

Study About the Prevalence of Obesity among School Age Children in Gwalior and Impact of Intervention Strategies

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ABSTRACT

“Study about the prevalence of obesity among school age children in Gwalior and impact of intervention strategies”. The aim of the study is identify the prevalence of Overweight and Obesity among School Children (7-12 years) in Gwalior, identify the contributory Factors of Childhood Obesity, Dietary Pattern of Selected Overweight and Obese Children, Physical Activity Pattern, Energy Balance, Psychosocial and Behavior Adjustment Problems and Biochemical Profile of Obese Children and Impact of Intervention Strategies. Methodology adopted for the study was Gwalior was partitioned into four zones (east, west, north and south) for the review reason and 3 schools from each areas selected for the study. An aggregate of 11,470 children involving young men and young ladies which included 6121 children from tuition based schools, 3270 children from helped schools and 2079 children from government schools of Gwalior were evaluated for the prevalence of overweight and obesity. Study revealed that The in general prevalence of overweight and obesity among school children from 35 schools of Gwalior was observed to be 7.6 percent and 5.6 percent separately. Majority of overweight (93.6%) and hefty children (81.4%) were Hindus. Majority of overweight (81.6%) and hefty children (81.9%) had a place with nuclear family. Majority of the top of the groups of overweight and hefty children were observed to be professionals or in taxpayer driven organizations. A greater part of 77.4 and 75.3 percent of the groups of overweight and fat children separately had a month to month pay of more than Rs. 7,500 The affiliation was observed to be huge ($p < 0.01$). A limit of 51.1 percent and 59.8 percent of groups of overweight and large children spent more than Rs.2000 month to month for their food expenses. A greater part of 61.8 percent of overweight and 71 percent of fat children were single children in their family. A higher percentage of 67.4 overweight and 64.2 percent of hefty children were the First child in the family. About 49.9 percent of overweight and 51.6 percent of stout were non-veggie lovers. Majority of overweight (57.2%) and stout (52.8 %) children followed a three dinner design. Majority of overweight (61%) and stout (64%) children devoured chocolates. Bread shop items, desserts, seared food varieties, frozen yogurt and pizza were liked by a greater part of overweight and large children. It is seen that 13.5 percent overweight and 19.3 percent stout children saw TV for three hours. Outdoor games like cricket, tennis and football were played by a less number of children when contrasted and indoor games demonstrating absence of active work among overweight and large children. Duration of rest hours of the day for fat young men was 8.1. An hour spent each day on stationary exercises among hefty young men was observed to be 13.3 contrasted. Impact of Intervention Strategies reveal that Statistical examination uncovered a huge increment ($p < 0.01$) between the underlying and last qualities demonstrating that nourishment training given for a time of four months worked on the dietary information on chose corpulent children. Positive impact on the dietary demeanor of chose large children was found ($p < 0.01$). Mean BMI esteem among the corpulent young men in Group Awes 23.8 at first, which decreased to 22.8 after intervention with a mean contrast of 1.0.

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KEYWORDS: *impact of intervention, overweight, obesity school childrens*

Need for the study:-

Obesity has turned into the most common dietary issue on the planet, overshadowing under nourishment and irresistible illnesses and is arising as the main supporter of chronic sickness and mortality.

Obesity, a significant general wellbeing and financial issue of worldwide importance is quickly expanding and is related with a wide scope of persistent infections like diabetes, hypertension, cardiovascular illness and particular sorts of malignant growth.

Dietary fiber has significant medical advantages in youth and immaturity. Fiber admission is contrarily connected with body weight and muscle versus fat and it additionally advances ordinary gut propensities and lessens a Children's danger of constant illnesses. It very well might be valuable in forestalling and treating obesity and furthermore in bringing down blood cholesterol level, the two of which might assist with diminishing the danger of future cardiovascular infections (Williams, 2006). The main advance towards conquering a developing obesity pestilence is to recognize its reality and make mindfulness. Being balanced doesn't suggest great wellbeing or thriving yet proclaims the beginning of numerous wellbeing related issues with genuine malicious impacts. Expanding youth obesity rates influence people and their families, yet in addition force immediate and aberrant financial expenses in the types of low usefulness,

Barbara et al. (2006) announced that overweight populace surpassed underweight in practically 50% of the Asian nations and the middle proportion of overweight to underweight was 5.8 in metropolitan and 2.1 in provincial regions. Asian nations with high gross public pay and significant degrees of urbanization had high outright prevalence of overweight and uncovered little metropolitan rustic contrasts in overweight. Proof from a few public wellbeing overviews in Asia focuses to critical contrasts in prevalence of overweight and obesity among nations. While Taiwan and China have encountered fast expansions in prevalence of youth obesity (Chu,2005 and Wu,2006). The prevalence of overweight and obesity in 14 Asian nations went from under 15% in India to 60 percent in different nations.

By reading all these articles and using the experience of the investigator to Study about the prevalence of obesity among school age children in Gwalior and impact of intervention strategies”.

Objectives of the study:

To assess the

1. Prevalence of Overweight and Obesity among School Children (7-12 years) in Gwalior.
2. Contributory Factors of Childhood Obesity
3. Dietary Pattern of Selected Overweight and Obese Children.
4. Physical Activity Pattern, Energy Balance, Psychosocial and Behavior Adjustment Problems and Biochemical Profile of Obese Children and

5. Impact of Intervention Strategies

Material and method: -

Selection of school:-

Gwalior was partitioned into four zones (east, west, north and south) for the review reason. From each zone, three kinds of schools containing Government schools (completely financed by government), non-public schools (financed by private management with no administration award) and helped schools (financed by government halfway) were distinguished utilizing the rundown acquired from the Department of Education, Government of Madhya Pradesh. A total of 35 schools, involving 10 governments, 15 private and 10 helped schools were chosen through purposive inspecting strategy for the lead of the prevalence study. Vital consent was gotten from the school experts for choosing the children from their schools to take part in the review and helpful dates were fixed for obesity screening and information assortment. The agent clarified the reason, strategy and meaning of the review to the school specialists and instructors to inspire them in broadening their co-activity and backing for the direct of the review.

Selection of Children

The specialist chose children in the age gathering of 7-12 years for the review. An aggregate of 11,470 children involving young men and young ladies which included 6121 children from tuition based schools, 3270 children from helped schools and 2079 children from government schools of Gwalior were evaluated for the prevalence of overweight and obesity.

Limitations of the study

In the current review there were requirements for diminishing energy admission as a way to lessen body weight, even among overweight children.

- Estimation of blood boundaries should be possible just for a little gathering of children since assortment of blood test was troublesome in this age gathering and guardians and school specialists didn't participate for this angle.
- Authorities of few schools in Gwalior city didn't allow to direct the review citing reasons of parent's viewpoint and separation or prodding of stout children by different children.
- Intervention strategies couldn't be executed for a more extended period as school children had term occasions and can't be checked.

Analysis and interpretations

1. Prevalence of Overweight and Obesity among School Children (7-12 years) in Gwalior.
2. Contributory Factors of Childhood Obesity

3. Dietary Pattern of Selected Overweight and Obese Children.
4. Physical Activity Pattern, Energy Balance, Psychosocial and Behavior Adjustment Problems and Biochemical Profile of Obese Children and
5. Impact of Intervention Strategies

Prevalence of Overweight and Obesity among School Children (7-12 Years) in Gwalior:

The in general prevalence of overweight and obesity among school children from 35 schools of Gwalior was observed to be 7.6 percent and 5.6 percent separately. The percentage of overweight (13.7%) and stout (10.3%) children in tuition based schools of Gwalior was observed to be the most noteworthy. The prevalence of overweight was 0.6 and 0.7 percent and obesity was observed to be 0.4 and 0.1 percent among helped and Government schools separately. The prevalence of overweight and obesity among young men of 7-9 years was observed to be 27.6 percent and 25.1 percent separately though among young ladies of a similar age Prevalence of overweight among young men of 10-12 years was 28% and obesity was 31.9 percent being the most noteworthy among all.

Contributory Factors of Childhood Obesity

Majority of overweight (93.6%) and hefty children (81.4%) were Hindus. Majority of overweight (81.6%) and hefty children (81.9%) had a place with family units and the leftover The top of the groups of 60.7 percent of overweight and 66.8 percent of hefty children had school instruction which was trailed by higher auxiliary training by 24.7 percent and 20.9 percent. Majority of the top of the groups of overweight and hefty children were observed to be professionals or in taxpayer driven organizations. A greater part of 77.4 and 75.3 percent of the groups of overweight and fat children separately had a month to month pay of more than Rs. 7,500 The affiliation was observed to be huge ($p < 0.01$). A limit of 51.1 percent and 59.8 percent of groups of overweight and large children spent more than Rs.2000 month to month for their food expenses. A greater part of 61.8 percent of overweight and 71 percent of fat children were single children in their family. A higher percentage of 67.4 overweight and 64.2 percent of hefty children were the First child in the family. Loss of insusceptibility was found among 71% overweight and 97 percent fat children while 12% every overweight and hefty children had respiratory issues like asthma and wheezing and 37 percent every one of overweight and stout children had muscular issues like leg agony and joint torment. Among the 871 overweight and 645 fat children considered, a family background of diabetes

mellitus was found in 23% overweight and 21 percent fat children.

Dietary Pattern of Selected Overweight and Obese Children

About 49.9 percent of overweight and 51.6 percent of stout were non-veggie lovers. Majority of overweight (57.2%) and stout (52.8 %) children followed a three dinner design. A higher percentage of young men had avoided their dinners than young ladies and a solid affiliation ($p < 0.01$) was found between skipping of suppers and obesity status. About 64.8 percent of overweight and 55.3 percent of corpulent children ate snacks one time each day. A huge affiliation ($p < 0.01$) was found between nibble utilization and obesity status. Majority of overweight (61%) and stout (64%) children devoured chocolates. 52% of stout children took talk things contrasted with overweight children (37%). Bread shop items, desserts, seared food varieties, frozen yogurt and pizza were liked by a greater part of overweight and large children. A greater part of 33.4 percent overweight and 20.9 percent stout children chose the tidbits and soft beverages in light of the fact that their folks got them. About 4.3 percent of overweight and 11.7 percent of stout children got >Rs. 100 as their pocket cash from their folks towards snacks. It is seen that 13.5 percent overweight and 19.3 percent stout children saw TV for three hours. About 264 overweight and 199 stout children ate dinners. Food inclination scores of grains and heartbeats were high in both overweight and fat children with scores going from 90.5 to 100. Inclination scores of green verdant vegetables, different vegetables and roots and tubers were nearly lower going from 71.4 for green verdant vegetables to 89.5 for different vegetables. Natural products, fish and milk inclination scores went from 72.5 to 98.0. Meat and egg inclination scores were a lot higher among stout children, inclination score for fats, oil seeds and nuts, sugar, beverages and flavors were observed to be a limit of 100. Inclination scores for lodging/flask food varieties, quick food varieties, desserts, tidbits and treats were observed to be greatest among fat children (92 to 100) than overweight children (74.5 to 89.5). Food use recurrence score of grains was 100 demonstrating utilization of cereals routinely while the scores for beats went from 62.9 to 69.9 in both overweight and large children. Meat and egg inclination scores were a lot higher among large children. The scores for fats, oil seeds and nuts, sugar, beverages and flavors were 100 for both overweight and large children. Food use recurrence scores for inn/flask food sources were in the scope of 66.4 to 69.3. Quick food varieties, desserts, bites and treats had a score going from 70.7 to a limit of 89.2.

Correlation between the mean BMI upsides of overweight young men with the mean BMI upsides of their dads was - 0.064 and their moms was - 0.139 and observed to be negative. Correlation between overweight young ladies with their dads was 0.124 and with their moms was 0.087 and observed to be positive.

Physical Activity Pattern, Energy Balance, Psychosocial and Behavior Adjustment Problems and Biochemical Profile of Obese Children and

Outdoor games like cricket, tennis and football were played by a less number of children when contrasted and indoor games demonstrating absence of active work among overweight and large children.

Duration of rest hours of the day for fat young men was 8.1. An hour spent each day on stationary exercises among hefty young men was observed to be 13.3 contrasted The time spent by the fat young men on inactive exercises was observed to be higher. Time spent each day for moderate action by the stout young men (2.2 hrs.). Negligible season of 0.4 hrs. was spent by the hefty young men each day on substantial exercises when contrasted.

Regarding psychosocial and social change issues, the distinction in scores were observed to be genuinely not huge between stout young men and fat young ladies. Mean hemoglobin esteems for both large young men (14.1g/dl) and stout young ladies (12.8 g/dl) were over the typical worth showing that none of the chose children experienced iron insufficiency weakness.

LDL cholesterol of fat young men was inside the ordinary qualities yet it was higher than the standard incentive for young ladies. The mean VLDL cholesterol esteems for both fat young men and young ladies were well inside the ordinary qualities. HDL cholesterol was observed to be lower than the standard incentive for hefty young men and inside the typical reach for stout young ladies. – Systolic and diastolic tensions of both the large young men and young ladies were observed to be inside the ordinary reach.

Impact of Intervention Strategies

Statistical examination uncovered a huge increment ($p < 0.01$) between the underlying and last qualities demonstrating that nourishment training given for a time of four months worked on the dietary information on chose corpulent children. Positive impact on the dietary demeanor of chose large children was found ($p < 0.01$). No critical contrast between the underlying and last qualities was seen concerning healthful practice. –

Height: Mean stature of the corpulent young men in trial Groups A, B and C expanded to 152.3, 153.4 and 152.1 cm from an underlying worth of 149.9, 150.8 and 149.7cm after intervention. Mean stature of the corpulent young men in control Group D was 148.2 cm which expanded to 150.8 cm following four months. Expansion in the mean tallness of the fat young men among every one of the gatherings were in the scope of 2.4 to 2.6cm and was observed to be critical ($p < 0.01$). 10,

Weight: Mean load of the corpulent young men in test Groups A, B and C was observed to be 56.1, 55.3 and 53.4 kg toward the beginning of the intervention which got diminished to 55.1, 54.1 and 52.1 kg separately after the intervention strategies. Most extreme decrease of 1.4kg was seen in Group C which was given a mix of sustenance schooling, active work and nibble replacement.

BMI: Mean BMI esteem among the corpulent young men in Group A was 23.8 at first, which decreased to 22.8 after intervention with a mean contrast of 1.0. Mean BMI upsides of gatherings B and C were observed to be 24.4 and 25.2 which diminished to a degree of 23.0 and 23.6 after intervention with a greatest decrease of 1.6 found in Group C. Every one of the exploratory gatherings showed a measurably huge decrease in BMI.

Conclusion: -

Impact of Intervention Strategies reveal that nourishment training given for a time of four months worked on the dietary information on chose corpulent children. Positive impact on the dietary demeanor of chose large children was found ($p < 0.01$). Mean BMI esteem among the corpulent young men in Group A was 23.8 at first, which decreased to 22.8 after intervention with a mean contrast of 1.0.

Bibliography: -

- [1] Ahuja. P. (2004), "Combating childhood obesity's edition, Gram magazine distributors, Mumbai, P.219
- [2] American Cancer Society (2006), Diet, Physical Activity and Cancer: What's the Connection? www.americancancersociety.com.
- [3] American Diabetic Association. (2003), "Type II diabetes in Children and Adolescents", Pediatrics, Vol.105, Pp.671 - 680.
- [4] American Dietetic Association (2007), Evidence Analysis Library. Available at www.adaevidencelibrary.com.
- [5] Amini M., Dadkhah M. (2009) Energy and Nutrients Intake among Overweight! Obese

- School Children in Tehran, Endocrine Abstracts, 20, P.495.
- [6] Andrea, (2004), "Junk food; How much can you eat away with? www.sustain.wed/org/child-protest, asp.
- [7] AOAC (Association of Analytical Chemists International) (1995), 1811 Ed., Ch 45 Pp.7 1 - 72.
- [8] Ariza, A.J; Chen, E.M; Binns, H.J. and Christoffer, K.K. (2006), "Risk Factors for Overweight in Five-to-six-year-old", His health, Vol. 81, Pp.150-161.
- [9] Arroyo, P., Loria, A., Mendex, O. (2004), "Change in the House - Hold calorie, supply during the 1994 Economic crisis in Mexico and its Implications on the obesity Epidemic", Nutrition Reviews, Vol : 62, Pp: 5163— S 168.

