



Fad Diet vs. Balanced Diet in Adults Living in Islamabad

Raja Habib¹, Asra Touqir², Irsa Sajjad^{3,4*}

¹ Department of Computer Sciences - IBADAT International University Islamabad,
44000, Pakistan

² Department of Dietetics and Nutritional Sciences - IBADAT International University Islamabad,
44000, Pakistan

³ Department of Management Sciences - IBADAT International University Islamabad,
44000, Pakistan

⁴ Department of Mathematics and Statistics, Central South University Changsha, Hunan, China

Email: rajahabib@gmail.com, wareeshak11@gmail.com, irsasajjad@yahoo.com

Abstract

Adults have a variety of experiences with social pressure to have low weight. Thus, there is a desire to lose weight with a variety of efforts, such as fad diets. This type of diet can lead to insufficient intake of nutrients in the body and increase the risk of health problems in the long run. The research aimed to analyze fad diets, BMI, and activity levels of adults in Islamabad. The research design was cross-sectional in 50 adults aged 19–58 years who were selected by simple random sampling. The data of fad diets used in the questionnaire, BMI data using the calculation of the last body weight and height, and activity level were measured using food frequency questionnaire. Data analysis used the chi-square test. The results of this research showed that most respondents implement fad diets (56%), had normal BMI (60%), had fairly activity levels (32%), while overweight BMI (34%), and obese (4%) of BMI, and had moderate and inactive activity level (26%). There was an insignificant ($p = .085$) correlation between fad diets and age ($r = -.232$), and in addition, there was an insignificant correlation ($p = .171$) between fad diets and BMI ($r = .013$). It is concluded that the adults who implemented fad diets and below normal tended to not have activity levels of BMI because of improper food selection and psychological factors. Adults are expected to be able to conduct weight loss with the assistance of a nutritionist or in accordance with balanced nutrition guidelines.

Keywords: FAD diet; Balanced diet; BMI; activity level.

1. Introduction

A balanced diet contains adequate amounts and proportions of all the necessary nutrients required for healthy growth and activity. A FAD diet is a diet specifically anticipated for weight loss programs without any evidence and is short-lived. The most popular diets are low carbohydrate diets, high-fat diets, and very low carbohydrate diets. Some diets are a combination of high carbohydrates, low fat, or moderate fat. There are diets that are also low in glycemic index, vegetarian diet, high protein diet, cabbage soup diet, and grapefruit diet. Atkins diet, the south beach diet, the lemon detox diet, and the ketogenic diet. FAD diets cause nutritional deficiencies and many other health problems.

In the early 1900s, the first FAD diet is introduced by Horace Fletcher made dieting a pop culture with his Chewing Diet. He recommended chewing food until it became liquid will prevent overeating. Then other

diets were introduced later on for example Tapeworm diet, Hollywood Grapefruit diet, Cabbage soup diet, Atkins diet, ketogenic diet, etc. [9] investigated the right type of diet for weight loss still controversial. Both restriction of nutrients and energy results in negative outcomes of the balance and hence contribute to weight loss. Low carbohydrate ketogenic diet promotes metabolic acidosis and renal hyper-filtration, leading to a reduction in life expectancy in the middle ages.[3] suggested that excessive intake of diet along with reduced energy provides a positive energy balance, contributing significantly to the prevalence of obesity, impairment of health, reduction in quality of life and increased health care cost. Changes in diet and life style might be the best approach to maintain a healthy weight in long term.

[6] investigated the trends in FAD diet and attitude of people towards the implementation and recognition of adverse effects of FAD diet. [2] proposed that popular diets have become increasingly prevalent and controversial. More than 1000 books are available, with many popular ones departing substantially from mainstream medical advice. Cover stories for major news and magazines, television debates and cautionary statements by prominent medical authorities have fueled public interest and concerns regarding effectiveness of such diets.

[8] purposed that there are hundreds of diet programs available come from variety of types such as balanced, high carbohydrate, high fat, high protein, low carbohydrate, low fat, low protein and combinations of these. Primary health care physicians need to be aware of how these diets may affect their patient's health. [7] suggested that obesity continues to be a growing concern globally due to association with a number of commodities and contributing significantly to increase in health care expenditures. Despite availability of numbers of treatment modalities, lifestyle modification and exercise along with dietary modifications continues to be the foundation. Though the studies do not show any superiority of one diet compared to other, the preventive benefits and other favorable metabolic changes of the diet makes them worthy of consideration.

[5] investigated that the models and actresses have a social pressure to look slim and have to lose weight, for this purpose they use FAD diets and have to bear the negative outcomes along with the perfect body shape. This also leads to lesser nutritional status and nutritional inadequacy. [10] investigated the relationship between the lithogenic risk and modern diets (FAD diets), especially in the case of kidney stone disorder and urinary tract dysfunction. Some studies evaluated that there is a direct relationship between modern diets and KSD. Reduction of carbohydrates in the diet and counterbalancing it with a sufficient intake of fruits and vegetables can balance out the protection against KSD formation.

[7] investigated the difference between a balanced diet and trending diets and the associated risk factor for obesity. She explained that restricting the diet causes several problems such as deficiencies of nutrients that might lead to fatigue and stress. As the stress increases the release of adrenal hormones is decreased and thus causing a negative effect on CVS, energy levels and metabolism. They even add up and take a major toll on body functioning. [4] suggested that a FAD is the term used for something that is embraced very enthusiastically for a short time, especially by many people.

There's no definite meaning for FAD diet. This diet usually used by celebrities and usually used for negative connotative terminology. Fasting is the oldest FAD diet used and shares many common issues with other FADs. It includes simple Fast, Alternate Day Fast (ADF) and Intermittent Fasting.

2. MATERIALS AND METHODS:

The population in this research was adult males and female living in Islamabad city. The criteria in this research adults were active in the last 3 months and following any diet. The sample size is 50 people based on simple random sampling formula. The Independent variable in this research was fad diet and activity level while the dependent variable was BMI. The fad diet data were obtained using measurements with the fad diet questionnaire. The questionnaire had 10 questions consisting of questions about dietary efforts and closed questions (yes/no) about the type of fad diet that respondents have or are currently doing. The correct answer was given 0; if the wrong answer was given 1, to make the calculation easier.

The nutritional status was obtained from measurements of body weight and height carried out during the evaluation of the agency in the past month, then included in the BMI formula, with the category underweight (BMI >18.5), normal (BMI 18.5–24.9), overweight (BMI 25–29.9), and obese (BMI 30 or more). The self-regulated food preferences used a Likert-type scale (0= never, 1= almost never, 2 = sometimes, 3= fairly often, 4= very). Data on the Balanced diet were measured through food frequency questionnaire. Data analysis was carried out using the statistic program through the chi-square test. The value of the chi-square test interpreted in this research was the value of r . It was the contingency coefficient value (r) which was performed to find out the strength of a relationship between variables.

Table 1: The distribution of respondent’s characteristics and fad diet of adults in Islamabad

Characteristics of respondent	Number (n)	Percentage (%)
Age (year)		
19-28	35	70
29-38	9	18
39-48	1	2
49-58	5	10
Height (inches)		
4’6”-5’0”	1	2
5’1”-5’5”	34	68
5’6”-6’0”	14	28
6’1”-6’5”	1	2
Weight (kg)		
41-50	5	10
51-60	17	34
61-70	15	30
71-80	7	14
81-90	5	10
91-100	1	2
Fad diets		
Yes	28	56
No	22	44

The distribution of fad diets based on the questionnaire.



Figure 1: The distribution of fad diets based on the questionnaire.

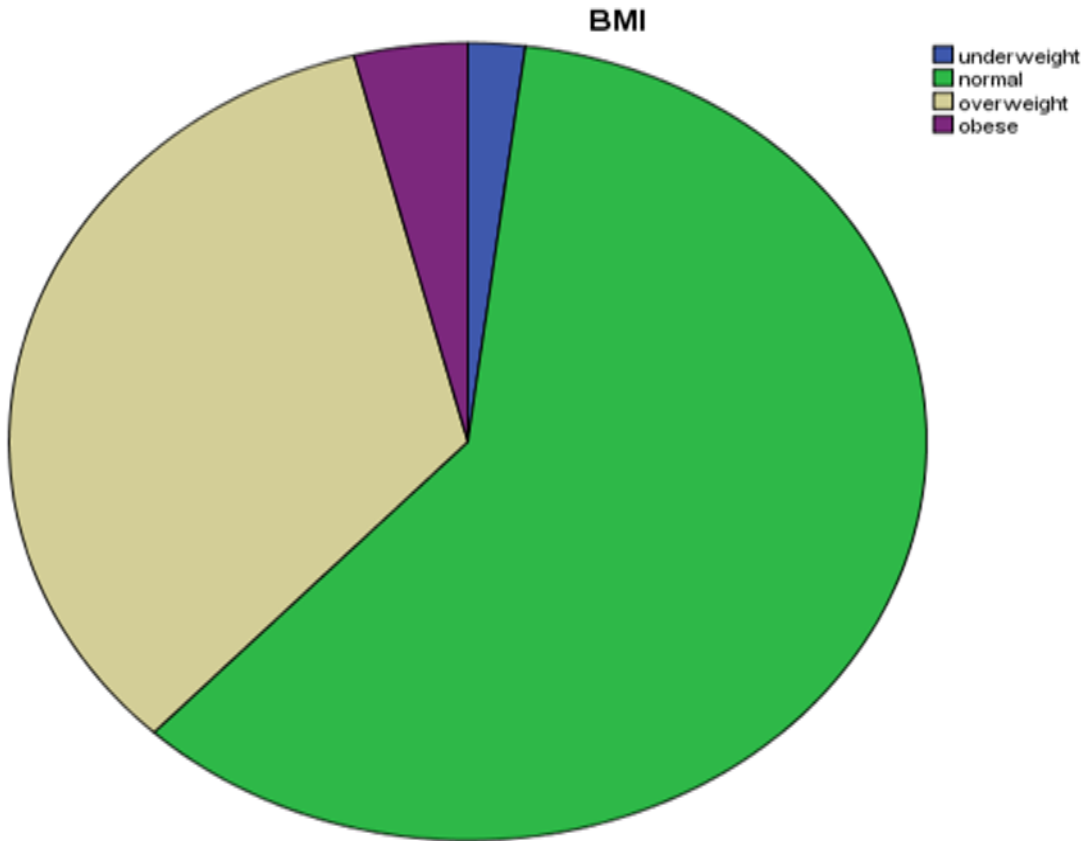


Figure: 2 The distribution of BMI in adults.

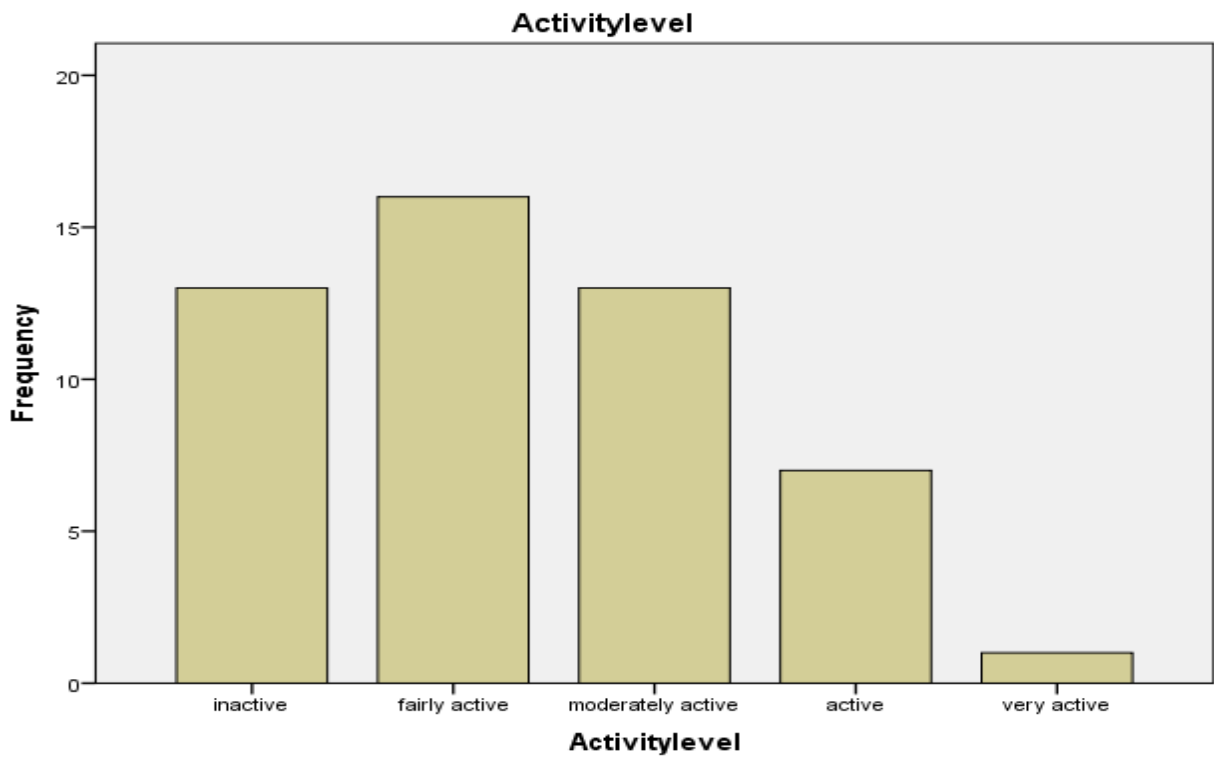


Figure 3: The distribution of activity levels in adults

Table 2: The distribution of respondents based on level of macronutrients of adults in Islamabad.

Nutrients	Number (n)	Percentage (%)
Carbohydrate		
0	2	4
1	6	12
2	19	38
3	17	34
4	6	12
Proteins		
0	3	6
1	5	10
2	15	30
3	18	36
4	9	18
Fats		
0	2	4
1	7	14
2	14	28
3	17	34
4	10	20

Table 3: The relation of fad diets, Age, BMI, Activity level in adults of Islamabad:

Variables	Number(n)	Percentage (%)	p value	r value
Age (years)				
19-28	35	70	.085	-.232
29-38	9	18		
39-48	1	2		
49-58	5	10		
BMI				
Underweight	1	2	.171	.013
Normal	30	60		
Overweight	17	34		
Obese	2	4		
Activity level				
Inactive	13	26	.720	-.056
Fairly active	16	32		
Moderate active	13	26		
Active	7	14		
Very active	1	2		

3. Results and Discussion:

The results of a research showed that population living in Islamabad is of average age 19 to 28 are following fad diets and balanced diet. Almost all respondent are following any diet. However, 9 respondents are not doing any diet. The diets had a large impact on health and wellness. While fad diets promised effective weight loss which causes health risks in an individual.

The results of this study indicates that 44% of respondent are not following any diet, while 56% are following fad diets. Based on Table 1, it can be seen that more than half (56.0%) of respondents currently (and ever) make efforts to lose weight by the fad diet method. The fad diet method is considered unhealthy because this diet directs a person to consume low calories and nutrients.

Based on figure: 1 In bar chart, it is known that the type of fad diet that is mostly done by respondents is ketogenic diet (14%), low fat diet (8%), intermittent fasting (12%), and low carb (16%). While balanced diet

(26%) is consumed. Many adults had unhealthy dietary habits included skipping meals, fasting, excessive detoxification, and consumption of diet pills.

In figure: 2 , In Pie chart BMI indicators are shown that out of 50 respondents 60% are lay in normal range, while other 40% are malnourished (underweight and overweight).It is known that most respondents have normal (18.5-24.9) BMI (60%), while overweight (25.0-29.9) (34%), obese (30 or more) (4%), and underweight (less than 18.5) (2%). The adult's population is not experiencing nutritional problems because maximum population is maintaining their BMI. Adults who are malnourished have a greater risk of developing infectious diseases and other health problems.

In Figure: 3, it can be seen that 26% of respondents have mostly inactive or sedentary (mainly sitting). While 32% have a fairly active (walking and exercise 1-2x week), moderate active 26% (exercise 2-3x week), active 14% (exercise hard more than 3x weekly), and very active 2% (exercise hard daily).

Based on Table 5, most respondents conduct diet in wrong ways. Thus, energy intake becomes low. Respondents reduced the frequency of eating and reduced the portion of carbohydrates, fats, proteins not even consuming carbohydrates at all in one day. Lack of nutrients intake continuously will cause health problems such as chronic energy deficiency (CED), constipation, and diverticulosis.

Based on Table 6, In the chi-square test, the p value was .085, so it can be concluded that age has a negative relationship with fad diet. And then BMI had perfectly negative relation .013 with fad diets. In the chi-square test, the p value was .171. The most adults have adequate levels of energy and macronutrients under the DRI (Dietary Reference Intake) and use the fad diet method by reducing the frequency of eating to 2 times a day and avoiding the consumption of carbohydrates, proteins, and fat so that they consume only fruits and vegetables.

Fad diets are a common method used by people with rapid weight loss, but only the amount of water and muscle loss, not fat tissue. Other fat diet methods such as low carbohydrate/high-protein and fat diets cause a change in the main energy source, from glucose to fatty acids and ketones, which can cause ketosis. Ketosis has been shown to reduce weight and improve body fat and glucose profiles, but this diet has both acute and chronic risks. Carbohydrate consumption can affect human cognitive function, because the brain consumes the most energy from glucose, which is 20% of the total energy intake that enters the body.

4. Conclusions

Most adults have BMI and activity level normal with the category of underweight. Some respondents who have BMI and activity level below normal are currently (or ever) applying the fad diets diet method by consuming drinks that are believed to eliminate fat (slimming products such as shakers, slimming teas, and fibrous drinks), consuming only one type of food (carbohydrates only, protein only, or fruit and vegetables only), resulting in inadequate nutritional intake in the body. The adults is expected to increase the frequency of eating in a day, which was originally from twice a day to three times a day by implementing a balanced nutritionally appropriate diet through consultation with a nutritionist to achieve an ideal body.

Funding Statement: The author received no specific funding for this study.

Conflicts of Interest: The author declare that they have no conflicts of interest to report regarding the present study.

References

- [1] Aravind R. Kuchkuntla, Berkeley Limketkai, Sanjeev Nanda, Ryan T. Hurt & Manpreet S. Mundi." Fad diets: hype or hope?". *Current Nutrition Reports* volume 7, pages310–323 (2018).
- [2] DM Ruden, P Rasouli, X Lu - Technology in cancer research. (2007). "Potential long term consequences of fad diet on health, cancer and longevity: lessons learned from model organism studies". *Technology in cancer research and treatment*. Vol no. 6 (issue no. 2): pg 247-254.
- [3] J Khawandanah, I Tewfik, (2016). "Fad diets: lifestyle promises and health challenges." *Journal of Food Research*, 5(6), 80.

- [4] K Hart - Advanced nutrition and dietetics in obesity, (2018) - "Fad diets and fasting for weight loss in obesity". *Advanced nutrition and dietetics in obesity*, 177.
- [5] Mutiara.V., Trias. M., and Dominikus A. (2021)." Fad Diets, Body Image, Nutritional Status, and Nutritional Adequacy of Female Models in Malang City". *Journal of Nutrition and Metabolism*, 2021.
- [6] P Goswami, M Hossain - 2019 -Goswami, P., & Hossain, M. (2019). "Attitude towards Fad Diets."
- [7] Ujjwala.B, (2018). "obesity and diet imbalance: balance diet vs. trending diets". *Journal of obesity and weight loss therapy*. Vol no. 8: pg 21.
- [8] RB Friedman (1986). "Fad diets: Evaluation of five common types." *Postgraduate Medicine*, 79(1), 249-258.
- [9] Y Schutz, JP Montani, AG Dulloo - Obesity Reviews, 2021. "low carbohydrate ketogenic diets in body weight control: A recurrent plaguing issue of fad diet?"
- [10] Y Barghouthy, M Corrales, B Somani - Nutrients, (2021). The Relationship between Modern Fad Diets and Kidney Stone Disease: A Systematic Review of Literature. *Nutrients*, 13(12), 4270.