

Junk Food Consumption Pattern among Adolescents in District Anantnag, Kashmir

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Abstract - Junk food simply means an empty calorie food. An empty calorie food is a high calorie or calorie rich food which lacks in micronutrients such as vitamins, minerals or amino acids and fiber but has high energy (calories). These foods don't contain the nutrients that your body needs to stay healthy. Hence, these foods that have poor nutritional value are considered unhealthy and may be called as junk food. Junk Food is an informal term applied to some foods which are perceived to have little or no nutritional value, but which also has ingredients considered unhealthy when eaten regularly, or to those considered unhealthy to consume at all.

Keywords: Junk Food, micronutrients, calories, unhealthy, vitamins, fiber.

I. INTRODUCTION

One of the most important changes in nutrition patterns in both developed and developing countries is increasing popularity of junk food, which has low nutrient content but is high in salt, sugar, fats, food additives and preservatives. Junk food is widely available around the world, as it is rather inexpensive and easy to preserve. If considering the well-known fact that high consumption of saturated fats, refined carbohydrates, sodium, as well as lack of consumption of micronutrients and fiber, increases the risks of development of such chronic non-communicable diseases as cancer, cardiovascular diseases (herein after CVDs), diabetes mellitus etc. It will not be a surprise that increased levels of junk food consumption can obviously be associated with rapidly increasing burden of chronic non-communicable diseases around the world, especially in developing countries and countries in transition [147] [148]. Fast food may be defined as a specific variety of convenience food which is commonly associated with high energy density [22]. Fast foods can be defined as convenience foods obtained in self-servicers 'take-away' eateries with minimal waiting and are usually characterized as energy dense, low in micronutrients and fiber, high in simple sugars and salt, generally larger in portion size than conventional home-cooked or restaurant foods [122]. Among adolescents, it has been found that foods prepared away from home were higher in total and saturated fatty acids and lower in calcium, iron and fiber than foods

prepared in the home [93]. According to the Dietary Guidelines for Indians National Institute for Nutrition, a balanced diet should provide 50-60% of calories from carbohydrates, 10-12% from proteins and 20-25% from fats. Though NIN recommends a maximum of two per cent of total calories to come from trans fats, the recommendations of WHO is one per cent. Balanced diet should provide other non nutrients such as dietary fibre, antioxidants and phytochemicals which bestow positive health benefits. Antioxidants such as vitamin C and E, beta carotene, riboflavin and selenium protect the human body from free radical damage other phytochemicals such as polyphenols, flavones etc. Also afford protection against oxidant damage [94].

II. MEAL PATTERNS

Skipping meals adversely affects dietary quality. It was found that young adults who skipped breakfast had lower total daily energy, vitamin, and mineral intakes compared with those who ate breakfast. Overall, dietary inadequacy was 2 to 5 times higher for those who skipped breakfast than for those who ate breakfast. For children skipping breakfast at home, fast food comes handy in school [109]. A positive correlation of increased fast food consumption, skipped breakfasts and increased body mass index was found among adolescents. Socio economic status is an important factor related to fast food consumption among children. In a study conducted in Hyderabad, children from

high socio-economic status preferred fast foods to traditional foods despite their better nutritional knowledge. Proximity of fast food joints to households could also predispose to increased consumption.

In general, frequent junk food consumption is not typical for young children, except the cases when unhealthy food is available from their homes. But between early and middle adolescence, fast food consumption increases nearly twice both in males and females, and continues to increase significantly among males during the transition from middle to late adolescence. The main cause of such situation is the so called developmental factors that include more time spent with peers, independence in meal selection, and disposable income [29]. After reaching young adulthood age, the frequency of fast food consumption decreases and becomes less and less common as people become older. For instance, in the study of [131], participants who reported usual/often eating at fast-food restaurants were more often younger and never married than those who did not.

III. INFLUENCING FACTORS

Fast food chains are gaining popularity with nuclear families as working parents have less time for meal preparation at home. The vast majority of working parents with school going children are labored with exhausting commutes, other household chores and stress. While their children spend most of their time away from home by attending tuition classes after their school hours or engaged in recreational activity.

The influence of peers and conformity to group norms are often considered hallmarks of adolescence and young adulthood. They spend a substantial amount of time with friends, and eating is an important form of socialization and recreation and it is assumed that peer influence and group conformity are important determinants in food acceptability and selection; however, the role of the peer group in influencing food choices has rarely been explored and the few studies done have not found a strong association. [67] examined 13 motivations regarding vending snack selections among 419 adolescents. Influence of friends was rated as the least important motivation for snack choice. At

the same time, it was reported that socializing with friends and a chance to get out were the top two choices of college students for eating fast foods [76].

A huge number of studies have consistently shown a positive association (although weak in some cases) between television viewing and junk food consumption, especially in children and youth [31]. The impact of television on obesity is believed to be mediated by two primary mechanisms: reduced energy expenditure from displacement of physical activity and increased dietary energy intake, either during viewing or as a result of food advertising [130]. Exposure to food advertising - especially commercials for fast food, convenient foods, and soft drinks - may influence viewer's food choices toward higher-fat or high energy foods. Besides television, marketers also use other advertising techniques and channels to reach people. Magazines, Internet sites, sales promotions, free gifts and cross-selling campaigns are also commonly used methods to reach youth [130].

IV. MAJOR CONTENTS IN JUNK FOOD

Carbohydrates: The free sugar content has generally been found to be high in carbonated beverages and desserts offered by the fast food chains. The desserts and shakes offered by KFC and McDonalds invariably contain very high sugar content.

Fats: Junk foods like potato chips, burgers, pizza, fried chicken etc. have high fats content. The link between saturated fat and trans-fat and increased risk of heart disease is well established. There is also evidence that the risk of type 2 diabetes is directly associated with consumption of saturated fat and trans-fat and inversely associated with polyunsaturated fat from vegetable sources.

Trans Fat: It is the common name for unsaturated fat with *trans*-isomer (E-isomer) fatty acid(s). Trans fatty acids (TFA) are the geometrical isomers of monounsaturated (MUFA) and polyunsaturated (PUFA) fatty acids having at least one non-conjugated, (interrupted by at least one methylene group), carbon-carbon double bond in the *trans* configuration rather than the more common *cis* configuration. The *trans*-configuration has an effect on the

functional and physiochemical properties of these fatty acids which in turn effects their metabolism in humans. High levels of TFA are a public health concern due to some evidence associating TFA with coronary heart disease 4. There is also evidence that the risk of type 2 diabetes is directly associated with consumption of saturated fat and trans-fat and inversely associated with polyunsaturated fat from vegetable sources.

Salt: The amount of dietary salt consumed is an important determinant of blood pressure levels and overall cardiovascular risk. Salt intake should not be more than 6 g per person per day. WHO recommends salt intake of less than 5 grams per person per day for the prevention of cardiovascular disease. WHO estimates that decreasing dietary salt intake from the current 9-12 grams per day to the recommended level of 5 grams per day would have a “major impact on reducing blood pressure and cardiovascular disease.”

Table 1.1 RECOMMENDED DIETARY GUIDELINES FOR INDIAN

Carbohydrate	Free Sugars	Protein	Salt	Fat
50-60%	<10%	10-15%	6 g per day	20-30%

Source: National Institute for Nutrition (2011).

V. JUNK FOOD MARKET IN INDIA

According to the National Restaurant Association of India (NRAI) 2010 report, the fast food industry in India is currently estimated to be between Rs 6750- Rs 8000 crore, growing at a compound annual growth rate of 35-40 per cent. A major chunk of these markets is ruled by global players like McDonald’s, Yum! Brands (Kentucky Fried Chicken, Pizza Hut), Domino’s, Subway, Taco Bell, Coca Cola and Barista but domestic players are not lagging behind. Nirula’s, Pizza Corner, Coffee Day Group, Haldiram’s, Bikanervala capture a fair share of the fast food segment. Junk foods are high visibility products: easily available almost everywhere, extensively advertised through every media, these foods find a key target group among children. Their manufacturers and sellers also take recourse to attractive packaging and addition of food additives and colors to enhance flavor, texture, appearance and shelf life. The Integrated Disease Surveillance Report,

which found that rural India was fast catching up with modern diseases, also noted that people were eating less fruits and vegetables and more fast food. It found that across the seven states in which it conducted its study, in urban and rural areas, there was a growing and substantial percentage of people eating fast food.

VI. INDIAN FAST FOODS

India has rich heritage of foods and recipes. Popular north Indian fast foods include *alootikki*, *bhelpuri*, *chaat*, *pakora*, *cholebature*, *pavbhaji*, *dhokla*, *samosa* and *panipuri*. Calorie and fat content in Indian fast food depends on the cooking method. Most of Indian fast foods are prepared by deep frying in fats especially trans-fat and saturated fats Foods which are baked, roasted or cooked in *tandoor* have lower fat content. Hydrogenated *oil* used in Indian cooking are rich in trans fats and have been replaced in many restaurants by refined vegetable oil. Trans fat content in Indian fast food are far higher than western foods. Trans fat content in *bhatura*,

parantha and *puris* 9.5%, 7.8% and 7.6%, respectively as compared to 4.2% in regular French fries. South Indian foods like *idli* and *uthappam* are better as they are rich in carbohydrates and proteins rather than fat.

VII. ENERGY DENSITY OF FAST FOOD

Energy density is defined as the energy content per unit weight of foods, meals or diets (expressed here as kJ 100 g⁻¹). Owing to differing effects on satiation and satiety, it is necessary to consider solid foods and drinks separately. Fast foods are frequently linked to the epidemic of obesity, but there has been very little scientific appraisal of a possible causal role. The *energy density* of foods is a key determinant of energy intake. These studies show that humans have a weak innate ability to recognize foods with a high energy density and to appropriately down-regulate the bulk of food eaten in order to maintain energy balance. This induces so called ‘passive over-consumption’. Composition data from leading fast food company websites are then used to illustrate that most fast foods have an extremely high energy density. At some typical outlets the average energy density of the entire menus is

~1100 kJ 100 g⁻¹. This is 65% higher than the average British diet (~670 kJ 100 g⁻¹) and more than twice the energy density of recommended healthy diets (~525 kJ 100 g⁻¹). It is 145% higher than traditional African diets (~450 kJ 100 g⁻¹) that probably represent the levels against which human weight regulatory mechanisms have evolved. So the high energy densities of many fast foods challenge human appetite control systems with conditions for which they were never designed. Among regular consumers they are likely to result in the accidental consumption of excess energy and hence to promote weight gain and obesity.

VIII. CONSEQUENCES OF EXCESSIVE FAST FOOD CONSUMPTION

Junk food is popular because it is tasty. But it is unhealthy. It is low in fiber, it is high in fat, high in sugar in liquid form. Studies have shown that despite being unhealthy, junk food induces gorging that leads to obesity. Consumption of diet high in sugar, saturated fat, salt and calorie content in children can lead to early development of obesity, hypertension, dyslipidemia and impaired glucose tolerance. The concerns with fast food consumption in developing countries also include poor hygiene during preparation storage and handling leading to microbiological contamination. Fast foods have high level of fat and sugars that are not only unhealthy but addictive and that creates a vicious cycle making it hard for children to choose healthy food. High content of Trans fat in commercially available fast foods predispose children to risk of future heart diseases. Energy density of fast food is more than twice the recommended daily allowance for children. Fast food intake leads to higher proportion of calories being derived from total and saturated fat .being derived from total and saturated fat. Moreover, the micronutrient content (carotene, vitamin A, vitamin C) of the fast food is also low.

The childhood obesity epidemic is a serious public health problem that increases morbidity, mortality, and has substantial long term economic and social costs. Obesity in childhood places children and youth at risk for becoming obese as adults and associated poor health such as diabetes, cardiovascular disease, and some forms of cancer.

Prevention efforts must focus on reducing excess weight gain as children grow up.

Today's children, ages 8 to 18, consume multiple types of media (often simultaneously) and spend more time (44.5 hours per week) in front of computer, television, and game screens than any other activity in their lives except sleeping. Research has found strong associations between increases in advertising for non-nutritious foods and rates of childhood obesity. Most children under age 6 cannot distinguish between programming and advertising and children under age 8 do not understand the persuasive intent of advertising. Advertising directed at children this young is by its very nature exploitative. Children have a remarkable ability to recall content from the ads to which they have been exposed. Product preference has been shown to occur with as little as a single commercial exposure and to strengthen with repeated exposures. Product preferences affect children's product purchase requests and these requests influence parents' purchasing decisions.

The study published in 2009 in The Journal of Clinical Investigation, showed that the fat from fatty acids affected the brain. The study by Deborah Clegg, Assistant Professor of Internal Medicine at UT Southwestern, suggested that when we eat something high in fat, the brain gets 'hit' with the fatty acids, and the fat molecules cause the brain to send messages to the body's cells, warning them to ignore the appetite-suppressing signals from leptin and insulin, hormones that are involved in weight regulation. Since the body does not get the signal that it is satiated it leads to over eating

Studies also show that too much of junk food alters the chemistry of the brain and are addictive like cocaine. High-fructose corn syrup (HFCS), monosodium glutamate (MSG), hydrogenated oils, refined salt, and various other chemical preservatives found in processed junk food do the same thing to a person's brain as cocaine does.

Children are especially vulnerable. Poor diets can slow growth, decay new teeth, promote obesity and sow the seeds of infirmity and debilitating disease that ultimately lead to incurable disease. Food containing low nutrition value tends to reduce the IQ level of children.

IX. FAST FOOD CONSUMPTION AND DIETARY HABIT

Junk Food is defined as “any food, which is low in essential nutrients and high in everything else—in particular calories and sodium. Junk foods contain little or no proteins, vitamins or minerals but are rich in salt, sugar, fats and are high in energy (calories). Highly salted like chips, high in refined carbohydrates (empty calories) like candy, soft drinks and high in saturated fats like cake and chocolate.

X. FRUIT AND VEGETABLE CONSUMPTION

It is important to examine the fruit and vegetable consumption of adolescents because fruits and vegetables provide many important nutrients such as fiber, vitamins, and minerals, which are necessary for different functions in the body. Also, eating a diet rich in fruits and vegetables may be of particular importance during adolescence due to a high nutrient need for the rapid period of growth and development. According to an adequate fruit and vegetable intake during adolescence may lead to healthy eating patterns in adulthood [90]. Fruit and vegetable consumption varies among ages and gender. In an older study, also, carbonated soft drinks and fruit drinks were 5 times more likely to be chosen over 100%, fruit juice as a snack.

1.11 VALUE ADDITION

According to (Francis et al., 1998) the value added products have features that go beyond what is generally found in the conventional market. Most people think value-added means processing raw material into a finished product. That's true, but value added can be more than that. We believe organic products are value added of extra care that goes into making the product.

Value added product are those whose nutrient value has been increased through addition of ingredients or process that makes them more attractive to the buyer/ or more readily usable by the customer. Value is added by changing their form, colour, and other such to extend requisite technical know-how to agro based industrial units for production of value added products.

According to Sirolli, Emesto (1995) value adding to product can improve economic situation as well as add

value to life. It gives room to express oneself more fully, be creative, to create a personal presence on products.

FAO Production year book (2006) stated that Value added products are now being developed by small to farmers who do this own processing and sell direct to customers. The factor is that farmers or person concern, develop and process the end products and do not work through a distribution or middle person to distribute it.

XI. CONCLUSION

Fast food culture is an emerging trend among the younger generation. The availability, taste, low cost, marketing strategies and peer pressure make them popular with children and adolescents. Junk foods are widely available in schools through variety of outlets. Cafeterias at the schools offer sodas, cold drinks, chips and many other foods of low nutritional value. Sale of junk foods in school/college cafeteria often competes with more nutritious school lunch schemes. In India, media advertisement and publicity is under the control of ministry of information and broadcasting (Government of India). A committee should be set up by the ministry to review the complaints, decide whether the advertisement violates the rules and issue a notice to TV channels in case of violation. More publicity of nutritious food should be encouraged. Some strict rules and regulation should be enforced so as these changing life style pattern can be controlled.

There is a strong need for providing nutrition education among both school/college children and emphasis their parents regarding the importance of healthy dietary guidelines as per sex, age and activity. Regular interactions between parents, students, school authorities and health personnel is required to emphasize the connection between health, healthy food choices and lifestyle habits. Adolescents should be advised not to skip meals, particularly breakfast, eat regular meals using the food guide pyramid and eat nutritious snacks prepared at home.

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