

Impact of Nutrition Education on Eating Habits of both Parents and Children While Treating Childhood Obesity

Taruna Meena*, Nandini Rekhade**

Abstract

Overweight and obesity in childhood presents many threats in terms of negative health consequences as well as psychosocial difficulties. Formative childhood years are crucial for the development of health behaviors and health outcomes that continue through adulthood. I am pleased to present you with the plan for solving the problem of childhood obesity. This entire study was conducted in Indore city and samples were also collected through random purposive sampling method from Indore itself. This research will help you to solve the main root behind the development of contributing factors of obesity. The research study done on **“The Impact of Nutritional Education on Parental Weight, Activity & Cardiovascular Risk Factors While Treating Childhood Obesity”** reveals that; On comparing the impact of nutritional education on nutritional status of both parents and children, while treating childhood obesity, it was found that nutritional education had a significant impact on improving the nutritional status of experimental groups parents ($P < 0.05$) and children ($P < 0.05$) in comparison to their control group counter parts ($P > 0.05$). Similar results were obtained when impact of nutritional education on life style pattern and health status of both parents and children, while treating childhood obesity, it was found that nutritional education had a significant impact on improving the life style pattern of experimental groups parents ($P < 0.05$) and children ($P < 0.05$) in comparison to their control group counter parts ($P > 0.05$). All the three null hypothesis were rejected in this study and the entire alternative hypothesis were accepted that “there is a significant impact of nutritional education on nutritional status, life style pattern and health status” of parents and children of experimental groups.

Keywords:Overweight;Psychosocial;Cardiovascular Risk Factors;Childhood Obesity.

Introduction

The family environment is where children first experience the social world: the place and time where they develop a sense of self and explore their prospects for the future. Subsequently, these early years are a critical period for the developing child and the messages that the family provides surely shape and direct that child. Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have

an adverse effect on health, leading to reduced life expectancy and/or increased health problems.[1] Overweight and obesity in childhood presents many threats in terms of negative health consequences as well as psychosocial difficulties. Formative childhood years are crucial for the development of health behaviors and health outcomes that continue through adulthood. There are three key characteristics that set children apart from adults in terms of obesity. Firstly children are not responsible for their own lifestyle choices; they are entirely dependent on others for most of their childhood. Secondly they are in a state of developmental transition and consequently have to pass through several key growth and feeding stages. Thirdly children are in a more vulnerable position. They respond more readily to the environment they are placed in, they are far less able to take corrective or modifying action to avoid obesity, and they are unable

Author's affiliation: *Research Scholar, Dept. of Home Science, **Professor, Child Development, Govt. Maharani Laxmi Bai Girls PG College, Fort, Indore (MP).

Corresponding Author: Taruna Meena, C/o Ramvilas Meena, 164/12, Chotti Bhamori, New Dewas Road, Opposite Hanuman Mandir, Indore (M.P) Pin-452010.

E-mail: tarunameena@gmail.com

(Received on 09.10.2013; Accepted on 21.10.2013)

to consider the long term consequences of obesity. In order to ensure this the study was conducted with an “objective to assess impact of nutrition education on activity pattern of both parents and children, while treating childhood obesity”.

Materials and Methods

This entire study was conducted in Indore City with an “objective to assess impact of nutrition education on activity pattern of both parents and children, while treating childhood obesity”. In this research study 240 obese parents and children living in Indore district were selected by purposive random sampling technique. In this study 120, obese parents (more than 20% over ideal weight for age, height and gender) aged between 28-42 years and 120 obese children (more than 20% over ideal weight for age, height and gender) aged between 6-11 years with both parents living together were selected and were randomly assigned to either an experimental group (with counseling) or a control group (without counseling). Life style pattern was determined by 24 hour recall method.

Statistical analysis was done by using

statistical tools like Z-test, mean, standard deviation, percentage, chi square test etc.

Results

The measured mean height of parents in Experimental Group- I was 166.28± 6.037 before observation and was similar after observation. Whereas; it was 162.33 ±6.305 before observation and was same after observation in Control Group-I. Similarly; the observed mean value of weight in Experimental Group-I in initial stage was 91.33 ± 8.535 kg and in final stage it was 87.24 ± 8.087 kg respectively. Whereas in control group-I it was 90.01±7.007 kg in initial stage and in final stage it was 90.64±7.876 Kg respectively. The observed mean waist hip ratio of Experimental Group -I in initial stage was 0.96 ± 0.083 and in final stage was 0.93 ± 0.070. Whereas in control group-I in initial stage it was 0.96±0.082 and in final stages it was 0.96±0.109 respectively.

Table Concludes: Table 4.1(a) concludes that; impact was found more appropriately on weight and waist hip ratio of Experimental group-1 after nutritional education compared

Table 4.1(b): Descriptive Statistics Regarding Anthropometric Variables For Experimental-2, Control-2 Groups

Anthropometric Variable		Mean		Std. Deviation		Std. Error of Mean	
		Exp-1	Ctrl-1	Exp-1	Ctrl-1	Exp-1	Ctrl-1
Height (in cm)	Before	166.28	162.33	6.037	6.305	0.779	0.814
	After	166.28	162.33	6.037	6.305	0.779	0.814
Weight (in kg)	Before	91.33	90.01	8.535	7.007	1.102	0.905
	After	87.24	90.64	8.087	7.876	1.044	1.017
Waist Heap Ratio (WHR)	Before	0.96	0.96	0.083	0.082	0.011	0.011
	After	0.93	0.96	0.070	0.109	0.009	0.014

Table 4.1(b): Descriptive Statistics Regarding Anthropometric Variables For Experimental-2, Control-2 Groups

Anthropometric Variable		Mean		Std. Deviation		Std. Error of Mean	
		Exp-2	Ctrl-2	Exp-2	Ctrl-2	Exp-2	Ctrl-2
Height (in cm)	Before	123.22	122.98	7.447	7.730	0.961	0.998
	After	125.27	123.70	7.428	7.943	0.959	1.025
Weight (in kg)	Before	34.61	34.85	6.176	6.121	0.797	0.790
	After	34.18	34.83	6.137	6.018	0.792	0.777

Table 4.2: Reason of Obesity of the Parents and Children with Levels of Measurement in Experimental and Control Groups

History of obesity	Parents		Children	
	Experimental-1	Control-1	Experimental-2	Control-2
Lack of Exercise/Activity	14 (23.3%)	6 (10.0%)	12 (20.0%)	16 (26.7%)
Improper time management/Lack of time	12 (20.0%)	11 (18.3%)	18 (30.0%)	12 (20.0%)
Sitting job/Sedentary lifestyle	2 (3.3%)	7 (11.7%)	1 (1.7%)	6 (10.0%)
Stress	2 (3.3%)	9 (15.0%)	0 (0.0%)	5 (8.3%)
Loneliness	0 (0.0%)	4 (6.7%)	5 (8.3%)	7 (11.7%)
Unhealthy Lifestyle	18 (30.0%)	17 (28.3%)	15 (25.0%)	10 (16.7%)
Improper diet schedule	12 (20.0%)	6 (10.0%)	9 (15.0%)	4 (6.7%)
Total	60 (100.0%)	60 (100.0%)	60 (100.0%)	60 (100.0%)

Table 4.3(a): Association of Exercise of Children with Levels of Measurement (Before and After) in Experimental and Control Group

Frequency of exercise	Children			
	Experimental-2		Control-2	
	Before	After	Before	After
No	26 (43.3%)	9 (15.0%)	40 (66.7%)	36 (60.0%)
Yes	34 (56.7%)	51 (85.0%)	20 (33.3%)	24 (40.0%)
Total	60 (100.0%)	60 (100.0%)	60 (100.0%)	60 (100.0%)
	<i>[p<0.001; 2-tailed]</i> <i>Highly Significant</i>		<i>[p>0.05; 2-tailed]</i> <i>Insignificant</i>	

Table 4.3(b): Association of Exercise of the Parents with Levels of Measurement (Before and After) in Experimental and Control Groups

Frequency of exercise	Parents			
	Experimental-1		Control-1	
	Before	After	Before	After
Daily	2 (3.3%)	12 (20.0%)	12 (20.0%)	13 (21.7%)
4 days/week	7 (11.7%)	16 (26.7%)	20 (33.3%)	26 (43.3%)
5 days/week	21 (35.0%)	24 (40.0%)	14 (23.3%)	5 (8.3%)
6 days/week	12 (20.0%)	8 (13.3%)	14 (23.3%)	5 (8.3%)
No Exercise	18 (30.0%)	0 (0.0%)	14 (23.3%)	16 (26.7%)
Total	60 (100.0%)	60 (100.0%)	60 (100.0%)	60 (100.0%)
	<i>[p<0.001; 2-tailed]</i> <i>Highly Significant</i>		<i>[p>0.05; 2-tailed]</i> <i>Insignificant</i>	

to its counterpart Control Group-1.

The measured mean height of children in Experimental Group- II was 123.22 ±7.447 cm before observation and was 125.27±7.428 cm after observation. Whereas; it was 122.98±7.730 cm before observation and was 123.70±7.943 cm after observation in Control

Group-II. Similarly; the observed mean value of weight in Experimental Group-II in initial stage was 34.61 ± 6.176 kg and in final stage it was 34.18 ± 6.137 kg respectively. Whereas in control group-II it was 34.85±6.121 kg in initial stage and in final stages it was 34.83±6.018 Kg respectively.

Table Concludes: Table 4.1(b) concludes that; impact was found more fair enough on weight of Experimental group-II after nutritional education compared to its counterpart Control Group-II.

Table No. 4.2 shows the reasons for acquiring obesity in parents and children of both the experimental and control groups. In the experimental group 1, 18 (30%) parents had an unhealthy lifestyle, 14 (23.3%) lack of exercise/activity and 12 (20%) had improper diet schedule. These were the main reasons for acquiring obesity. In the control group 1, 17 (28.3%) parents had unhealthy lifestyle, 11 (18.3%) had no proper time management, 9 (15.0%) had stress, sitting job / sedentary life style and improper diet schedule were other causes for acquiring obesity.

From the table, it can be clearly seen that nutritional education had a positive impact in the improvement of life style of both the parents and children, thereby paving the way to healthy living and to control obesity in parents and to prevent childhood obesity.

Table No. 4.3(a) shows the association of exercise of children in both experimental and control group. In the children of experimental group 2, increase in the number of children now opting for exercise was observed. There was a highly significant impact of nutritional education on exercise of children in the experimental group 2 ($P < 0.001$). While no such significant changes were observed in the children of control group 2 ($P > 0.05$).

Thus, there was a positive impact of nutritional education in making these children opt for exercise, having a strong association on life style.

The obtained chi-value for exercise of parents of experimental group was 29.67 at 4 df which is significant ($p < 0.001$, two tailed). The obtained chi-value for exercise of parents of control group was 5.22 at 4 df which is not significant ($p > 0.05$, two tailed). In initial stage of both control and experimental group it was found that 3.3%, 11.7%, 35%, 20%, 30%

parents (with direct counseling) in experimental and 20%, 33.3%, 23.3%, 23.3%, 23.3% parents (without direct counseling) in control group were doing exercise daily, 4 days/week, 5 days/week, 6 days/week and no exercise in a week respectively. In final stage it was found that 20%, 26.7%, 40%, 13.3%, 0% parents (with direct counseling) in experimental group and 21.7%, 43.3%, 8.3%, 8.3%, 26.7% parents (without direct counseling) in control group were doing exercise daily, 4 days/week, 5 days/week, 6 days/week and no exercise in a week respectively. The obtained chi-value for exercise in both children of experimental and control group was 11.66 at 1 df which is significant ($p < 0.001$, two tailed) and was 0.574 at 1 df which is not significant ($p > 0.05$, two tailed). It was found that in initial stage of both groups 56.7%, and 33% children were doing exercise and 43.3%, 66.7% children were not doing exercise and in final stage 15%, 60% children were not doing exercise and 85%, and 40% children were doing exercise respectively.

Discussion

Here from the above table we can see that lack of exercise is one of the major reason for developing obesity both on parents and children which in future will strongly affect health of an individual. The parental influence on the development of obesity is apparent. Children of parents who are overweight are more likely to be overweight themselves. This is concluded from above result that parent residing sedentary lifestyle are inheriting same life style pattern in their children's life. Modification in parental lifestyle pattern can bring the same changes in their overweight children and can overcome obesity. Kaplan, *et al*, 2007 found the same solution in relation to lifestyle pattern modification.[2]

References

1. WHO (World Health Organization). World Health Report: Reducing Risks, Promoting Healthy Life. Geneva: WHO; 2006.
2. Kaplan MNE, & James L. *Journal of Nutrition Education and Behavior*.

Subscription Form

I want to renew/subscribe to international class journal "**International Journal of Food, Nutrition and Dietetics**" of Red Flower Publication Pvt. Ltd.

Subscription Rates:

- India: Institutional: Rs.38000, Individual: Rs.1000, Life membership (10 years only for individuals) Rs.5000.
- All other countries: \$900

Name and complete address (in capitals):

Payment detail:

Demand Draft No.

Date of DD

Amount paid Rs./USD

1. Advance payment required by Demand Draft payable to Red Flower Publication Pvt. Ltd. payable at Delhi.
2. Cancellation not allowed except for duplicate payment.
3. Agents allowed 10% discount.
4. Claim must be made within six months from issue date.

Mail all orders to

Red Flower Publication Pvt. Ltd.

48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India)

Tel: 91-11-22754205, Fax: 91-11-22754205

E-mail: redflowerpppl@vsnl.net, redflowerpppl@gmail.com

Website: www.rfppl.com