EXPLORING THE FOOD BELIEFS AND EATING BEHAVIOR OF SUCCESSFUL AND UNSUCCESSFUL 'WEIGHT LOSERS' BELONGING TO DIFFERENT AREAS OF KARACHI

Kausar Shafique, Margaret Almeida
Department of Food and Nutrition, Rana Liaqat Ali Khan Government College of Home Economics, Stadium Road, Karachi-74800, Pakistan
Kausar54@gmail.com

ABSTRACT

The objectives of this study was to explore the food beliefs and eating behavior of successful and unsuccessful 'weight losers'; and to find out the nutritional adequacy of food groups, through a 24 hour food recall. A total of sixty participants were selected from 75 respondents on the basis of their past weight loss, and separated into two groups of thirty each; namely successful and unsuccessful 'weight losers'. Data about their food beliefs and eating behaviors were collected through a questionnaire. A 24 hour food recall was also taken. Results showed that both groups of 'weight losers', differed in their food beliefs, eating behavior and energy intake. 'weight losers' of both groups had an inadequate consumption of vegetables, fruits and milk

Keywords: Body Weight;, Pakistan; Karachi, weight loss

INTRODUCTION

Cognition about food, are important but relatively unexplored determinants of eating behavior. In order to alter nutrient intakes at an individual or population level, an understanding of the way in which food is viewed is essential for anyone working in nutrition (S. F. L Kirk, A.J. Hill, ,1997).

In 1997, the World Health Organization published a landmark document recognizing obesity as a worldwide disease that poses a serious threat to public health (World Health Organization, 1997). Persons who are overweight or obese have substantially increased risk for morbidity from numerous chronic disorders, such as diabetes (Larsson B, Björntorp P, Tibblin G 1981; Kahn HA, Herman JB, Medalie JH, Neufeld HN, Riss E, Goldbourt U,1971) hypertension, (Stamler R, Stamler J, Riedlinger WF, Algera G, Roberts RH 1978; Dyer AR, Elliott P, 1989) and cardiovascular disease (Hubert HB, Feinleib M, McNamara PM, Castelli WP.1983; Rexrode KM, Hennekens CH, Willett WC, Colditz GA, Stampfer MJ, Rich-Edwards JW, 1997). Obesity-related health risk is greater when excess fat is deposited in the abdomen region because this phenotype is a stronger predictor of cardiovascular disease and type 2 diabetes mellitus than general obesity is (Després JP, Moorjani S, Lupien PJ, Tremblay A, Nadeau A, Bouchard C 1990; Goodpaster BH, Thaete FL, Simoneau JA, Kelley DE, 1997). This may be partially explained by excess accumulation of visceral fat, an independent correlate of insulin resistance (Ross R, Fortier L, Hudson R.1996; Williamson DF, Serdula MK, Anda RF, Levy A, Byers T. 1992) and dyslipidemia (Després JP, Moorjani S, Lupien PJ, Tremblay A, Nadeau A, Bouchard C 1990; Després JP, Lemieux S, Lamarche B, Prud'homme D, Moorjani S, Brun LD, 1995). These observations highlight the need to identify appropriate treatment strategies to prevent and reduce obesity and suggest that the effectiveness of these treatments would be enhanced if abdominal obesity, particularly visceral fat, was substantially reduced.

The National Nutrition Survey (2000) showed prevalence of preobese (body mass index: 25-29.9 kg/m2) and obesity (> 30 kg/m2) was 24.5% and 2.3%, respectively, in males, and 17.8% and 3.4%, respectively, in females aged 20 years and over (Nobuo Yoshiike MD, Fumi Kaneda MS, Hidemi Takimoto MD, 2002).

Ageing is associated with changes in body composition, including an increase and redistribution of adipose tissue and a decrease in muscle and bone mass, beginning as early as the fourth decade of life. The changes have significant implication for the health and functioning of the individual because of their associations with chronic disease expression and severity, as well as geriatric syndromes such as mobility impairment, falls, frailty and functional decline. There is sufficient evidence currently to suggest that a substantial portion of what have been considered 'age- related' changes in muscle, fat and bone are

in fact related either to excess energy consumption, decreased energy expenditure in physical activity, or both factors in combination. (Maria A Fiatarone S, 2002)

Major environmental and social changes have led to a decrease in physical activity, a rise in sedentary behavior and the consumption of high fat and high- energy foods, all in turn influencing the development of obesity. Effective management involves a multimodal approach with a developmentally aware approach, involvement of the family, a focus on healthy food choices, incorporation of physical activity and a decrease in sedentary behavior all being important (Louise A Baur, 2002) .

Diet restriction remains the most common method of obesity reduction (Williamson DF, Serdula MK, Anda RF, Levy A, Byers T, 1992). Despite the observation that low levels of physical activity are a major cause of obesity, (Schulz LO, Schoeller DA, 1994) increased physical activity alone is not thought to be a useful strategy for obesity reduction.

The conventional dietary approach to weight management, recommended by the leading research and medical societies, (Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults, 1998; Thomas PR, 1995; Position of the American Dietetic Association,1997; Krauss RM, Deckelbaum RJ, Ernst N,1996) is a high-carbohydrate, low-fat, and energy-deficit diet.

According to a study done, at any given time, approximately 45 percent of women and 30 percent of men in the United States are trying to lose weight. (Serdula MK, Mokdad AH, Williamson DF, Galuska DA, Mendlein JM, Heath G, 1999) Despite these efforts, the prevalence of obesity has doubled in the past 20 years (Flegal KM, Carroll MD, Ogden CL, Johnson CL, 2002) and has become a major public health problem (Department of Health and Human Services, 2001).

We therefore performed this study, to explore the food beliefs and eating behavior of successful and unsuccessful 'weight losers' belonging to different areas of Karachi. We also evaluated whether the diet they were consuming, was nutritionally secure or not. This was done by checking the adequacy of the food groups through a 24 - hour food recall.

METHODOLOGY

Awareness about food is important, but is considered an unexplored factor in relation to eating behavior. In order to change the nutrient intake of a person, it is first important to see how a particular food is viewed by that person. This study was therefore conducted to explore the food beliefs and eating behavior of successful and unsuccessful 'weight losers', belonging to different areas of Karachi, and to examine their 24 hour food intake to find out the nutritional adequacy of their diet. A total of 60 participants were selected from 75 respondents on the basis of their past weight loss and separated into two groups of 30 each, namely successful and unsuccessful 'weight losers' and their food beliefs and eating behavior observed. A 24 hour food recall was also taken to determine the adequacy of the food groups. Criteria for selection included, that all participants attempted dieting in the past, and that they reported no health problems. Subjects were selected from different places to collect data. These included different Universities, Colleges, Slimming Centers, friends and relatives. Respondents were selected on the basis of their statement of their past attempt of dieting, and divided into two groups. Those who have been successful in losing at least 5% of their weight in last three months were categorized as successful. The research tool used was a questionnaire. Participants completed this questionnaire which consisted of 4 parts to obtain relevant detail about their demographic data and general information, food beliefs, eating behavior and 24 hour food recall, to determine the adequacy of food groups. Before starting the final data collection, pre-testing of all the methods used in the collection of data was done. The sample collection was completed from 1st March to 30th March. SPSS version 10.0 was used for data entry and analysis. Data regarding the general information and the food beliefs and eating behaviors of successful and unsuccessful 'weight losers' along with their food recall was entered on SPSS Software. The SPSS Software 10.0 was used for statistical analysis of the data. Then it was compared and results were taken out.

RESULTS AND DISCUSSION

Results showed that both groups of 'weight losers' differed in their food beliefs, eating behavior and energy intake. The findings are summarized in Table 1, 2 and, 3; and Fig. 1 and 2 .

Proportion of subjects holding inappropriate beliefs were higher among unsuccessful weight losers (table 1). . A higher proportion of unsuccessful weight losers mentioned lack of physical activity as reasons for their being overweight (fig1) and have tried fasting to lose weight (fig2). Frequency of skipping breakfast and that of low fluid intake was also higher among unsuccessful weight losers (table 2). Higher than recommended intake of cereals and lower than recommended intake of fruits were more common among unsuccessful weight losers (table 3). Dietary inadequacies were very common among both the groups.

The result indicates that there is considerable opportunity for improving the weight loss strategies being followed by weight losers in Karachi.

Others have also found that successful weight losers are more likely to exercise (Kruger J, Blanck HM, Gillespie C 2006) and that weight losers have limited variety in their diets (Raynor HA, Jeffery RW, Phelan S, Hill JO, Wing RR. 2005).

Table 1. Food Beliefs of Successful 'weight losers' & Unsuccessful 'weight losers

Food Beliefs	Successful 'weight losers'		Unsuccessful 'weight losers'	
	n= 30	%	n= 30	%
Dieting means you cannot eat the things you like*	11	36	13	43
Change eating behavior for the rest of your life	24	80	16	53
CHO should be completely restricted from the diet*	8	26	11	36
Fats should be completely restricted from the diet	13	43	18	60
Dieting means skipping of meals*	4	13	9	30
Walking or exercise is necessary during dieting	30	100	29	96

*Faulty beliefs

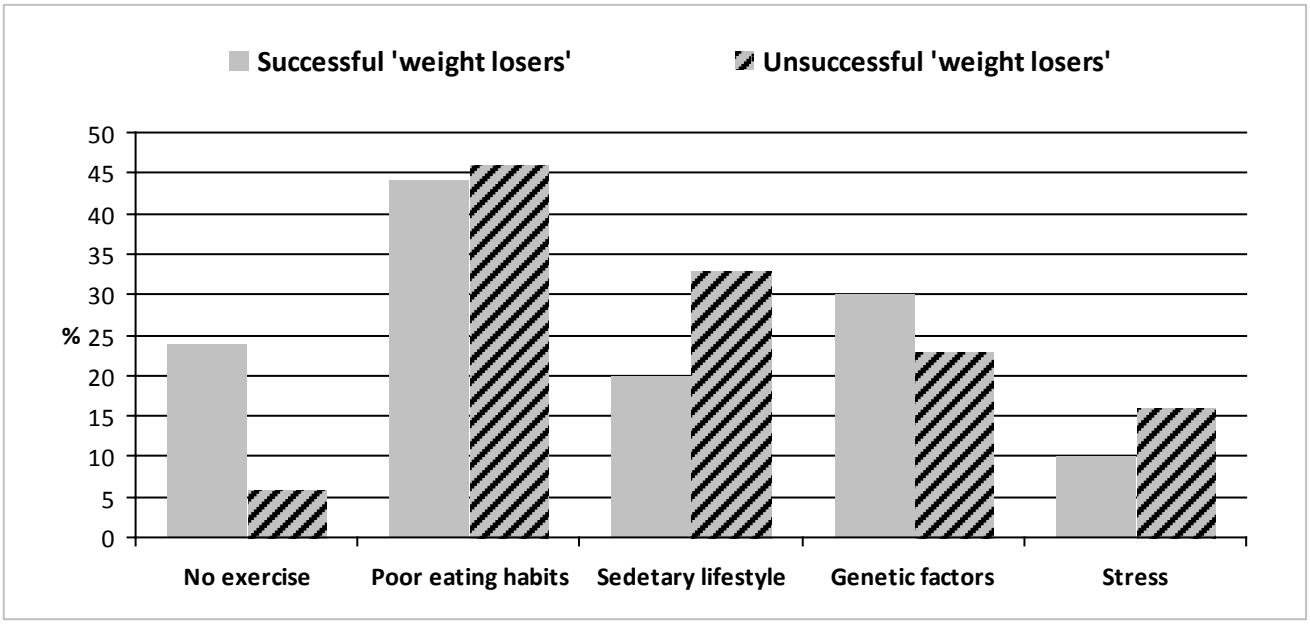

Fig.1. Respondents' views about reasons for their being overweight

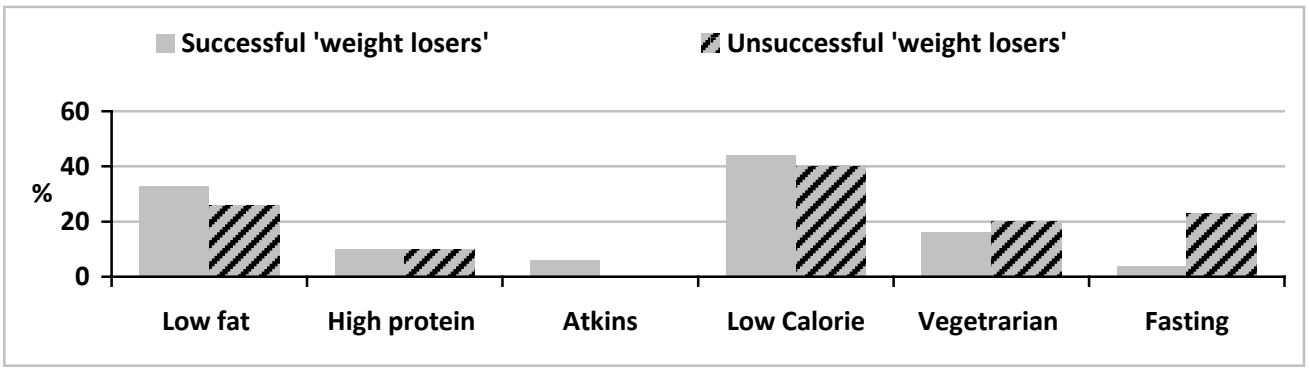

Fig.2. Types of diets that have been tried by weight losers

Table 2. Frequency of skipping meals and level of fluid intake of weight losers

Eating Behavior	Successful 'weight losers'		Unsuccessful 'weight losers'	
	N= 30	%	N= 30	%
Skipping of meals	16	53.3	20	66.7
Specify meals most often skipped				
Breakfast	5	16.7	11	36.7
Mid- morning	11	36.7	9	30.0
Lunch	8	26.7	9	30.0
Tea- time	9	30.0	11	36.7
Dinner	1	3.3	2	6.7
Bed- time	9	30.0	8	26.7
Fluid intake < 1liter	1	3.3	6	20.0
Between 1 & 2 liters	19	63.3	17	56.7
Between 2 & 3 liters	8	26.7	7	23.3
More than 3 liters	2	6.7	0	0

Table 3. Adequacy of dietary intake (in terms of daily servings) of 'weight losers'

Dietary Intake (Servings) Of Successful 'weight losers'									
Food Groups	Recomm. Daily Servings	More than Recommended Daily Servings				Less than Recommended Daily Servings			
		Successful 'weight losers'		Unsuccessful 'weight losers'		Successful 'weight losers'		Unsuccessful 'weight losers'	
		N=30	%	N=30	%	N=30	%	N=30	%
Cereal	6 – 11	1	3.3	4	13.3	20	66.7	16	53.3
Vegetables	3 – 5	0	0	0	0	28	93.3	27	90.0
Fruits	2 – 4	0	0	1	3.3	21	70.0	27	90.0
Milk	2 – 3	0	0	0	0	29	96.7	26	86.7
Meat	2 – 3	0	0	1	3.3	17	56.7	16	53.3

ACKNOWLEDGEMENT

The authors acknowledge the contribution of Ms Nida Jawaid in editing the manuscript.

REFERENCES

The National Heart, Lung, and Blood Institute (NHLBI) (1998) Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults -- the Evidence Report. Obes Res 1998; 6: Suppl 2:51S-209S.

Department of Health and Human Services. (2001) The Surgeon General's call to action to prevent and decrease overweight and obesity. Washington, D.C.: Government Printing Office, 2001.

Després JP, Lemieux S, Lamarche B, Prud'homme D, Moorjani S, Brun LD, et al. (1995) The insulin resistance-dyslipidemic syndrome: contribution of visceral obesity and therapeutic implications Int J Obes Relat Metab Disord. 1995; 19 (Suppl 1):S76-86.

Després JP, Moorjani S, Lupien PJ, Tremblay A, Nadeau A, Bouchard C. (1990) Regional distribution of body fat, plasma lipoproteins, and cardiovascular disease

Arteriosclerosis. 1990; 10:497-511.

Dyer AR, Elliott P. (1989) The INTERSALT study: relations of body mass index to blood pressure. INTERSALT Co-operative Research Group J Hum Hypertens. 1989; 3:299-308.

Flegal KM, Carroll MD, Ogden CL, Johnson CL. (2002) Prevalence and trends in obesity among US adults, 1999-2000. JAMA 2002; 288:1723-1727.

Goodpaster BH, Thaete FL, Simoneau JA, Kelley DE. (1997) Subcutaneous abdominal fat and thigh muscle composition predict insulin sensitivity independently of visceral fat Diabetes. 1997;46:1579-85.

Hubert HB, Feinleib M, McNamara PM, Castelli WP. (1983) Obesity as an independent risk factor for cardiovascular disease: a 26-year follow-up of participants in the Framingham Heart Study Circulation. 1983; 67:968-77.

Kahn HA, Herman JB, Medalie JH, Neufeld HN, Riss E, Goldbourt U. (1971) Factors related to diabetes incidence: a multivariate analysis of two years observation on 10,000 men. The Israel Ischemic Heart Disease Study J Chronic Dis. 1971; 23:617-29.

Krauss RM, Deckelbaum RJ, Ernst N. (1996) Dietary guidelines for healthy American adults: a statement for health professionals from the National Committee, American Heart Association. Circulation 1996; 94:1795-1800.

Kruger J, Blanck HM, Gillespie C. (2006) Dietary and physical activity behaviors among adults successful at weight loss maintenance. Int J Behav Nutr Phys Act. 2006 Jul 19;3:17.

Larsson B, Björntorp P, Tibblin G. The health (1981) consequences of moderate obesity Int J Obes. 1981; 5:97-116.

Louise A, Baur P(2002) Child and adolescent obesity in the 21st century: an Australian perspective. Asia Pacific Journal of Clinical Nutrition 11 (s3), S524 – S528. doi: 10. 1046/j.1440–6047.11.supp3.9.x.

Maria A.F.S. (2002) Benefits of exercise and dietary measures to optimize shifts in body composition with age. Asia Pacific Journal of Clinical Nutrition 11 (s3), S642 – S652. doi: 10. 1046/j.1440-6047.11.supp3.17.x.

Nobuo Y., Kaneda F, Hidemi Takimoto (2002) Epidemiology of obesity and public health strategies for its control in Japan. Asia Pacific Journal of Clinical Nutrition 11 (s8), S727 – S731. doi: 10. 1046/j. 1440 – 6047.11.s8.18.x.

WHO (1997) Obesity: Preventing and Managing the Global Epidemic. Report of a WHO Consultation on Obesity, Geneva, 3-5 June 1997. Geneva: World Health Organization; 1997.

Cummings, S., Parham, E. S., & Strain, G. W. (1997) Position of the American Dietetic Association: weight management. J Am Diet Assoc 1997;97:71-74.

Raynor HA, Jeffery RW, Phelan S, Hill JO, Wing RR. (2005) Amount of food group variety consumed in the diet and long-term weight loss maintenance. Obes Res. 2005 May;13(5):883-90.

Rexrode KM, Hennekens CH, Willett WC, Colditz GA, Stampfer MJ, Rich-Edwards JW, et al. (1997) A prospective study of body mass index, weight change, and risk of stroke in women JAMA. 1997; 277:1539-45.

Ross R, Fortier L, Hudson R. (1996) Separate associations between visceral and subcutaneous adipose tissue distribution, insulin and glucose levels in obese women Diabetes Care. 1996; 19:1404-11.

Kirk S.F.L, Hill A.J. (1997) Exploring the food beliefs and eating behavior of successful and unsuccessful 'weight losers'. Journal of Human Nutrition & Dietics – 10 (6), 331-334. dol: 10. 1046/ j 1365 – 277 x. 1997. 00069. x

Schulz LO, Schoeller DA. (1994) A compilation of total daily energy expenditures and body weights in healthy adults Am J Clin Nutr. 1994;60:676-81.

Serdula MK, Mokdad AH, Williamson DF, Galuska DA, Mendlein JM, Heath GW. (1999) Prevalence of attempting weight loss and strategies for controlling weight. JAMA 1999; 282:1353-1358.

Stamler R, Stamler J, Riedlinger WF, Algera G, Roberts RH. (1978) Weight and blood pressure. Findings in hypertension screening in 1 million Americans JAMA. 1978; 240:1607-10.

Thomas PR, ed. (1995) Weighing the options: criteria for evaluating weight-management programs. Washington, D.C.: National Academy Press, 1995.

Williamson DF, Serdula MK, Anda RF, Levy A, Byers T. (1992) Weight loss attempts in adults: goals, duration, and rate of weight loss Am J Public Health. 1992; 82; 12517.

.