

Nutritional Counselling – A Non Invasive Method For Managing Obesity In Young Adult Girls



Home Science

KEYWORDS : Obesity, nutritional counseling, obese young adult girls

Dr. Anjali Rajwade

Associate Professor, Department of Home Science, Smt. R.D.G. College, Akola. Maharashtra

ABSTRACT

Obesity in young adults is increasing rapidly globally. Global factors like marketing, urbanization, changing nutritional practices may be responsible for it. Young adult girls' obesity has adverse impact not only on their present & future life but also on their progeny. The study aimed at assessing etiological factors & role of nutritional counseling for obesity in young adult girls (YAGs). 60 obese young adult girls (OYAGs) were assessed for cause of obesity as well as nutritional knowledge level (NKL) and nutritional practices before and after nutritional counseling. Nutritional imbalance was the commonest (73.33%) cause of obesity. 88.33% OYAGs had low NKL at pre-counseling stage. At post-counseling stage 76.67% attained high NKL. Nutritional counseling resulted in improvement in obesity inducing nutritional components. Inappropriate dietary practices improved from 93.33% to 13.33%; energy-dense food intake from 96.67% to 08.33%; low fiber intake from 70.00% to 18.33%; regular junk food intake from 76.67% to 16.67% from pre to post counseling stage respectively. Other related components also showed positive change. The study in a period of 6 months enabled 28.33% OYAGs to achieve normal weight level of BMI & 48.33% OYAGs to achieve overweight level. Data was analyzed statistically for confirmation and level of significance. Obesity in young adult girls is caused primarily by nutritional imbalances which are secondary to nutritional trends induced by global nutrition transition. Remedy for obesity in young adult girls is timely & appropriate nutritional counseling. Well planned nutritional counseling for young adult girls can help India prevent nutritional disorders in its future citizen. Healthcare professionals & nutritionists, acting synergistically, can appropriately & effectively manage obesity – an NCD

INTRODUCTION

Human nutrition is, now a day, connected to and influenced by global factors. Urbanization, global marketing, economical upgradation , away-from-home eating habits are some of the factors which have brought about nutritional transition¹. Dietary pattern is universally, moving away from balanced diet; towards energy-dense, fat & sugar rich and low fiber diet². Fresh home-made food is getting replaced by processed food, junk food, & precooked dehydrated food. Such nutrition transition has, globally influenced human health.

Young adults are easily influenced by food advertisements, urbanization, upward economical shift, peer pressure, away-from-home stay etc. directly or indirectly affecting their nutritional practices. Lack of proper source of nutritional knowledge makes them susceptible to inappropriate nutritional intake. Adverse impact on health during adolescence influences adult health³. Young adult girls are a very important segment of the society because, they are future mothers too. Imbalance in their nutrition and health has adverse impact not only on their young adult health and adulthood health; but also on their future progeny i.e. next generation.

Obesity among young adult girls is on the rise⁴. Obese young adult girls are prone to non-communicable diseases and female hormone disorders, which in turn can adversely affect their reproductive life. In country like India, obese young adult girls (OYAG) also face social problems and disturbances related to self confidence and self esteem⁶.

Identification of etiological factors and their amelioration at local level may correct young adult obesity. The present study involved obese young adult girls and aimed at assessing role of nutrition and nutritional knowledge in their obesity.

OBJECTIVES:

- To identify important etiological factors of obesity among the Obese Young Adult Girls (OYAG).
- To assess the nutritional components of the obesity.
- To impart nutritional counseling
- To assess impact of nutritional counseling on their obesity.

MATERIAL AND METHODS:

From a larger pool of obese (Grade I obesity) girls attending obesity clinic in Akola City; 78 obese young adult girls (OYAG) were initially selected. After explaining the nature of the study

and its duration of 07 months, 60 OYAG opted to participate. Obesity was assessed on the basis of Body Mass Index (BMI). A questionnaire was prepared to find out the most likely etiological factors in the OYAG. It included questions related to hereditary obesity background, endocrine (hormonal) disorders, nutritional obesity, physical activity regime, nutritional knowledge etc. 30 questions were framed for nutritional knowledge assessment, with 01 score for each question. Nutritional knowledge was labeled as low (score < 10) medium (score 10 to 20) and high (score > 20). Physical characteristics related to obesity were recorded. Data collected was analysed for the purpose of framing remedial nutritional counseling program for the respondents.

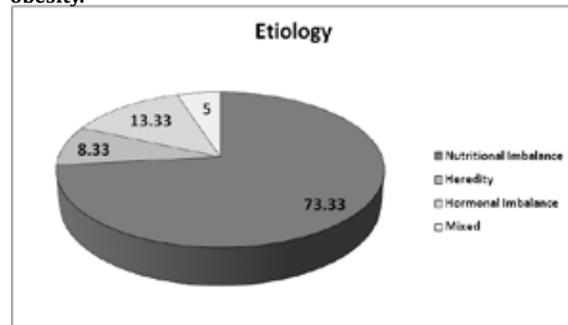
OYAG were subjected to nutritional knowledge and obesity assessment at pre and post counseling stages. Counseling sessions were held on weekends – Saturdays & Sundays, for a period of three months. Lectures, posters, audiovisuals, flip charts etc. were used for the purpose. Interactive sessions were conducted. Each OYAG was encouraged to implement suggested modifications in her dietary practices and give honest feedback. The respondents were reassessed after a period of six months, for their nutritional status, nutritional knowledge, dietary practices, physical activity regime etc. Individual difficulties and dietary modifications, if any, were attended to as and when needed during the six months.

The data was statistically analysed.

RESULTS

All the respondents (n = 60) were obese, as per the study design. Assessment of etiological factors revealed that -

Fig.1 – Distribution of respondents according to etiology of obesity.



Nutritional imbalance was the commonest (73.33%) etiology. It was observed that 8.33% and 13.33% OYAG had heredity and hormonal imbalance, respectively, causing obesity in them. Nutritional and hormonal imbalance coexisted in 5.00% OYAG.

Table 1 - Distribution of respondents according to nutritional knowledge -

Sr. No.	Nutritional Knowledge	Pre-counseling		Post-counseling	
		Number	Percentage	Number	Percentage
1	Low	53	88.33	2.00	3.33
2	Medium	07	11.67	12.00	20.00
3	High	00	00.00	46.00	76.67

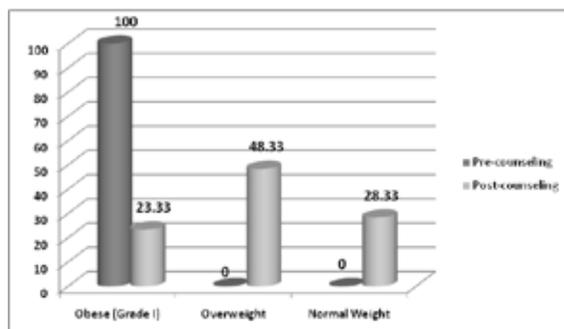
Pre and post counseling nutritional knowledge assessment revealed that the counseling resulted in marked improvement in the score. Nutritional counseling lowered the low knowledge level from 88.33% to 3.33% at pre and post counseling stages respectively. Corresponding findings for high knowledge level were 0.00% and 76.67% respectively.

Table 2- Pre and post counseling assessment of nutritional components of obesity

Sr. No.	Nutritional Component	Pre-counseling		Post-counseling	
		Number	Percentage	Number	Percentage
1	Inappropriate dietary practices	56	93.33	08	13.33
2	Regular junk food intake	46	76.67	10	16.67
3	Energy-dense food intake	58	96.67	05	08.33
4	Low fiber intake	42	70.00	11	18.33
5	Away-from -home meals	52	86.67	15	25.00
6	Low physical activity	56	93.33	21	35.00
7	Combination of components	58	96.67	13	21.67

Nutritional counseling had significant impact on all the components related to obesity. Inappropriate dietary practices changed from 93.33% to 13.33% at pre and post counseling stage respectively. 76.67% OYAG had regular intake of junk food at pre counseling stage which got lowered to 16.67% at post counseling stage. Corresponding change in energy-dense food intake was from 96.67% to 08.33%. Low physical activity showed a swing from 93.33% to 35.00% because of the counseling. Low fiber food consumption exhibited a change from 70.00% to 18.33% at pre and post counseling stage. 86.67% OYAG were having away-from-home meals before counseling which changed to 25.00% after counseling.

Fig.2 - Impact of nutritional counseling on obesity.



Nutritional counseling in the study had positive impact on obesity of the OYAGs, in terms of BMI, in 76.67% respondents. 48.33% OYAGs moved to overweight category from obese (Grade I) category while 28.33% managed to attain normal weight BMI level at 6 months' stage of the study. Only 23.33% OYAGs remained in the obese (Grade I) category of BMI, though they had some weight loss.

DISCUSSIONS :

Globally young adult girls are influenced by nutrition transition^{7,8,9,10}. Among obese young adult girls, nutritional imbalance is the most important etiological factor probably because of changing trends in family structure, educational pattern^{12,13} upward economical shift^{14,15,16} peer pressure etc. Now a day, academic pursuing at young adult stage consumes significant time and is physically & psychologically stressful; thereby leaving little scope for imbibing nutritional knowledge or undertaking adequate physical activity¹⁸. Nutritional improper but aggressively marketed food products and dietary practices have encouraged young adult obesity. Market is flooded with energy-dense, ready-to-eat, low-in-fibre and easily available junk food having high trans-fat content and / or sugar content; making it palate appealing¹⁹. Young adults are susceptible to such food consumption, also because it has become 'trendy' or 'in thing' for them²⁰.

Young adult obesity is a consequence of all these factors. Obesity especially in young adult girls, has adverse impact on health in their adult life^{21,22,23,24}. Possibility of adult hood obesity, various non-communicable diseases and gynecological as well as obstetric disorders or complications in future life; increases due to obesity at young adult stage among girls^{25,26,27,28}.

CONCLUSIONS:

Obesity in young adult girls is primarily because of nutritional imbalances secondary to nutritional trends induced by global nutrition transition. Remedy for obesity in young adult girls, on a long term basis, is possible with timely and appropriate nutritional counseling. It can reduce or reverse the adverse effects of global nutrition transition.

IMPLICATIONS:

Obesity in young adult girls has health related implications. Health & nutrition are two sides o the same coin. Doctors & Nutritionists acting synergistically can not only treat obesity in OYAG but can also prevent its spread and adverse impact. Nutritionists, through nutritional counseling, can increase awareness amongst the people for their own well being in other non communicable diseases (NCDs) also.

REFERENCE

1. Popkin BM, Keyou G, Zhai F, Guo X, Ma H, Zohoori N. The nutrition transition in China: a cross-sectional analysis. *Eur J Clin Nutr* 1993; 47:333-46. | 2. Mendez MA, Popkin B. Globalization, urbanization and nutritional change in the developing world. *J Agric Dev Econ [serial online]* 2005; 1: 220-41 | 3. Wilkinson J. The food processing industry, globalization and developing countries. *J Agric Dev Econ [serial online]* 2004; 1:184-201. | 4. Reardon T, Timmer CP, Barrett CB, Berdegue JA. The rise of supermarkets in Africa, Asia, and Latin America. *Am J Agric Econ* 2003; 85: 1140-6 | 5. Popkin B, Horton S, Kim S. The nutrition transition and prevention of diet related chronic diseases in Asia and the Pacific. *Food Nutr Bull* 2001;22:1-58 | 6. Popkin BM, Technology, transport, globalization and the nutrition transition. *Food Policy (in press)* | 7. Gortmaker SL, Must A, Sobol AM, Peterson K, Colditz GA, Dietz WH. Television viewing as a cause of increasing obesity among children in the United States, 1986-1990. *Arch Pediatr Adolesc Med* 1996; 150:356-62. | 8. Dietz WH, Gortmaker SL. Preventing obesity in children and young adults. *Annu Rev Public Health* 2001;22: 337-53. | 9. Committee on Food Marketing and the Diets of Children and Youth. Food marketing to children and youth; threat or opportunity? Washington, DC: National Academy Press, 2005. | 10. Lee MJ, Popkin BM, Kim S. The unique aspects of the nutrition transition in South Korea; the retention of healthful elements in their traditional diet. *Public Health Nutr* 2002;5: 197-203. | 11. Popkin B, Adair L. Are child eating patterns being transformed globally? *Obes Res* 2005; 13: 1281-99. | 12. Finkelstein EA, Fiebelkorn IC, Wang G. National medical spending attributable to overweight and obesity: how much, and who's paying? *Health Aff (Millwood)* 2003;Suppl Web Exclusives:W3-219-26. | 13. Finkelstein EA, Ruhm CJ, Kosa KM. Economic causes and consequences of obesity. *Annu Rev Public Health* 2005;26:239 -57. | 14. Puska P, Pirjo P, Uusitalo U. Influencing public nutrition for non-communicable disease prevention: from community intervention to national programme- experiences from Finland. *Public Health Nutr* 2002;5:245-51. | 15. Popkin B, Kim S, Rusev E, Du S, Zizza C. Measuring the full economic costs of diet, physical activity, and obesity-related chronic diseases. *Obes Rev (in press)*. | 16. Monteiro CA, D'A Benicio MH, Conde WL, Popkin BM. Shifting obesity trends in Brazil. *Eur J Clin Nutr* 2000;54:342- 6. | 17. Doak C, Adair L, Bentley M, Fengying Z, Popkin B. The underweight/ overweight household: an exploration of household sociodemographic and dietary factors in China. *Public Health Nutr* 2002;5:215-21. | 18. Haddad L. What can food policy do to redirect the diet transition? *Food Nutr Bull* 2005;26:238-40. | 19. Saaddine JB, Fagot-Campagna A, Rolka D, et al. Distribution of HbA(1c) levels for children and young adults in the U.S.: Third National Health and Nutrition Examination Survey. *Diabetes Care* 2002;25:1326 -30. | 20. Clinton Smith J. The current epidemic of childhood obesity and its implications for future coronary heart disease. *Pediatr Clin North Am* 2004;51:1679 -95, x. | 21. Adair LS, Popkin BM. Are child eating patterns being transformed globally? *Obes Res* 2005;13:1281-99. | 22. Du S, Lu B, Zhai F, Popkin BM. A new stage of the nutrition transition in China. *Public Health Nutr* 2002;5:169 -74. | 23. Drewnowski A, Popkin BM. The nutrition transition: new trends in the global diet. *Nutr Rev* 1997;55:31- 43. | 24. Hale DE. Type 2 diabetes and diabetes risk factors in children and young adults. *Clin Cornerstone* 2004;6:17-30. | 25. Paeratakul S, Popkin BM, Keyou G, Adair LS, Stevens J. Changes in diet and physical activity affect the body mass index of Chinese adults. *Int J Obes Relat Metab Disord* 1998;22:424 -31. | 26. <http://trialx.com/curetalk/wp-content/blogs.dir/7/files/2011/05/diseases/obesity-3jpg> 01/08/2012. | 27. Insight - The consumer magazine July - August'2012. | 28. Matsudo V, Matsudo S, Andrade D, et al. Promotion of physical activity in a developing country: the Agita Sao Paulo experience. *Public Nutr* 2002;5:253- 61. |