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A STUDY OF JUNK FOOD CONSUMPTION AMONG SECONDARY SCHOOL STUDENTS

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ABSTRACT

The education system given emphasis towards study habit of students but it is also important to take care of students eating habit. The healthy eating habit help student to lead healthy in life style as well as a standard academic life also. Our present young generation attracted towards junk food which is easily available in the market. Everybody knows that junk food is not good for health and even adults also consuming junk food, they buy junk food for their children. The present study focus on secondary school students who consume junk food. The study reveals that there is no significant difference was observed male and female secondary school students with respect to junk food consumption scores ($t = -0.2814 > 0.05$) . Hence, the hypothesis is accepted. It means that, no difference found with regard to Junk food consumption scores among male and female students of secondary school students and significant difference was observed between government and private school students with respect to Junk food consumption scores ($t= -2.7553$, $p<0.05$) at 5% level of significance. Hence, the hypothesis is rejected. The alternative hypothesis is accepted. It means that, junk food consumption scores are significantly higher among private schools as compare to government secondary schools. A significant difference was observed between rural and urban secondary school students with respect Junk food consumption scores ($t= -3.4864$, $p<0.05$) at 5% level of significance. Hence, the hypothesis is rejected. It means that, Junk food consumption scores are significantly higher urban schools as compare to rural secondary school students. A significant difference was observed between joint family and nuclear family member of secondary school students with respect Junk food consumption scores ($t = -4.2955$, $p<0.05$) at 5% level of significance. Hence, the hypothesis is rejected. It means that, Junk food consumption scores are significantly higher nuclear family member as compare to joint family member among secondary schools. It is suggested that parents and teacher should sparkle awareness about negative effect of junk food on health among secondary school students.

Keywords: Alternative, Chemicals, Consumption, Effect, Harmful

1. Introduction

Always a student is given importance in education field. All educational programmes oriented towards students. The government has taken care of student not only academic but also non-academic life. The mid-day meal scheme implemented to take care of students health to create interest in academics. The current scenario, our young generation developed interest to consume junk food. Most of students consume junk food outside school even at home side and road side junk product. To sell their products the business companies add chemicals and attractive colours to junk food which may lead non curable diseases. Generally bakery products, chats which are tasty but they may lead harmful diseases. It is high time to spread awareness about ill effect of junk food among secondary school students. The present study focus on junk food consumption among young students.

2. Reviews

1.The research has done on the topic 'Junk food-induced obesity- a growing threat to youngsters during the pandemic' written by Ankul Singh S [1], Dhivya Dhanasekaran [1], Nila Ganamurali [1], Preethi L [1], Sarvesh Sabarathinam [1,] PMCID: PMC8459649 PMID: 34580647Obes Med,. 2021 Aug 12;26:100364. doi: 10.1016/j.obmed.2021.100364. Abstract:Introduction:Obesity has been declared an epidemic that does not discriminate based on age, gender, or ethnicity and thus needs urgent containment and management. Since the third wave of COVID-19 is expected to affect children the most, these children and adolescents should be more cautious while having junk foods, during covid situations due to the compromise of Immunity in the individuals and further exacerbating the organ damage.

Methodology: A PAN India survey organized by the Centre for Science and Environment (CSE) among 13,274 children between the ages 9–14 years reported that 93% of the children ate packed food and 68% consumed packaged sweetened beverages more than once a week, and 53% ate these products at least once in a day. Almost 25% of the School going children take ultra-processed food with high levels of sugar, salt, fat, such as pizza and burgers, from fast food outlets more than once a week. Children and adolescents who consume more junk food or addicted to such consumption might be even more vulnerable during the third wave, which will significantly affect the younger category.

Conclusion: There is an urgent need to spread awareness among children and young adults about these adverse effects of junk food. There is no better time than now to build a supportive environment nurturing children and young adults in society and promising good health.

2. Azemati et al., 2020 studied an association between consumption of junk food and cardiometabolic risk factors in Iranian children and adolescent population (Azemati et al., 2020). A population-based study in Korea showed that fast food consumption was linked to metabolic syndrome in adolescents. The study demonstrated that sweet dietary habits were positively related to metabolic syndrome, and those under junk food consumption were more likely to be overweight. Junk foods are found to be associated with obesity due to their high energy content and the amount of fat present or free sugar, chemical additives, and sodium with the presence of a low amount of micronutrients and fiber. Among junk foods, intake of sweetened beverages

is in close relationship with weight fluctuations as it can increase food intake through decreasing satiety mechanisms. In Conclusion, junk food intake among Iranian children and adolescents had undesirable effects on cardiometabolic risk factors. Thus, enhancing knowledge of junk foods among adolescents is one of the possible ways to help them to make healthy food choices and get rid of overweight and obesity.

3. Significance of the study

1. The junk foods like Fish sauce, Soy sauce (Olney et al., 1972; Lemkey-Johnston and Reynolds, 1974; Holick, 2003) has component like Monosodium Glutamate which has negative impact on health Overweight, Brain lesions, obesity, diabetes, neurotoxic effects, endocrine disorders.
2. Sweetened Soda, soft drinks (DeChristopher et al., 2020; Chapman et al., 2020) has High Fructose Corn Syrup which may create problems of Weight gain and Diabetes, Hypertension, atherosclerosis, coronary heart disease, vascular resistance in the kidneys.
3. Margarine, French fries, Dough nut, Pastry, Ice-cream (Islam et al., 2019; Zhu et al., 2019) which has Trans Fat which may Increase in Inflammatory markers (Heart Risk), T2DM, cancer and diabetes, cardiovascular disease.
4. Buns, Bagels, flour bleaching agent and a dough conditioner. (Kim et al., 2004; Ye et al., 2011)has Azodicarbonamide which create Asthma, carcinogenicity.
5. Frenchfry cardboard sleeves, Burger and sandwich wrappers, Bread wrappers, containing Fluorine (Hurley et al., 2018; Anderko and Pennea, 2020) has Per/poly fluoroalkyl substances (PFAS) may lead to Breast cancer, Fertility, Weakened Immune system.
6. Soda, Flavoured water, processed cheese, chicken nuggets (Orozco-Guillien et al., 2021) has Phosphate additives may lead to Kidney disease, Bone problem.
7. Mayonnaise, Roasted pork (Ham et al., 2019; Yang et al., 2017)included with Propyl gallate which leads to disease like Reproductive toxicant, testicular toxicity, abnormal implantation and placental development.
8. Burger packaging (Li et al., 2021) included with Phthalates which lead to Induce Reproductive toxicity towards the development of gonads and reproductive capability of environmental organisms.
9. Processed Redmeats (Soliman et al., 2021)has Sodium nitrite which leads to Stomach cancer, renal inflammation sand oxidative stress.
10. Canned foods, polycarbonate tableware, food storage containers, water bottles, and baby bottles. (Zhang et al., 2021; Wang et al., 2021; Bordbar et al., 2021)includes Bisphenol which lead disease like Reproductive toxicity, cardiotoxicity and endocrine disrupting toxicity, Delayed bone development, Hepatotoxicity

4. Objectives

1. To study the gender differences among secondary school students with regard to junk food consumption.

2. To study the differences in terms of types of management among secondary school students with regard to junk food consumption.
3. To study the differences in terms of location among secondary school students with regard to junk food consumption.
4. To study the difference in terms of types of family among secondary school students with regard to junk food consumption.

5. Hypotheses

1. There is no significant difference between male and female secondary school students with respect to junk food consumption.
2. There is no significant difference between private and government secondary school students with respect to junk food consumption.
3. There is no significant difference between rural and urban secondary school students with respect to junk food consumption.
4. There is no significant difference between joint family and nuclear family member of secondary school students with respect to junk food consumption.

6. Methodology

A.Data Collection: Samples, Research tool, Statics: Overall student's population only secondary school students were considered for this study. The stratified sampling method was obtained. The samples collected from Vijayapur, Belagavi, Koppal districts. From each district five urban and five rural and total ten secondary schools were selected. .Among those schools only 9^{th} standard students total four hundred students were acted as samples. The research tool constructed on 'Junk Food Consumption'with five level of standardization process. Finally with ten indicators fifty one items identified and realibility was checked with chronabatch alfa method. This 'Junk Food Consumption' Scale (JFCS) was followed by likert seven point scale. The researcher visited to schools with prior permission of authority. The students were given instruction to maintain honesty while responding. The freedom of respondents was respected. Only interested students allowed responding. To compute data Mean, SD, T-test were applied.

B.Data Analysis: Hypothesis.1: There is no significant difference between male and female secondary school students with respect to junk food consumption

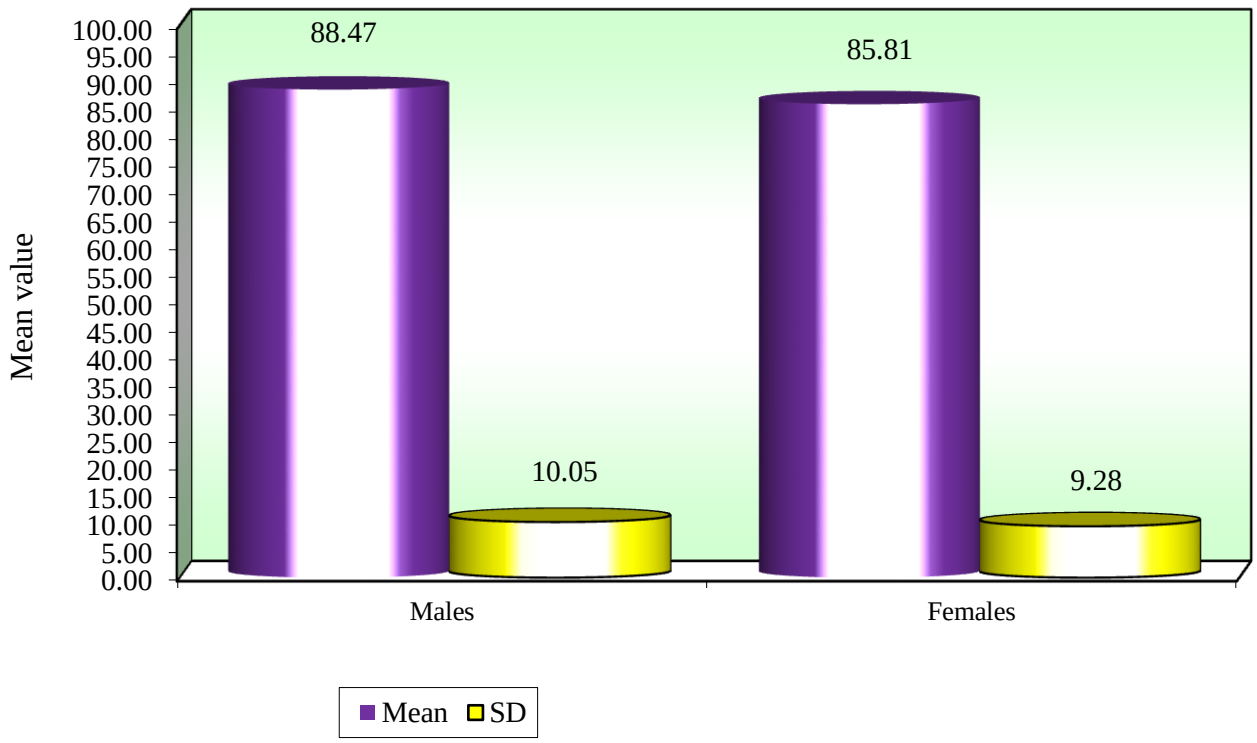
Table.1: results of t-test between male and female secondary school students with respect to Junk food consumption.

Group	n	Mean	SD	t-value	P-value	Signi.
Males	200	88.47	10.05	-0.2814	0.8585	
Females	200	85.81	9.28		>0.05	NS

No significant difference was observed male and female secondary school students with respect to junk food consumption scores (t = -0.2814 >0.05) . Hence, the hypothesis is accepted. It means that, no difference found with regard to junk food consumption scores among male and female students of secondary

school students. The mean scores of Junk food consumption with regard to male and female secondary schools are given in following figure.

Figure 1: Comparison of male and female students of secondary schools with respect to Junk food consumption



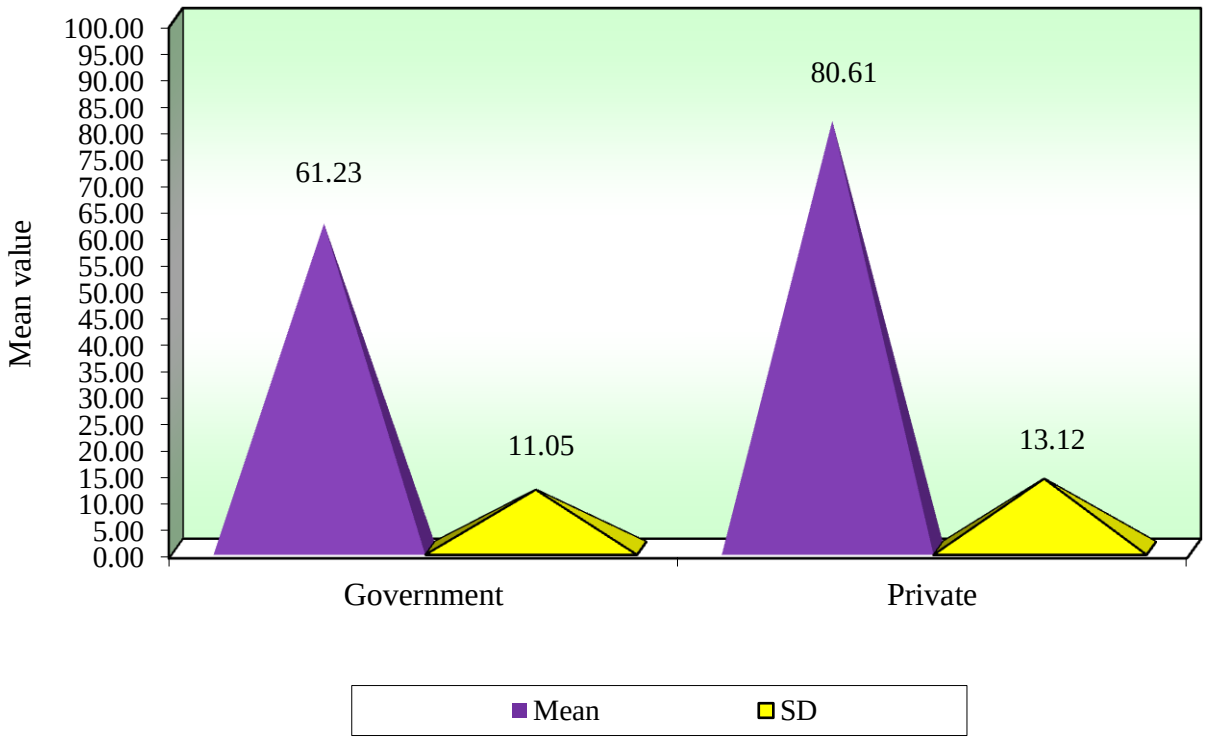
Hypothesis.2: There is no significant difference between private and government secondary school students with respect to Junk food consumption

Table:2. Results of t-test between government and private secondary school students with respect to Junk food consumption.

Group	n	Mean	SD	t-value	P-value	Signi.
Government	200	61.23	11.05	-2.7553	0.0017	
Private	200	80.61	13.12		<0.05	S

The above table says that significant difference was observed between government and private school students with respect to Junk food consumption scores ($t=-2.7553$, $p<0.05$) at 5% level of significance. Hence, thehypothesis is rejected. The alternative hypothesis is accepted. It means that, junk food consumption scores are significantly higher among private schools as compare to government secondary schools. The private school students consume road side chats and bakery products even parents were allowed to it. Based on the reports, more than one-third of the adults eat junk food several times a week (Bauer et al., 2009). Studies have proven that Junk food tends to cause obesity (central adiposity), a primary concern of heart diseases and other non-communicable diseases (Rouhani et al., 2012; Musaiger, 2014). The mean scores of Junk food consumption are given with graph in following figure.

Figure 2: Comparison of government and private secondary school students with respect to Junk food consumption



Hypothesis.3: There is no significant difference between rural and urban secondary school students with respect to Junk food consumption

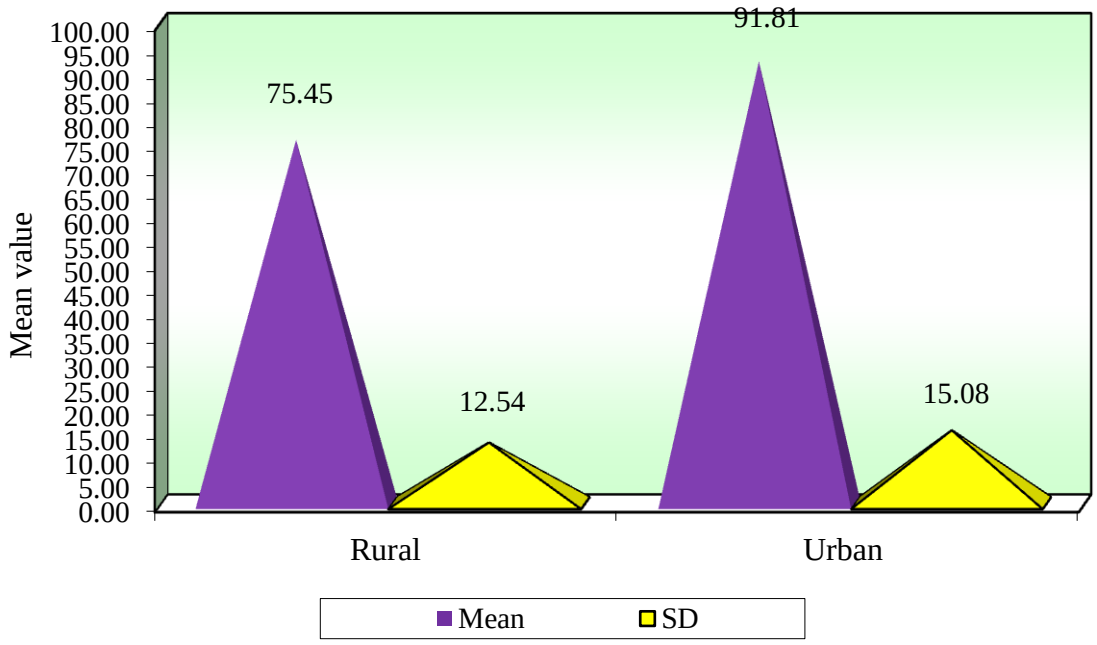
Table.3: results of t-test between government and private secondary school students with respect to Junk food consumption.

Group	n	Mean	SD	t-value	P-value	Signi.
Rural	200	75.45	12.54	-3.4864	0.0021	
Urban	200	91.81	15.08		<0.05	S

A significant difference was observed between rural and urban secondary school students with respect Junk food consumption scores (t= -3.4864- , p<0.05) at 5% level of significance. Hence, the hypothesis is rejected. It means that, application of Junk food consumption scores are significantly higher urban schools as compare to rural secondary school students .The studies reflects that Children find themselves amidst a way of living that has been metamorphized to suit the new jet-setting age and the food is no exception to this. Over the last two decades, the variability of healthy eating advice has become a cliché, leading to an alarming increase in the trend of consumption of fast food and sweetened beverages in Indian children. On average, the fast-food industry is growing 40% per year (Joseph et al., 2015). A PAN India survey organized by the Centre for Science and Environment (CSE) among 13,274 children between the ages 9–14 years

reported that 93% of the children ate packed food and 68% consumed packaged sweetened beverages more than once a week, and 53% ate these products at least once in a day. Almost 25% of the School going children take ultra-processed food with high levels of sugar, salt, fat, such as pizza and burgers, from fast food outlets more than once a week (Bhushan et al., 2017). The most commonly consumed junk food items are bakery products, beverages, burgers, caffeinated drinks, chips, chocolates, noodles, pizza, soft drinks, and sugar-sweetened drinks. Harmful effects of Junk foods include Overweight/Obesity, Cardiometabolic risk, High blood pressure, Behavioural symptoms and Dental caries. The mean scores of Junk food consumption are given below with figure and graph.

Figure 3: Comparison of rural and urban secondary schools students with respect to Junk food consumption



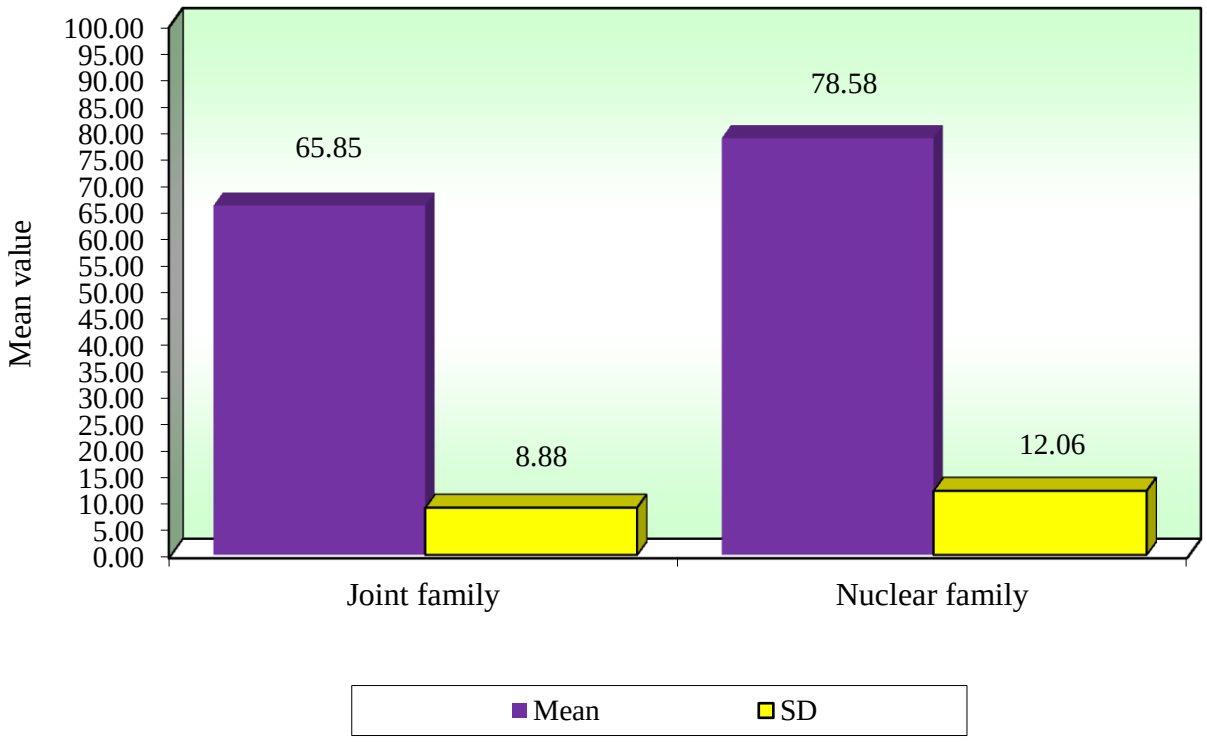
Hypothesis.4: There is no significant difference between joint family and nuclear family member of secondary school students with respect to Junk food consumption.

Table.4: results of t test between joint family member and nuclear family member of secondary school students with respect to Junk food consumption

Group	n	Mean	SD	t-value	P-value	Signi.
Joint family	80	65.85	8.88	-4.2955	0.0018	
Nuclear family	120	78.58	12.06		<0.05	S

A significant difference was observed between joint family and nuclear family member of secondary school students with respect Junk food consumption scores (t= -4.2955, p<0.05) at 5% level of significance. Hence, the hypothesis is rejected. It means that, Junk food consumption scores are significantly higher nuclear family member as compare to joint family member of secondary schools. The mean scores of Junk food consumption are given below with figure and graph.

Figure 4: Comparison of between join family and nuclear family member os secondary schools with respect to Junk food consumption



7. Discussion and Analysis

1.The study revealed that there is no significant difference was observed male and female secondary school students with respect to junk food consumption scores (t = -0.2814 p >0.05) . Hence, the hypothesis is accepted .It means that, no difference found with regard to Junk food consumption scores among male and female students of secondary school students. All students responded same opinion the previous studies says that .(Zhu et al. (2019) investigated on the current situation and influencing factors on consuming junk foods among children and adolescents in Beijing city (Zhu et al., 2019). He used a questionnaire survey method to survey the junk food habits and their effects. One month before the survey, all individuals have an intake of one type or the other junk foods. Mostly they didn't have an understanding of nutrition, and mostly they have misunderstandings about nutritional value and effect on the human body. Their behavior is affected mainly by personal factors like physiological, psychological, social, family factors, and the food itself. In Conclusion, children and adolescents in Haidian District ate different types of junk food, and the safety, nutritional issues of junk food should be paid great attention to prevent and control the risk factors of children and adolescents eating junk food. Payab et al. (2015) studied the relationship between junk food consumption with high blood pressure and obesity in Iranian children and adolescents (Payab et al., 2015).This study showed significant link between sweet consumption and both general and abdominal obesity. Nonetheless, there was no meaningful relationship between sweets consumption and high blood pressure. Several studies also showed that in general, central obesity is inversely associated with healthy

dietary habits, while the Western dietary habits (refined grains, Red meat, sweets, desserts, pizza, French fries, and soft drinks) were directly linked to obesity.

2.The study reflects that there is significant difference was observed between government and private school students with respect to Junk food consumption scores (t=-2.7553 , p<0.05) at 5% level of significance. Hence, the hypothesis is rejected. The alternative hypothesis is accepted It means that, zunk food consumption scores are significantly higher private schools as compare to government secondary schools.The private school students consume road side chats and bakery products even parents were allowed to it.Based on the reports, more than one-third of the adults eat junk food several times a week (Bauer et al., 2009). Studies have proven that Junk food tends to cause obesity (central adiposity), a primary concern of heart diseases and other non-communicable diseases (Rouhani et al., 2012; Musaiger, 2014).

3. The study reveals that there is a significant difference was observed between rural and urban secondary school students with respect Junk food consumption scores (t=-3.4864- , p<0.05) at 5% level of significance. Hence, the hypothesis is rejected. It means that, application of Junk food consumption scores are significantly higher urban schools as compare to rural secondary school students .The studies reflects that Children find themselves amidst a way of living that has been metamorphized to suit the new jet-setting age and the food is no exception to this. Over the last two decades, the variability of healthy eating advice has become a cliché, leading to an alarming increase in the trend of consumption of fast food and sweetened beverages in Indian children. On average, the fast-food industry is growing 40% per year (Joseph et al., 2015). A PAN India survey organized by the Centre for Science and Environment (CSE) among 13,274 children between the ages 9–14 years reported that 93% of the children ate packed food and 68% consumed packaged sweetened beverages more than once a week, and 53% ate these products at least once in a day. Almost 25% of the School going children take ultra-processed food with high levels of sugar, salt, fat, such as pizza and burgers, from fast food outlets more than once a week (Bhushan et al., 2017). The most commonly consumed junk food items are bakery products, beverages, burgers, caffeinated drinks, chips, chocolates, noodles, pizza, soft drinks, and sugar-sweetened drinks. Harmful effects of Junk foods include Overweight/Obesity, Cardiometabolic risk, High blood pressure, Behavioural symptoms and Dental caries.

4. A significant difference was observed between joint family and nuclear family member of secondary school students with respect Junk food consumption scores (t= -4.2955, p<0.05) at 5% level of significance. Hence, the hypothesis is rejected. It means that, Junk food consumption scores are significantly higher nuclear family member as compare to joint family member of secondary schools. The previous study says that Zahedi et al. (2014) studied the relationship between junk food consumption and mental health in a Sample of Iranian Children and Adolescents (Zahedi et al., 2014). In this study, a notable link between junk food consumption and mental health problems in children and adolescents was observed. Students that consumed junk food daily were more likely to be subjected to mental health problems. The Western Australian Pregnancy Cohort Study proposed that the Western dietary pattern of increased consumption of takeaway foods, red meat, and confectionary was significantly associated with poor behavioral outcomes in

adolescents. Similarly, two cohort studies in adolescents instigated that increased intake of unhealthy foods like sweets, savory snacks, sweetened soft drinks, chocolate, and fast foods was associated with a high risk of behavioural problems and mental distress such as anxiety worthlessness, and dizziness.

8. Suggestions

1. The same study can be conducted on primary students and higher educational level adults and old age people of world also all sector of society. It is high time to spread awareness about ill effect of Junk Food Consumption on health.
2. The experts and academicians and educationist should take in to consideration in their committee proceeding and their programs there must be some guidelines in curriculum design.
3. In the curriculum at primary level only awareness based lessons and ill effect on junk food related activities should be designed.
4. The Indian olden days chats like gaggery and peanuts and like lolly pop with gagarey mixed mints were have been forgotten from adults. They need to be implement at home and schools. The importance of nutrious food which were prepared by grannies and grandmothers need to be explained to our students.
5. It is high time to spread awareness about harmful junk food. Otherwise young generation may suffer with harmful diseases in young age only.
6. Being educated, having fully fledged knowledge about harmful chemicals which were mixed in the junk food, the adults and old people also consuming everyday junk food. Why don't they are not able to implement .The students always follow imitate elders. Every employ of middle class family buy junk food for their children in the evening after his office duty. The children and family members enjoys the pizza burger with out sensing the harmful chemicals. Does always taste matter? Why don't we advice our students and children for not to have outside junk food.

9. Conclusion

The study comprised only secondary school students. There is significant difference in rural and urban and private and government and joint and nuclear family with regard to Junk Food Consumption. It is concluded that it is high time spread awareness among all community of world that the tasty junk food has strongly infectious chemicals they seriously harm kidney, heart, lungs etc. Everybody needs to realize that health must be first priority as compare to all other things in life. As we are inviting harmful and non-curable diseases by paying. Instead every human of world should buy healthy fruits and vegetable to consume and teach same to their young kids.

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