

A Study of Healthy Diet Habits of School Pupils in Relation to Age, Gender and Area during Lockdown

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ABSTRACT

A dietary habit means the choices of food preferred by a person in routine. The dietary habits vary from person to person. Dietary habits are often related to age, gender, education and area. A bad dietary habit has adverse effect on our health and very high risk for certain types of diseases. A proper healthy diet protects us from certain type of diseases and viruses. It helps to stay fit and have healthy/happy life. The knowledge of healthy diet is need of the hour especially for children. In this research paper, we analysed the knowledge of school pupils about healthy diet. We also see the relationship of different aspects of healthy diet with student's education, age, gender and area. We also study if students consumed proper food during lockdown and whether there is an impact on proper food due to disruption in the family income during lockdown.

Keywords: Dietary Habits, Healthy Diet, Proper Food, School Pupils, Family Income.

INTRODUCTION

Knowledge about healthy diet is important to stay fit and healthy. Healthy diet simply means eating different kinds of food that gives us nutrients like protein, vitamins and minerals. Nutrients are important for each person. It helps our body to function properly. We should include healthy food groups in our diet like vegetables, fruits, milk, curd and pulses. Healthy food habit is the need of the hour. Healthy food habit helps us to fight against viruses. In this paper, we conduct a survey to study the knowledge of students of school level about healthy diet. A sample of 380 students is taken from different schools. We conduct a survey to see if students consume different types of healthy food in routine. We also study if students consumed proper food during lockdown and whether there is an impact of family income disruption on proper food during lockdown. We also see the relationship of different aspects of healthy diet with student's education, age, gender and area.

The objectives of the study are defined in Section 2. The methodology of the study is defined in Section 3. Collection of data along with technique to determine the sample size is given in Section 4. We analysed the data using various Statistical techniques in Section 5. Results obtained from Statistical analysis are interpreted in Section 6. Conclusion of the study is given in Section 7.

OBJECTIVES OF THE STUDY

- (i) To study the knowledge of school pupils about healthy diet.
- (ii) To see if students consume different types of healthy food in routine.
- (iii) To study if students consumed proper food during lockdown.
- (iv) To see the relationship of different aspects of healthy diet with respect to student's education, age, gender and area.
- (v) To study the impact of family income disruption on proper food during lockdown.

METHODOLOGY

We conduct a survey of secondary (class 8th to 10th) and higher secondary (11th to 12th) school level students. The data is collected by questionnaire survey through Google Forms. Various questions were asked in questionnaire about different aspects of healthy diets. Along with healthy diet survey, we collect the student's different demographical variables like class, age, gender, and area. We also collect the family income related data to get to know if family income of students got affected during lockdown or not.

Collection of Data

We collect the primary data from various schools of Chandigarh region. Schools were selected using stratified random sampling method. Most of the schools in Chandigarh are in urban region. So we choose stratified random sampling method to ensure that urban and rural schools are adequately represented in the sample. Firstly we make two strata of Chandigarh schools as urban and rural category. After that we randomly select schools from both the regions – urban and rural.

Determination of sample size

To see the relationship of different aspects of healthy diet with student's demographical variables, a sample of size 380 is needed to obtain 97.37% statistical power when the Cohen's effect size is considered as medium (0.20) and a significance level of 0.05 is employed. Using proportional allocation, a sample of size 80 is taken from rural schools and a sample of size 300 is taken from urban schools.

Statistical Analysis of Data

The data is collected from students to know different aspects of healthy diets. The data analysis suggests that 95.3% of students have knowledge about which nutrients are good for health. We surveyed if students consumed milk, curd, pulse, roti, and rice in their daily meals. The analysis suggests that 89.7% take milk or curd and 96.3% take pulse, roti and rice in their daily meals. Additionally, 90.8% consumed proper food during lockdown and 65.5% of student's family income got affected during lockdown. Now we make contingency table of these different aspects of healthy diet with student's demographical variables. It helps us to see the relationship between consumption of healthy diet with demographical variables. We applied Chi-Square test to see if the relationship is significant or not. The contingency tables with Chi-Square and p-values are given in Tables 1-5.

Table 1: Students have Knowledge about Which Nutrients are Good for Health

		Students have knowledge about which nutrients are good for health				Chi-square, p-value
		No		Yes		
		Count	Percentage	Count	Percentage	
Class	Secondary	12	7.3%	152	92.7%	4.25674, 0.039095
	Higher Secondary	6	2.8%	210	97.2%	
Age	12-14	7	11.5%	54	88.5%	7.90449, 0.019212
	15-17	11	3.7%	287	96.3%	
	18-20	0	0.0%	21	100.0%	
Gender	Female	6	3.7%	156	96.3%	0.66795, 0.413767
	Male	12	5.5%	206	94.5%	
Area	Rural	10	12.5%	70	87.5%	13.53366, 0.000234
	Urban	8	2.7%	292	97.3%	

Table 2: Students Take Milk or Curd in their Meals

		Students take milk or curd in their meals				Chi-square, p-value
		No		Yes		
		Count	Percentage	Count	Percentage	
Class	Secondary	31	18.9%	133	81.1%	23.3818, 0.000001
	Higher Secondary	8	3.7%	208	96.3%	
Age	12-14	12	19.7%	49	80.3%	7.31935, 0.025741
	15-17	26	8.7%	272	91.3%	
	18-20	1	4.8%	20	95.2%	
Gender	Female	12	7.4%	150	92.6%	2.50052, 0.113809
	Male	27	12.4%	191	87.6%	
Area	Rural	15	18.8%	65	81.2%	7.92488, 0.004876
	Urban	24	8.0%	276	92.0%	

Table 3: Students Take Pulse, Roti and Rice in their Diet

		Students take Pulse, Roti and Rice in their diet				Chi-square, p-value
		No		Yes		
		Count	Percentage	Count	Percentage	
Class	Secondary	12	7.3%	152	92.7%	10.73074,
	Higher Secondary	2	0.9%	214	99.1%	0.00105
Age	12-14	4	6.6%	57	93.4%	2.31299,
	15-17	10	3.4%	288	96.6%	0.31459
	18-20	0	0.0%	21	100.0%	
Gender	Female	6	3.7%	156	96.3%	0.000302,
	Male	8	3.7%	210	96.3%	0.98613
Area	Rural	7	8.8%	73	91.2%	7.328324,
	Urban	7	2.3%	293	97.7%	0.00679

Table 4: Students Consumed Proper Food during Lockdown

		Students consumed proper food during lockdown				Chi-square, p-value
		No		Yes		
		Count	Percentage	Count	Percentage	
Class	Secondary	30	18.3%	134	81.7%	28.459792,
	Higher Secondary	5	2.3%	211	97.7%	0.00001
Age	12-14	13	21.3%	48	78.7%	14.003137,
	15-17	22	7.4%	276	92.6%	0.00091
	18-20	0	0.0%	21	100.0%	
Gender	Female	11	6.8%	151	93.2%	1.978324,
	Male	24	11.0%	194	89.0%	0.159567
Area	Rural	12	15.0%	68	85.0%	4.061725,
	Urban	23	7.7%	277	92.3%	0.043866

Table 5: Student's Family Income Affected during Lockdown

		Student's family income affected during lockdown				Chi-square, p-value
		No		Yes		
		Count	Percentage	Count	Percentage	
Area	Rural	17	21.2%	63	78.8%	7.84429,
	Urban	114	38.0%	186	62.0%	0.00509
Student consumed proper food during lockdown	No	8	22.9%	27	77.1%	2.30294,
	Yes	123	35.7%	222	64.3%	0.12913

INTERPRETATION

Table 1 represents the counts and percentages of students having knowledge about which nutrients are good for health. It can be seen that percentage of higher secondary students is more than secondary school students who has knowledge about which nutrients are good for health. Also, p-value is less than 0.05 implies that the relationship between student's knowledge about nutrients and class of students is significant at 5% level of significance. Similarly, student's knowledge about nutrients has significant relationship with respect to age and area (p-value <0.05). A lesser percentage of students have knowledge about nutrients in younger age. It concludes that with the increase of age, knowledge about nutrients increases significantly. In the terms of area, urban school students have significantly more knowledge about the nutrients than the rural area school students. In the terms of gender, females have more knowledge about nutrients than them ale students. But the relationship of knowledge about which nutrients are good for health with respect to gender is not significant.

Tables 2 and 3 represents the counts and percentages of students taking milk/cure and pulse, roti, rice in their diet, respectively. These tables represent the consumption of healthy diet by students. From both of these tables, it can be seen that percentage of higher secondary students is more who consume healthy diet than the secondary school students. Also, p-value is less than 0.05 which implies that the relationship between consuming healthy diet and class of students is significant at 5% level of significance. Similarly, student' consumption of healthy diet with respect to area is statistically significant. A significantly large number of urban area school students consume healthy diet than the rural area school students. Number of students consuming healthy diet also increased with the increase of age. Students take

milk/curd in their diet is statistically significant with age. In comparison with gender, more females consume healthy diet than male students. But the relationship of consumption of healthy diet with respect to gender is not significant.

Table 4 represents the counts and percentages of students consuming proper food during lockdown. It can be seen that percentage of higher secondary students is more than secondary school students who consumed proper food during lockdown. Similarly, students consumed proper food during lockdown has significant relationship with respect to age and area (p-value <0.05). A significantly lesser percentage of students consumed proper food in younger age. In comparison with area, more urban school students consumed proper food during lockdown than the rural area school students. In comparison with gender, more females consumed proper food during lockdown than the male students. But the relationship of consumption of proper food with respect to gender is not significant.

Table 5 represents the counts and percentages of students whose family income got affected during lockdown. It is seen that the percentage of rural area students is significantly more than the urban area students whose family income got affected during lockdown. Now we see if there is an impact of family income disruption on proper food during lockdown. The data analysis suggests that the chance of not consumed the proper food is greater if family's income got affected during lockdown. But the relationship of consuming proper food with family income disruption during lockdown is not significant (p-value >0.05).

CONCLUSION

Students' knowledge about nutrients and healthy food is good. Most of the students know about the healthy diet and also consume healthy diet in their daily diet. But yet there is need to have more knowledge about proper diet and healthy food. Especially students from rural area schools have lesser knowledge about healthy and proper diet. A significantly lesser number of rural area students consume proper food in their daily diet. Additionally, there is need of proper guidance of healthy diet to secondary school students. It is recommended that students be made aware about healthy and proper diet by deputing/recruiting well qualified dietician at the school level especially in secondary schools of rural area.

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