

Data of the size of the family of obese children is given in Fig. 3.It is depicted from Table 2 that 46.67per cent boys sand 56.11 per cent girls were from medium size of family having 3 to 6 members in family. Nearly 32 per cent boys and girls were from big size family more than 6 members in family.

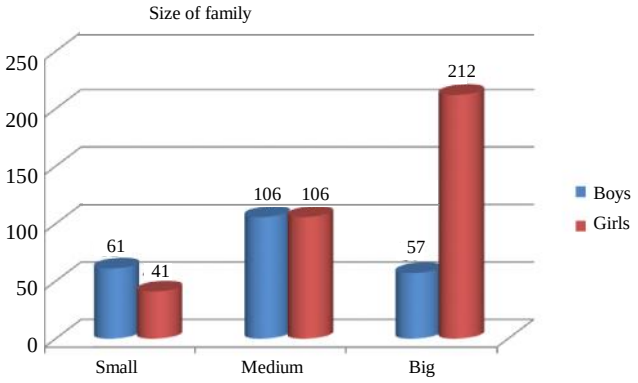

Fig. 3 : Size of family of selected obese school going children

Fig. 4 indicates that mostly children were belonging with hindureligion (76 to 85 %) from rural area 43 and 47 per cent boys and girls, respectively, followed by 34.44 per cent boys and 33.03 per cent girls semi- urban background.

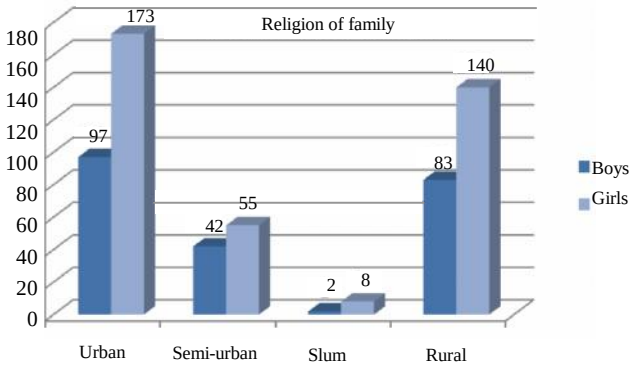

Fig. 4 : Religion of family of selected obese children

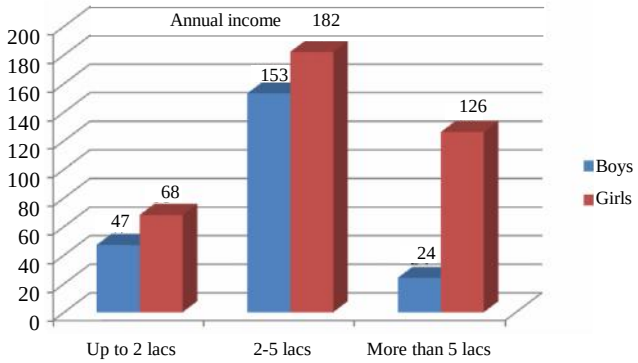

Fig. 5 : Annual income of family of selected obese children

It is observed that 41 and 56 per cent families having better jobs and income more than 5 lacs, while 46.67 and 34.84 per cent families of boys and girls, respectively having annual income between 2 to 5 lacs (Fig. 5). The results of Singh *et al.* (2008) study among Delhi school children in the age group of 10-16 years had shown that increase in prevalence of obesity is inhigher income group. The results are also confirmed with the results of Goyal *et al.* (2010); Kotian and Kotian (2010); Sharma *et al.* (2007) and Sangha *et al.*(2006).

Conclusion:

From the above data, it is concluded that majority of obese children were from nuclear family, medium size of family, urban living background, hindu religion, graduate parents and higher income(>5 lacs/year).

LITERATURE CITED

Chakraborty, P., Dey, S., Pal, R., Kar, S., Zaman, F.A. and Pal, S. (2012). Obesity in Kolkata children: Magnitude in relationship to hypertension. *J. Natural Sci. Bio. Med.,* **2** :101-106.

Chattrejee, P. (2002). India sees parallel rise in malnutrition and obesity.*Lance*t, **360** : 1948.

de Onis, M. and Blossner, M. (2000). Prevalence and trends of overweight among preschool children in developing countries. *Am. J. Clin. Nurt*., **72** : 1032-1039.

Goyal, R.K., Shah, V.N., Saboo, B.D., Pathak, S.R., Shah, N.N., Gohel, M.C., Raval, P.B. and Patel, S.S. (2010). Prevalence of overweight and obesity in Indian adolescent school going children: its relationship with SES and life style factors. http://www.ncbi.nlm .nih.gov/pubmed/ 20848812;Mar 2010;58;151-8.

Jelliffe, D.B. (1996). *The Assessment of the Nutritional Status of the Community*. World Health Organization Monograph, Series No. 53, Geneva, pp. 50-84.

Khadilkar, V.V. and Khadilkar, A.V. (2004). Prevalence of obesity in affluent school boys in Pune. *Indian Pediatr.,* **41** : 857-858.

Khadilkar, V.V., Khadilkar, A.V., Cole, T.J., Chipolnkar, S.A. and Pandit, D. (2011). Overweight and obesity prevalence and body mass index trends in Indian children. *Internat. J. Pediatr. Obes.,* **6** : 216-224.

Kopelman, Peter G. (2005). Clinical obesity in adults and children: In Adults and Children, Blackwell Publishing, p. 493.

Kotian, M.S.,S.G.K. and Kotian, S.S. (2010). Prevlence and determinants of overweight and obesity among school going adolescent school children of south Karnataka, India. *J. Community Med.,* **35**:176-178.

Lissner, L., Sohlström, A., Sundblom, E. and Sjöberg, A. (2010). Trends in overweight and obesity in Swedish schoolchildren 1999- 2005: has the epidemic reached aplateau? *Obes Rev.,* **11**(8): 553-559.

Marwaha, R.K., Tandon, N., Singh, Y., Aggarwal, R., Grewal, K. and Mani, K. (2006). A study of growth parameters and prevalence of overweight and obesity in school children from Delhi. *Indian Pediatr*, **43** : 943-952.

Moha, B., Kumar, N., Aslam, N., Rangbulla, A., Kumbhkarni, S., Sood, N.K. *et al.*, (2004). Prevalence of sustained hypertension and obesity in urban and rural school going children in Ludhiyana. *Indian Heart J.,* **56** : 310-314.

Ramchandran, A., Snehalatha, C., Vinitha, R., Thayyil, M. *et al.* (2002). Prevalence of overweight in urban India an adolescent school children. *Diabetes Research & Clinical Practice*, **57**(3):185-190.

Sangha, J., Pandher, A.K. and Kaur, N. (2006). Impact of nutrition education on nutrition knowledge of the parents of obese children.*Indian J. Nutr. Dietet.,***43** :208-213.

Sharma, A., Sharma, K. and Mathur, K.P. (2007). Growth pattern and prevalence of obesity inaffluent school children of Delhi. *Public Healt Nutr.,* **10** :485-491.

Shree, G., Kavitha, G., Parvathi, S. and Pushpa, J. (2013). Causative factor of pediatric obesity and interventions to combat obesity among school children at Madurai, Tamil Nadu. *J. Chemical, Biological & Physical Sci.,* (JCBPS) **3** (2) : 1252-1262

Singh, A.S., Mulder, C.,Twisk, J.W.,Van Mechlen, W. and Chinpaw, M.J.M. (2008). Tracking of childhood overweight into adulthood :asystematic review of literature. *Obesity Reviews*, **9** : 474-488.

WHO (2004). Expert Consultation: Appropriate body mass index for Asian population and its implications for policy and intervention strategies. *Lancet,* **363**:157-163.

Received : *01.01.2016;* **Revised:** *22.02.2016;* **Accepted :** *07.03.2016*