

EFFECTS OF SOCIO ECONOMIC STATUS ON DIETARY INTAKE OF YOUNG ADULTS

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ABSTRACT

Definition: In developed nations, a higher socioeconomic level has been linked, on average to healthier eating habits. Dietary quality influenced by food accessibility and availability may depend on one's income. **Objective:** the aim of this study is to find out the impact of socioeconomic status on dietary intake of young adults. **Methodology:** The cross-sectional study was conducted in District Mardan to find out the effect of socioeconomic status on dietary intake of young adults in which participants total number was about 112 and they were enrolled in the study. Data regarding socio demographic parameters, anthropometric measurements, dietary dimensions and overall health was collected. Data were analyzed through SPSS. **Results:** Result of the study showed that income level is associated with the poor dietary habits as most of the population 75.9% skip meals, and become food insecure (67%). This study highlights dietary Intake of fast-food consumption is (32.2%), intake of fruits is (19.6%), intake of vegetables is (17.9%), intake of meat is (4.5%) intake of dairy products is (23.2%) intake of eggs is (22.3%) intake of sweets is (35.5%) intake of juices is (31.3%) intake of tea is (58%). **Conclusion** study concluded that consumption of foods such as fast food fried food, eggs, fruits, vegetables, carbonated beverages and tea were positively related to high income level similarly a diet low in fruits, vegetables and high sweets, sugar beverages had a negatively associated with low income.

Key word: Socio economic level, dietary habits, food security and food frequency questionnaire.

INTRODUCTION

A person's socioeconomic status (SES), which is a measure of their overall income and social standing, is often positively correlated with improved health. The three common indicators of socioeconomic status, education, income, and occupation are the main topics of SES (Baker *et al.*, 2014). The relative position of a family or individual in a social structure in which people are ranked according to their access to or influence over income, power, and status is known as socioeconomic status (Avvisati *et al.*, 2020). In developed nations, a higher socioeconomic level has been linked, on average, to healthier eating habits. It is thought that eating more fruit and vegetables, less fat, and moderate amounts of meat results in a better diet. Therefore, people with low socioeconomic status are another group to be concerned about in terms of nutrition-related health and food security. It has been discovered that people with lower SES consume a greater percentage of their energy as refined sugars and have diets that are higher in fat density, lower. This change in income growth is associated with improved adequacy of diets, but a decrease in moderation fiber, and higher in a variety of micronutrient density (Abdollahi *et al.*, 2014; Herforth & Ahmed, 2015). Dietary quality influenced by food accessibility and availability may depend on one's income. Previous research has revealed that families with low incomes are more likely to experience food insecurity. The consumption of fruits and vegetables declines when food insecurity rises (Hur and jang, 2011). The influence of money on dietary consumption is always modified by the food environment. The relationship between household income and the food environment explains why household income has a variable - and perhaps seems unpredictable or less significant - impact on dietary intake. (Herforth & Ahmed, 2015). Dietary patterns (DPs) are the amounts, ratios, types, or combinations of various foods and beverages ingested during diet on a regular basis (Czarnocinska *et al.*, 2020). An important time for changes in health behaviours is when adolescence gives way to adulthood. During adolescence and the period leading up to adulthood, dietary patterns are formed. Biological causes associated to earlier puberty precede a longer and later appropriation of the adult social function, stretching beyond the existing limit of 18 years, and this crucial phase has steadily taken up more of the life cycle over the past few decades (Desbouys *et al.*, 2019). Young people frequently leave the family home and start cooking their own meals. Increased independence and autonomy could lead to a larger intake of meals cooked away from home and a decrease in the consumption of foods from the recommended food groups (Davies *et al.*, 2020).

Low socioeconomic position (SEP) children and teenagers are more likely to have unhealthy diets, which are marked by high intakes of snacks or sugar-sweetened drinks (SSB) and low intakes of fruit and vegetables (F&V), fish, or dairy

products. According to some research, these diets lead to high calorie and fat intakes while consuming few micronutrients (Drouillet and Voltaire, 2017).

MATERIALS AND METHODS

3.1. STUDY DESIGN AND LOCATION

This cross-sectional study was carried out from students of the University students and from government high school in district Mardan.

3.2. SAMPLE SIZE

Total of 110 students were randomly recruited for the study aged 18-25. Data was collected from March 2023 to May 2023 after a signed consent from each subject (annex-1).

3.3. DATA COLLECTION

A well-defined questionnaire (Annexure-2) was used to collect information from study participants. The questionnaire consist general characteristics, socioeconomic status, age, gender, level of education, anthropometric status include height, weight, BMI, and overall health.

3.3.1. ANTHROPOMETRIC DATA:

Anthropometric data including weight, height and BMI was collected by using questionnaire.

HEIGHT:

An instrument called a audiometer was used to measure an individual's height.

STADIOMETER:

Height of an individual was measured by using an instrument known as audiometer

A audiometer is an instrument used to measure human height. It is constructed out of a ruler and adding horizontal headpiece which is adjusted to rest on the top of the head. The subject whose height is to be measured was asked to remove his/her shoes and socks, stand straight over the radiometer and it was ensured that they are standing perfectly straight with their head and buck forward and against the wall, directly under the drop-down measuring device. The nose and ears

of the individual was parallel to the floor and after ensuring that the individual is all set for his/her height measurement the horizontal head piece was gently placed on the top of the head and height was measured. (WHO, 1998)

WEIGHT:

The weight of an individual was measured using a weighing scale or weight machine.

WEIGHT MACHINE:

Weight machine or weighing scale is an instrument used to measure weight or mass. It is also known as mass scale, balance scale or weight balance. The weight of an individual to be measure the weighing scale was asked to remove any heavy extra clothing, shoes and accessories in to avoid extra weight and then person the individual was asked to stand still on the weight e and his/her weight was recorded in kgs. (WHO, 1998)

BODY MASS INDEX (BMI):

BM was calculated according to the criteria approved by WHO, which is calculated by taking weight in kilograms divided by height in meter square (kg/in). The BMI of less than 15kg/m² war considered as underweight, BMI ranging from 18.5-249 kg/m² was considered as normal while BMI ranging from 25.0-29.9 kg/m² was considered as overweight. BMI of greater than 30kg/m² was considered as Obese (WHO, 1998).

3.3.2. DIETARY DATA:

Information about dietary consumption was assessed with the help of Food Frequency Questionnaire.

FOOD FREQUENCY QUESTIONARE:

The data for the study was collected by using a specially designed questionnaire from the Food Frequency Questionnaire (FFQ). FFQ ask about the frequency with which particular food items or food groups are consumed over a reference period and are intended to determine habitual diet .

3.4. STATOSTISTICAL ANALYSIS:

Microsoft Excel and SPSS were used to conduct the statistical analysis.

RESULT

Table No.1 shows the socio demographic data of the subjects. Out of 112 students 39.3% (n=44) were observed at the age 15 to 20, followed by 60.7% (n=68) were at the age of 21 to 26. The current study respondents 92.9% (n=104) were single and 7.2% (n=8) were married. The education level shows that 10.7% (n=12) were primary level students, 17.9% (n=20) were secondary level students and 71.4% (n=80) were students of higher level. The study shows the income level 39.3 % (n=44) was between 20k to 40k, 32.1 % (n=36) was between 41k to 70k, 17.9% (n= 20) was between 71k to 90k and 10.7 (n= 12) was between 91k to 1lac. The residence level shows that 58 % (n=65) participants are living in Urban areas while 42% (n= 47) are living in Rural areas. The household classification implies that 34.8% (n= 39) have low income, 59.8% (n= 67) have middle income while only 5,4 % (n=6) have high income.

Table 4.1: socio demographic characteristics of study

Variables	Categories	Frequency n=112	Percentage %
Age	15-20	44	39.3%
	21-26	68	60.7%
Marital status	Single	104	92.9%
	Married	8	7.2%

Education level	Primary	12	10.7%
	Secondary	20	17.9%
	High	80	71.4%
Income level	20k-40k	44	39.3%
	41k-70k	36	32.1%
	71k-90k	20	17.9%
	91k-11ac	12	10.7%
Residence	Urban	65	58%
	Rural	47	42%
Household classified	Low income	39	34.8%
	Middle income	67	59.8%
	High income	6	5.4%

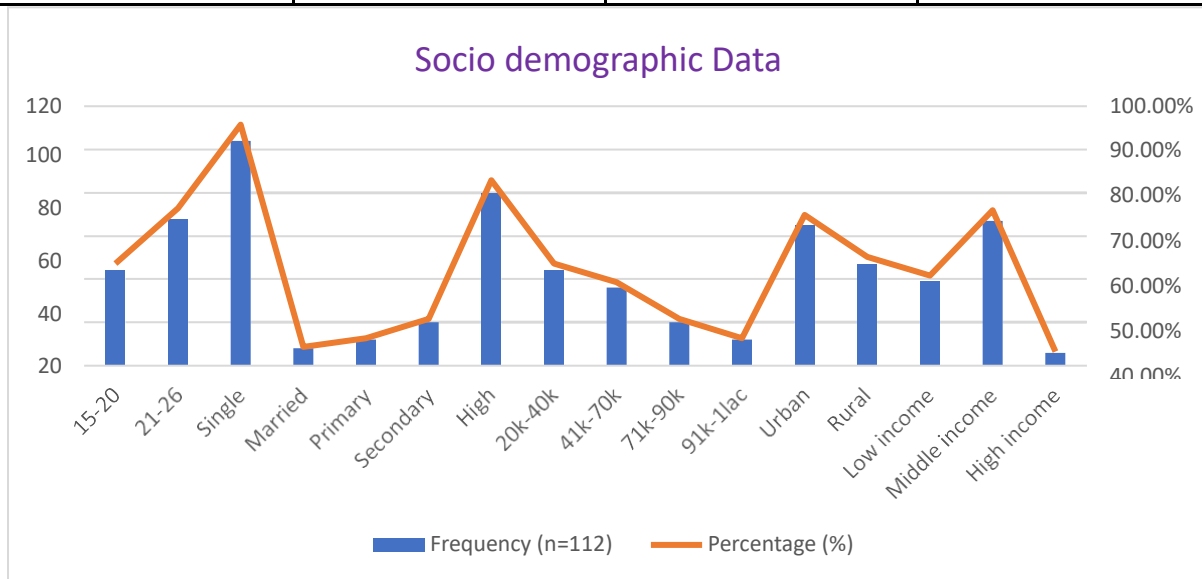


Figure 4.1: age, marital status, education level, income level, residence and household classification of the respondents.

Table 4.2 shows the body mass index of the respondents ranging from underweight having frequency and percentage of 11.6% (n=13). Normal BMI having frequency and percentage of 76.8%(n=86), overweight BMI having frequency and percentage of 8.9%(n=10),category of obese BMI having frequency and percentage of 27%(n=3).the physical activity of the respondent ranging from sedentary having frequency and percentage of 18.8%(n=21), moderate having frequency and percentage of 79.5%(n=89),extreme having frequency and percentage of 1.8%(n=2)

Table 4.2: Anthropometric measurement and physical activity of the respondents

Variables	Categories	Frequency n=112	Percentage %
BMI	Underweight	13	11.6%
	Normal	86	76.8%
	Over weight	10	8.9%
	Obese	3	27%
Physical Activity	Sedentary	21	18.8%
	Moderate	89	79.5%
	Extreme	2	1.8%

Table 4.3 showed that female students were asked questions related to their dietary habits.112 females were asked about skipping meal, out of 112 ,85(75.9) skip their meals and 27(24.1%) did not skip any meal. eating breakfast every morning, 60(53.6%) did breakfast every morning and 52(46.4%) did not take breakfast every morning. Fast food consumed by 23(20.6%) 2-3 times a week,9(8%) consumes 5-6 times a week ,44(39.3%) did not consume fast food and 36(32.2%) consume fast food sometimes. N= 50 (44.7%) eat cereals and potatoes 1-2 times a day,16(14.3%) consumes 3-4 times a day ,3(2.7%) never consumes,28(25%) consumes it daily and 15(13.4%) consume sometimes. They were asked about food security,36(32.2%) says that they are food secure and 76(67.8%) were not food secure.

Table 4.3: dietary habits of the respondents.

Variables	Categories	Frequency n=112	Percentage %
Do you skip meals?	Yes	85	75.9%
	No	27	24.1%
Do you eat breakfast every morning?	Yes	60	53.6%
	No	52	46.4%
Fast food consumptions	2-3times a week	23	20.6%
	5-6times a week	9	8%
	Never	44	39.3%

	Sometimes	36	32.2%
How often you eat cereals and potatoes	1-2times a day	50	44.7%
	3-4times a day	16	14.3%
	Never	3	2.7%
	Daily	28	25%
	Sometimes	15	13.4%
Are you food secure?	Yes	36	32.2%
	No	76	76%

Table 4.4 provides information on the frequency and percentage of people's intake of breakfast cereals, whole grains, and vegetables. Here's a concise interpretation of the data Intake of breakfast cereals:

42% of the respondents reported rarely consuming breakfast cereals. 34.8% reported consuming breakfast cereals 1-2 days per week.

6.3% reported consuming breakfast cereals 3-4 days per week. 6.3% reported consuming breakfast cereals 3-4 days per week.

3.6% reported consuming breakfast cereals 5-6 days per week.

13.4% reported consuming breakfast cereals every day Intake of whole grains: 10.7% of the respondents reported rarely consuming whole grains.

11.6% reported consuming whole grains 1-2 days per week. 14.3% reported consuming whole grains 3-4 days per week.

19.6% reported consuming whole grains 5-6 days per week.

43.8% reported consuming whole grains every day. Intake of vegetables: 26.8% of the respondents reported rarely consuming vegetables.

27.7% reported consuming vegetables 1-2 days per week. 22.3% reported consuming vegetables 3-4 days per week.

5.4% reported consuming vegetables 5-6 days per week. 17.9% reported consuming vegetables every day.

Table 4.4: Intake of breakfast cereals, whole grains and vegetables.

Variables	Categories	Frequency n=112	Percentage %
Intake of breakfast cereals	Rarely	47	42%
	1-2 days/week	39	34.8%
	3-4 days/week	7	6.3%
	5-6 days/week	4	3.6%

	Everyday	15	13.4%
Intake of whole grains	Rarely	12	10.7%
	1-2 days /week	13	11.6%
	3-4 days/week	16	14.3%
	5-6 days/week	22	19.6%
	Everyday	49	43.8%
Intake of vegetables	Rarely	30	26.8%
	1-2 days/week	31	27.7%
	3-4 days/week	25	22.3%
	5-6 days/week	6	5.4%
	Everyday	20	17.9%

Table 4.5 provides information on the frequency and percentage of people's intake of fruits, red meat, and processed meat Intake of fruits:

17.9% of the respondents reported rarely consuming fruits. 33.9% reported consuming fruits 1-2 times per week. 21.4% reported consuming fruits 3-4 times per week. 7.1% reported consuming fruits 5-6 times per week. 19.6% reported consuming fruits every day.

.Intake of red meat:17.3% of the respondents reported rarely consuming red meat. 20.5% reported consuming red meat 1-2 times per week.21.4% reported consuming red meat 3-4 times per week. .3% reported consuming red meat 5-6 times per week. 4.5% reported consuming red meat every day. Intake of processed meat:56.3% of the respondents reported rarely consuming processed meat. 25.9% reported consuming processed meat 1-2 times per week.13.4% reported consuming processed meat 3-4 times per week. 3.6% reported consuming processed meat 5-6 times per week. 9% reported consuming processed meat every

Table: 4.5: Intake of fruits, red meat and processed meats.

Variables	Categories	Frequency (n=112)	Percentage (%)
Intake of fruits	Rarely	20	17.9%
	1-2	38	33.9%
	3-4	24	21.4%

	5-6	8	7.1%
	Everyday	22	19.6%
Intake of red meat	Rarely	53	17.3%
	1-2	23	20.5%
	3-4	24	21.4%
	5-6	7	6.3%
	Everyday	5	4.5%
Intake of processed meat	Rarely	63	56.3%
	1-2	24	25.9%
	3-4	15	13.4%
	5-6	4	3.6%
	Everyday	1	9%

The table 4.6 provides information on the frequency and percentage of people's intake of poultry, seafood, and legumes. Intake of poultry:

34.8% of the respondents reported rarely consuming poultry. 37.5% reported consuming poultry 1-2 days per week. 19.6% reported consuming poultry 3-4 days per week. 4.5% reported consuming poultry 5-6 days per week.

3.6% reported consuming poultry every day Intake of seafood: 76.8% of the respondents reported rarely consuming seafood. 15.2% reported consuming seafood 1-2 days per week.

6.3% reported consuming seafood 3-4 days per week.

1.8% reported consuming seafood 5-6 days per week. Intake of legumes: 33.1% of the respondents reported rarely consuming legumes.

24.1% reported consuming legumes 1-2 days per week. 24.1% reported consuming legumes 3-4 days per week. 15.2% reported consuming legumes 5-6 days per week. 3.6% reported consuming legumes every day.

Table 4.6: Intake of poultry, seafood and legumes.

Variables	Categories	Frequency (n=112)	Percentage (%)
Intake of poultry	Rarely	39	34.8%
	1-2days/week	42	37.5%
	3-4days/week	22	19.6%
	5-6days/week	5	4.5%
	Everyday	4	3.6%
Intake of seafoods	Rarely	86	76.8%
	1-2days/week	17	15.2%
	3-4days/week	7	6.3%
	5-6days/week	2	1.8%
Intake of legumes	Rarely	37	33.1%
	1-2days/week	27	24.1%
	3-4days/week	27	24.1%
	5-6days/week	17	15.2%
	Everyday	4	3.6%

Table 4.7 provides information on the frequency and percentage of people's intake of dairy products, eggs, and fried/spicy foods. Intake of dairy products 20.6% of the respondents reported rarely consuming dairy products. 28.6% reported consuming dairy products 1-2 days per week. 13.4% reported consuming dairy products 3-4 days per week. Intake of eggs:

25% of the respondents reported rarely consuming eggs. 33.9% reported consuming eggs 1-2 days per week.

11.6% reported consuming eggs 3-4 days per week. 7.1% reported consuming eggs 5-6 days per week.

22.3% reported consuming eggs every day 36.6% of the respondents reported rarely consuming fried and spicy foods. 22.3% reported consuming fried and spicy foods 1-2 days per week. 22.3% reported consuming fried and spicy foods 3-4 days 7.1% reported consuming fried and spicy foods 5-6 days per week.

11.6% reported consuming fried and spicy foods every day.

Table 4.7: Intake of dairy products, eggs and fried and spicy foods.

Variables	Categories	Frequency (n=112)	Percentage (%)
Intake of dairy products	Rarely	23	20.6%
	1-2days/week	32	28.6%
	3-4days/week	15	13.4%
	5-6days/week	16	14.3%
	Everyday	26	23.2%
Intake of eggs	Rarely	28	25%
	1-2daus/week	38	33.9%
	3-4days/week	13	11.6%
	5-6days/week	8	7.1%
	Everyday	25	22.3%
Intake of fried and spicy foods	Rarely	41	36.6%
	1-2days/week	25	22.3%
	3-4days/week	25	22.3%
	5-6days/week	8	7.1%
	Everyday	13	11.6:

Table 4.8 provides information on the frequency and percentage of people's intake of sweets, soft drinks and juices, and tea and coffee Intake of sweets:15.2% of the respondents reported rarely consuming sweets. 16.1% reported consuming sweets 1-2 days per week. 14.3% reported consuming sweets 3-4 days per week. 17% reported consuming sweets 5-6 days per week. 35.5% reported consuming sweets every day. Intake of soft drinks and juices:17.9% of the respondents reported rarely consuming soft drinks and juices.13.4% reported consuming soft drinks and juices 1-2 days per week.21.4% reported consuming soft drinks and juices 3-4 days per week.16.1% reported consuming soft drinks and juices 5-6 days per week. Intake of tea and coffee:12.5% of the respondents reported rarely consuming tea and coffee. 9% reported consuming tea and coffee 1-2 days per week. 10.7% reported consuming tea and coffee 3-4 days per week.

17.9% reported consuming tea and coffee 5-6 days per week. 58% reported consuming tea and coffee every day.

Table 4.8: Intake of sweets, soft drinks, juices and tea or coffee.

Variables	Categories	Frequency (n=112)	Percentage %
Intake of sweets	Rarely	17	15.2%
	1-2 days/week	18	16.1%
	3-4days/week	16	14.3%
	5-6days/week	19	17%
	Every day	42	35.5%
Intake of soft drinks and juices	Rarely	20	17.9%
	1-2 days/week	15	13.4%
	3-4days/week	24	21.4%
	5-6days/week	18	16.1%
	Every day	35	31.1%
Intake of tea and coffee	Rarely	14	12.5%
	1-2 days/week	1	9%
	3-4days/week	12	10.7%
	5-6days/week	20	17.9%
	Every day	65	58%

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