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Association of Body Mass Index with Dietary Habits of Employees in Educational Sector of North Gujarat

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Abstract:
Obesity is a chronic condition that affects practically all of the body's organs and tissues and is linked to an elevated mortality rate. An excessive amount of subcutaneous fat in comparison to lean body weight is what defines it. Adipose tissue cell hypertrophy and hyperplasia are linked to excessive fat accumulation. Definition of obesity can be understood through numerous means, which include body mass index, distribution of subcutaneous fat, waist to hip ratio, and societal and aesthetic standards. A person is deemed obese if their body mass index, which is determined by dividing their weight in kilograms by their height in meter squared, is greater than or equal to 30, and overweight if it is between 25 and 29.9 kg/m2. According to epidemiologic data, obesity and overweight are becoming more common. Cross-sectional surveys of 135 employees (59.25% male and 40.74% female) were selected by convenient sampling method of educational sector of north Gujarat. Employees were required to complete a self-administered questionnaire related to individual's food and exercise habits. They were also measured for height, weight, and body mass index. The body mass index was used to evaluate the weight status of the workforce. Analysis was undertaken through SPSS (version 16.0) programme to categorize eating habits and determine the prevalence of overweight and obesity among employees.

Keywords: Physical Exercise, BMI, Diet, Employees

Introduction:

Health and nutrition are the two most significant factors of every nation's human resources that influence its development (Strauss, J. and Thomas, D., 1998). Moreover, nutrition is a matter of survival, health, and development for the current generation as well as future generations. A healthy workforce that is properly fed is a requirement for effective economic and social development. Food safety, dietary quality, bodily health, and sanitation are actually everyone's birthrights and the top priority of any state developmental sector. Adults' nutrition and health are particularly important because they are the group most in charge of providing the society with financial support (James, 2011. Since they make up the majority of a country's human resources, adults are crucial to the general development of a country. Every government development programme in India over the years has nutrition as its main focus. India is currently undergoing significant transformation in terms of socioeconomics, demographics, nutrition, and health (James, 2011). Despite the country's ongoing efforts to alleviate poverty, undernourishment, and communicable diseases, industrialization, urbanization, and economic development have brought up new problems related to wealth (Kremmyda, L.S., Papadaki, et al 2008). An unprecedented level of

economic affluence has resulted from the significant socioeconomic progress gained over the preceding thirty years, which has profoundly impacted Indian communities' way of life, notably with relation to food consumption patterns other unfavorable lifestyle changes (Jakicic JM, Gallagher KI, 2003).

All population groups have seen a significant decline in physical activity, but there has been no corresponding decline in energy intake. It is impossible to produce or destroy energy , it can only be transformed into various shapes. A temporary minor excess of total energy intake over total energy expenditure leads to weight gain. Overeating, heart disease, and diabetes are now being recognized as significant public health issues (Hewitt JA, et al , 2008). People are exposed to a poor nutritional environment, inactivity, and stress during their migration from rural and tribal communities to urban agglomerations, which is also the cause of the epidemiology and nutrition change. As a result, the nation will need to prepare itself to prevent and fight the two fold burden inadequate and excessive nutrition, as well as health issues they bring (Wasting, O.S., 2025).

While being overweight is associated with excess energy intake, being underweight is typically the result of deficit energy consumption. There are different categories of public health issues that are linked to these two situations. For instance, obesity causes a number of negative health effects. Unhealthy body weight increases the risk of arthritis, gallstones, some types of cancer, diabetes, hypertension, heart disease, etc (Okay, D. M., Jackson, et al, 2009). In addition to an aberrant rise in glucose and insulin resistance, Low levels of high density lipoproteins (HDL) and greater levels of low density lipoproteins (LDL) and triglycerides are inextricably linked to obesity. Being underweight increases the risk of preterm birth and low birth weight, which reduces the likelihood of survival. If they do, they will likely survive as malnourished children with poor physical and mental health. Also, being grossly underweight can result in amenorrhea, infertility and chances for pregnancy complications furthermore, it can also cause aneamia and hair loss. Even in young people, being underweight is a recognized risk factor for osteoporosis because the afflicted individuals are unaware of the threat beforehand. Underweight people have mortality rates that are similar to those of morbidly obese people. According to recent estimates, there are more than a billion overweight or obese people worldwide (WHO 2012).

A global issue for public health is the rise in obesity prevalence and related chronic disorders. (Ng M, et al.2014); (Kelly T, et al .2008); By 2030, it is expected that 16.2 billion individuals would be obese and 1.2 billion will be overweight globally, based on present trends. (Barzin M, Hos, et al., 2016); (Phillips CM, et al., 2014); (Kelly T, et al .,2008) are only a few examples of the authors. According to the WHO in 2016, 1.9 billion adults globally, or 650 million people, are overweight. By 2030, the World Obesity Federation (WOF) predicts that in the world, 1 in 5 women and 1 in 7 men would be overweight or obese. Between 2010 and 2030, it is expected that the prevalence of obesity would double across South and Southeast Asia. Though to varied degrees, the prevalence of overweight and obesity has grown over the past few decades in the majority of Asian countries. Asia's nations and regions are at various stages of development. (2011) Manu, R., and Krishna, R. Others, such as Singapore, Japan, Hong Kong and Malaysia, are at more advanced phases of development than Indonesia and Vietnam, which are still in the early stages.

The prevalence of cardiovascular disease (CVD) is among the highest in India. Estimates of the prevalence for coronary heart disease in India over the past several decades have ranged from 1.6% to 7.4% in rural areas and from 1% to 13.2% in urban areas (Gupta R, et al , 2008). The prevalence of diabetes mellitus is high and rising both internationally and in developing nations such as India, mostly as a result of increased levels of overweight/obesity and unhealthy lifestyles. In India, there are currently

an estimated 77 million diabetics, and by 2045, there are expected to be over 134 million. (Pradeepa R, Mohan V. 2021).According to NFHS 5 report for India the number of underweight men and women are 16.2% and 18.7% ,whereas number of overweight /obese men and women is 22.9%.and 24.0% respectively. With respect to (NFHS 5) India's report, the national status of adults of age 15 – 49 years for the state of Gujarat is underweight men and women are 20.9% and 25.2% , whereas number of overweight /obese men and women is 19.9% .and 22.6% respectively

Equilibrium between energy intake (calories consumed) and energy expenditure determines the body's energy reserve (calories burned). The majority of the body's energy is stored as fat. Therefore, the harmony between energy consumption and expenses largely determines whether body fat increases or decreases as well as the corresponding body weight. Given the increased prevalence of diabetes, hypertension, and coronary artery disease in urban India, maintaining a healthy body weight for height is essential. Indians have a higher level of body fat while having a lower body mass index (BMI) than many other ethnic groups (Kenney, J.J. and RD, F). According to a WHO expert opinion, Indians are more susceptible to disease even at lower BMIs since they have more body fat. This is why among Indian communities, even lower BMIs are linked to increased risks for diabetes and cardiovascular diseases (CVD). Several Asian ethnicities, particularly Indians, exhibit higher total and central adiposity for a given body weight when compared to comparable White populations. Indians are more likely to develop metabolic syndrome, which is mostly brought on by their greater prevalence of central adiposity (Ramachandran and Snehalatha, 2010).

India is in a difficult bind because the majority of its underweight citizens come from lower socioeconomic groups (Pathak, P. K., & Singh, A. 2011). Conversely, persons from higher social strata are obese. According to "the Working Group on Integrating Nutrition with Health's report for the Eleventh Five Year Plan", the majority of public health initiatives are currently only devoted to the prevention of specific nutritional deficiencies, infectious diseases, and newly emerging problems with nutrition-related chronic problems like cardiovascular diseases ,diabetes mellitus, hypertension, and cancer (Cederholm, T., Jensen, G. L., Correia, M. I. T. D., Gonzalez, M. C., Fukushima, R., Higashiguchi, T., ... & GLIM Core Leadership Committee, GLIM Working Group. (2019). Little focus is placed on the preventive components, or more specifically, the nutritional problems that act as a secondary cause of disease and mortality (Govt. of India, 2006). The social, religious, and cultural diversity as well as the wide geographic disparity between Indian states have resulted in markedly different economic, social, dietary, and health profiles (Suri, S., & Das, R. 2016). At varying rates, the socioeconomic, demographic, dietary, and health conditions in the various states of the nation are changing.

It is now widely known that a wide range of illnesses and disorders have an aberrant body composition. Obesity is the most prevalent of these disorders, where there is an excessive amount of body fat, which results in irregularities in the metabolism of lipids and carbohydrates, high blood pressure, and adult-onset diabetes (Stefan, N., Birkenfeld, A. L., Schulze, M. B., & Ludwig, D. S., 2020). The body's ability to store fat and protein is reduced by energy and protein deprivation, and many diseases are linked to anomalies in the total amount of body water or in how that water is distributed throughout intracellular and extracellular regions (Benelam, B., & Wyness, L., 2010). A person's health status can be more precisely evaluated by analysing body composition, and as a result, food and exercise programmes can have their effects better targeted. One of the interrelated and compelling study areas in body composition is the impact of elements including dietary patterns, physical activity, environmental influences,

socioeconomic behaviours, lifestyle patterns, age, and race on changes in body composition ("Council on School Health, Council on Sports Medicine and Fitness, 2006").

Key Causes of Obesity and Overweight

Genetic Factors- Genetic factors may change calorie intake, energy expenditure, and body fat percentage, which in turn may change metabolism. Childhood obesity is also influenced by the parents' hereditary predisposition for obesity (Farooqi, I. S., & O'rahilly, S., 2007).

Increased Caloric Intake- Overweight and obesity are brought on by an imbalance between a person's calorie intake and expenditure. In the past, man used to hunt, collect, and go on foot foraging for food. Energy imbalance is unavoidable in contemporary society due to an abundance of food and largely sedentary lives. Overindulgence in fried food, sugar-sweetened beverages, and snack foods causes calorie accumulation (Gupta, R., et al., 2010).

Decreased physical activity-To carry out daily tasks, maintain a healthy baseline metabolic rate, and repair bodily damage, energy obtained from meals is necessary. If energy intake and expenditure are persistently out of balance, the resulting positive energy balance promotes weight gain and obesity. Children are frequently kept inside in modern metropolitan households because to the abundance of indoor entertainment alternatives, including televisions, laptops, tablets, and mobile phones (Strasser, B., 2013).

Inadequate knowledge- Lack of nutrition awareness causes people to consume foods with poor nutritional value and make frequent bad dietary decisions, which cause weight gain and nutrient shortages (Vitolins, M. Z et al., 2012).

Environmental factors- exposure to developed-world lifestyles and diets on a larger scale Rapid urbanization has resulted in an excess of the western lifestyle, which includes eating out frequently, snacking on highly processed meals, and increasing the consumption of convenience goods (Oyeyemi, A. L. et al., 2012).

Socio-cultural factors and traditional Beliefs- There are steadfast ideas that have persisted through multiple generations of moms yet are hardly scientific. Although parents frequently assume that their overweight children's baby fat will go away as they get older, it is well known that the majority of them will continue to be obese as adults. It's also a frequent misconception that obese kids are often healthy. Oils, ghee (clarified butter), and butter are foods that mothers in poor nations believe will help their children grow and become stronger. The prevalence of these myths and misconceptions encourages overindulgence in calorie-dense foods and lessens parental worry about potential consequences (Micklesfield, L. K. et al, 2013).

Insufficient Physical Activity- According to WHO Insufficient physical activity is blamed for 3.2 million fatalities and 32.1 million DALYs annually. Inactivity affects 31% of persons globally who are 15 or older (28% men and 34% women). Increase in the prevalence of inadequate physical activity correlated with an increase in national wealth. In developed nations, 41% of males and 48% of females engaged in insufficient physical activity, compared to 18% of males and 21% of females in developing nations. Technology and automation in the workplace and other facets of life are probable contributing factors to low levels of physical activity in higher-income countries. It is believed that 2 hours and 30 minutes of moderate physical exercise per week can cut the risk of diabetes and ischemic heart disease by roughly 27% and 30%, respectively. As a key factor in determining energy expenditure, it is crucial for maintaining a healthy energy balance and managing weight. Additionally, exercise lowers the risk of

stroke, high blood pressure, and depression. Technology and automation in the workplace may contribute to low levels of physical activity in higher-income countries.

According to the IDSP survey conducted in 2007–2008, men and women in urban areas in Tamil Nadu spent 75 and 89 percent of their time sitting or lying down for longer than four hours each, whereas men and women in rural regions spent 70 and 82 percent of their time doing so.

Unhealthy Diet- In India, cross-sectional survey found that the lowest socioeconomic groups consumed even less fruit, with half of the population eating no or very little of it each week (NFHS-3). The high price of fresh produce could be the cause of this (ICMR, 2015). Due to changes in lifestyle, Indian consumption increased from 24 to 36 grammes per day in rural people and from 36 to 50 grammes per day in urban people, respectively. Salt intake also increased regardless of the kind of residence (Ramachandran, 2016).

The present study's objective aims to examine the association between fast food consumption frequency and obesity and BMI in a representative population and to ascertain the relationship between physical activity and body mass index.

Methodology:

A cross-sectional survey study design has been used to conduct the study, which was carried out at the Private University of Gujarat in the fall of 2022. This survey included a sample of 135 employees, including 59.25% men and 40.74% women. The hiring of workers was done at random. A consent form had to be signed by workers who decided to take part in the study. Diet and eating patterns are independent variables. Exercise and body mass index are dependent factors in this study.

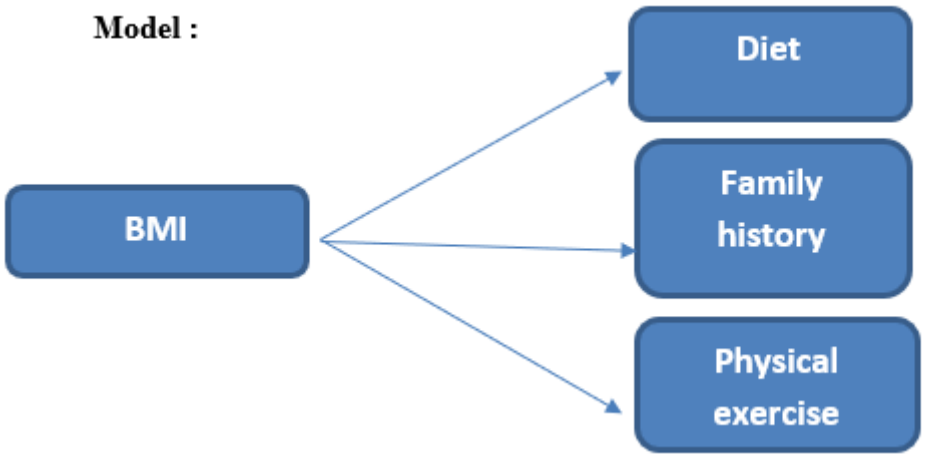
Data Collection

The data collection process was finished in two steps. Prior to taking the anthropometric measurements, the questionnaire had to be finished. Participants were required to complete a questionnaire regarding their eating, drinking, and smoking habits in addition to providing information about their age, sex, and anthropometric measures, which included information about their weight, height, and Body Mass Index (BMI).

Body mass index - BMI

“Adults' BMI, originally known as the Quetelet index, serves as a gauge of their nutritional health. It is expressed as a ratio of a person's weight in kilogrammes to their height in metres squared (kg/m2). According to WHO the weight can be categoriesed as BMI (Below 18.5) as Underweight, BMI between 18.5 to 24.9 as Normal weight, BMI between 25.0–29.9 as Overweight, BMI between 30.0–34.9 as Obesity class I, BMI between 35.0–39.9 as Obesity class II and BMI Above 40 as Obesity class III” (WHO, Fact Sheet, A Healthy Lifestyle).

The data was analyzed using SPSS software suite, version 16.0 and the results were presented as mean, standard deviation, and chi-square statistics were used to look for variations by BMI in the frequency of replies to questions about dietary and exercise routines as well as perceived impediments to leading a healthy lifestyle. At a P value of 0.05, differences were deemed statistically significant.



Hypotheses:

- BMI has a significant impact on family history (obesity).
- BMI has a significant impact on diet.
- BMI has a significant on physical exercise.

Results

Characteristics of the Respondent' sample

Specifications of the participants Table 1 lists the participants. 80 men and 55 women from a total of 135 employees took part in the study. The individuals' average body weight and height were 58.72± 13.38 kg and 164.31± 13.75 cm, respectively. The average BMI of the underweight, normal weight, overweight, and obese individuals is 21.79 ± 4.34. Mean BMI is 21.79 ± 4.34 among which the average Underweight, Normal weight, Overweight and Obese respondents were 16.70±1.81, 21.28±1.91, 26.85±1.32 and 32.75±1.71 respectively. The average weight and height of the participants were 58.72± 13.38 kg and 164.31 ± 13.75 cm, respectively.

Variable:	Total:	Male:	Females:
Number of respondent	135	80 (59.25%)	55 (40.74%)
Weight (kg)	58.72 ± 13.38	64.28 ± 12.20	50.63 ± 10.67
Height (cm)	164.31 ± 13.75	170.67 ± 10.52	155.05 ± 12.65
BMI	21.79 ± 4.34	22.23 ± 4.42	21.16 ± 4.17

Table 1: sample Characteristics of the respondents (means ± SD)

Respondents' weight status based on BMI categories

As shown in Table 2, the results of this study showed that the majority of respondents (56.3%) were of normal weight (53.8% of the males against 60.0% of the females). According to BMI classification, male respondents had a higher prevalence of overweight and obesity than female respondents (21.2% and 5% vs. 12.7% and 3.6%, respectively).

Variable	Males:	Females:	Total:
BMI category:			
Underweight	16 (20%)	13 (23.6%)	29 (21.5%)
Normal	43 (53.8%)	33 (60.0%)	76 (56.3%)
Overweight	17 (21.2%)	7 (12.7%)	24 (17.8%)
Obese	4 (5.0%)	2 (3.6%)	6 (4.4%)
Total	80 (100%)	55 (100%)	135 (100%)

Table 2: Prevalence of obesity among employees based on Weight status by gender:

Participants' Dietary pattern:

The eating patterns of the workers were contrasted by gender. The majority (51.8%) said they regularly ate. Most of the participants (91.1%) reported that they wash their hands before eating meals. A statistical significant gender difference has been observed (P>0.05) in the frequency of eating outside food very often (more than 3 times in a week) was common among males (31.25%) as compared to that of females (18.18%) The majority of employees (88.1%) reported that they wash fruits and vegetables before eating. Majority 76.29% of respondents were aware that eating fast food put a bad impact on our body among them 90.90% Females were more aware as compared to 66.25% males. Knowledge regarding association of junk food and diseases came out to be statistically significant with the gender. Among females, 85.5% reported that eating junks can lead to diseases as compared to 68.8% males.Regular intake of snacks apart from daily meals was more common among males than females (62.75% vs. 45.45% respectively). Majority of employees prefer walking/Jogging (65.18%) followed by gyming (22.22%), Cycling (9.62%) and swimming (2.96%) to maintain their physical health.

Questions	Level	Total N= 135	Male-80		Female-55		"Chi- square test value, p<0.05), significant at 95% of CI"
			Frequency	Percentage (%)	Frequency	Percentage (%)	
Practice: How often do you eat outside with friends and family?	1-2 times in a week	57	38	47.50%	19	34.50%	P Value- 0 .013
	Three or four times per week	35	25	31.25%	10	18.20%	
	Rarely	37	9	17.50%	23	41.80%	
	Never	6	3	3.80%	3	5.50%	
Total N=135		135	75	100.00%	55	100.00%	
Practice: Do You Wash Raw fruits and vegetables	Yes	119	66	82.50%	53	96.40%	P Value- 0.05
	No	8	7	8.80%	1	1.80%	
	Sometimes	8	7	8.80%	1	1.80%	

before eating?							
Total N=135		135	80	100.00%	55	100.00%	
Knowledge: Do you think eating junks can put bad impact our body?	Yes	13	53	66.25%	50	90.90%	P Value-0.001
	No	103	11	13.75%	2	3.63%	
	Don't know	19	16	20%	3	5.45%	
Total N=135		135	80	100%	55	100.00%	
Knowledge: Can eating fast food lead to diseases?	Yes	102	55	68.80%	47	85.50%	P Value-0.035
	No	20	17	21.20%	3	5.50%	
	Don't know	13	8	10.00%	5	9.10%	
Total N=135		135	80	100.00%	55	100.00%	
Practice: How do you maintain your physical activity?	Walking/Jogging	88	46	57.50%	42	76.40%	P Value-0.026
	Cycling	13	7	8.80%	6	10.90%	
	Gyming	30	25	31.20%	5	9.10%	
	Swimming	4	2	2.50%	2	3.60%	
	Others	0	0	0%	0	0%	
Total N=135		135	80	100%	55	100%	
Practice: How long do you work out each day?	10-15 Minutes	44	20	25.00%	24	43.60%	P Value-0.006
	20-30 minutes	35	23	28.80%	12	21.80%	
	45-60 minutes	32	26	32.50%	6	10.60%	
	Never	24	11	13.80%	13	23.60%	
Total N=135		135	80	100.00%	55	100.00%	

Table 3: Participants response to questions related to their knowledge and way of life.

Association between Dependent Variables and Body Mass Index Category of the Samples

Eating habit, physical exercise regime and history of obesity of the employees were compared by Body Mass Index Categories in Table 4. It was found that The frequency of consuming junk food, maintenance of Physical regimen and Family history of obesity all these variables are significantly associated in the Body Mass Index value, $p<0.05$. Table 5: indicates that 83% of participants responded that they think they eat healthy food and believe that they have physically active lifestyle whereas 5.9% of respondents believes that neither they are physically active not they eat healthy diet which is statistically significant ("Chi- square test value, $p<0.05$") statistically significant at 95% of CI).

Questions	Level	Total N= 135	Body Mass Index Category (% within BMI)				"Chi- square test value, p<0.05) statistically significant at 95% of CI"
			Underweight	Normal	Overweight	Obesity Type-1	
How often do you eat fast food items ?	Daily	10(7.4%)	3 (10.3%)	7(9.2%)	0 (0%)	0(0%)	P Value-0.019
	3-4 times/week	41(30.4%)	15 (51.7%)	22(28.9%)	2 (8.3%)	2(33.3%)	
	1-2times/week	46(34.1%)	5 (17.2%)	28(36.8%)	10 (41.7%)	3 (50%)	
	Rarely	38 28.1%)	6 (20.7%)	19(25.0%)	12 (50.0%)	1(16.7%)	
Total (N=135)		135(100 %)	29 (100%)	76 (100%)	24 (100%)	6 (100%)	
How do you maintain your physical activity?	Walking/Jogging	88 (65.2%)	17 (58.6%)	54(71.1%)	14 (58.3%)	3(50.0%)	P Value-0.032
	Cycling	13 (9.6%)	2 (6.9%)	9 (11.8%)	1 (4.2%)	1(16.7%)	
	Gyming	30 (22.2%)	7 (24.1%)	13(17.1%)	9 (37.5%)	1(16.7%)	
	Swimming	4 (3.0%)	3 (10.3%)	0 (0%)	0 (0%)	1(16.7%)	
	Others	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Total (N=135)		135(100 %)	29 (100.0%)	76(100.0 %)	24(100.0 %)	6(100.0 %)	
Do you have family history of obesity?	Yes	20 (14.8%)	8 (27.6%)	5 (6.6%)	7 (29.2%)	0 (0%)	P Value-0.030
	No	65 (48.1%)	14 (48.3%)	38 (50.0%)	10 (41.7%)	3 (50%)	
	Don't Know	50 (37.0%)	7 (24.1%)	33 (43.4%)	7 (29.2%)	3 (50%)	
Total (N=135)		135(100 %)	29 (100%)	76 (100%)	24 (100%)	6 (100%)	

Table 5: Participants response to questions related to their eating habit, lifestyle practice, family history of Obesity and its association with their BMI

Association between Perception of being physically active and healthy eating practices				
Do you consider yourself as physically active?		Do you consider your diet to be healthy?		Total
		Yes	No	
P Value-0.000 (Statistically Significant)	Yes	112 (83.0%)	8 (5.9%)	120 (88.9%)
	No	7 (5.2%)	8 (5.9%)	15 (11.1%)

Association between Perception of being physically active and healthy eating practices				
Do you consider yourself as physically active?		Do you consider your diet to be healthy?		
		Yes	No	Total
P Value-0.000 (Statistically Significant)	Yes	112 (83.0%)	8 (5.9%)	120 (88.9%)
	No	7 (5.2%)	8 (5.9%)	15 (11.1%)
Total		119 (88.1%)	16 (11.9%)	135 (100%)

Table 4: Association between Healthy eating practices and Physical Exercises

Discussion

The current study set out to look into the connection between employees' eating habits and body mass index. Demographics, healthy and unhealthy eating habits, and the connection between employees' eating habits and body mass index will all be discussed in regard to the study's conclusions.

According to the present study's findings, the majority of employees fell into the normal weight range for BMI, with the remainder falling into the underweight and obese categories. About one-fourth of the workforce fell into the overweight category. This would make sense given that. University personnel are older than the adolescent employees in the previous research, and they are more willing to maintain a healthy weight range. These findings are consistent with previous research.; According to [Ayranci, U.1, Erenoglu, N., and Son, O.2010], more than one-fourth of the employees were underweight, whereas nearly half of the workforce were of a normal weight. In addition, an examination by [Benazeera, U.J. 2014] showed that most employees were of a healthy weight, more than one-fourth were underweight, and very few were overweight or obese. The majority of employees are normally of normal weight, with two fifths of them being overweight or underweight and a lesser fraction being obese, according to [Hemati, A., Moghadasi, and Azizi, 2014]. However, it was found by [Nakamura, S., Jeong, B, Kim, and Moon, S.K, 2007] that roughly two thirds of youths fell into the normal and underweight categories, while the remaining third were obese and overweight. These findings agree with those of [Waweru, W.R. and Marete, O.T. 2016], who found that although most of the employees were of a healthy weight, there was a relatively high frequency of overweight among them.

The majority of the employees ingested fatty and nearly half of them routinely consumed fried meals, according to the study's findings about eating fatty and fried food. This may be due to the delicious flavour of fried food, as frying is everyone's preferred cooking method during the adolescent stage. This is consistent with the findings of [Sidoti, E., Mangiaracina, P., Paolini, and Tringali, 2009], who stated that the study group had a high conservation of fatty meals and fries. Additionally, they discovered that adolescents used fattier foods more frequently. This is in line with those who showed that the majority of workforce frequently consumes fatty and greasy foods; also it was added that majority number of staff liked fried food. Contrary to these study findings, it was reported that the majority of participants reported consuming little fried food. According to reports, eating food that has been fried has several negative impacts on one's health. The findings imply that the relationship between BMI and physical activity (PA) varied according to the presence of obesity. Similar, to the majority of other studies that used objective PA assessment techniques and found an inverse relationship between BMI and physical activity. There were notable disparities for the connections between BMI and physical activity in each of

the six physical activity categories, with the exception of time spent sedentary, which was unrelated to BMI across the whole group.

Conclusion:

Even while excessive food intake and a sedentary lifestyle are the main causes of overweight and obesity, it's crucial to keep in mind that medical conditions and pharmacological treatments also have a role. On a global scale, the prevalence of overweight and obesity is frighteningly rising and has epidemic proportions in nearly every nation. Obesity significantly raises the risk of cancer, metabolic, gastrointestinal, and cardiovascular problems. On the other hand, when a person is overweight and in the early phases of weight growth, the onset of morbid obesity can be avoided without the need for drugs, endoscopic treatments, or surgical operations. Despite the study group's overall low frequency of overweight and obesity, the results suggest that university staff employees may gain from a nutrition and health promotion programme.

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