

The Impact of Nutrition on the Overall Quality of Life Adolescent Girls are Living Across the City of Kota

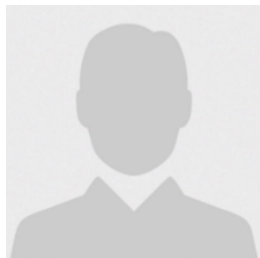


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*Deficiencies;
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Abstract

A random assessment of adolescent girls living in the hostels of Kota revealed a disturbing pattern in their eating habits. Their general consumption was erratic and high on empty calories lacking precautions without any heed being paid to the nutritional value of the food being consumed. A sample of 50 girls (16 to 22 years of age) belonging to middle and higher class families was chosen arbitrarily and provided with a questionnaire methodically planned and the responses were assessed taking into consideration the unique pattern of life they were subjected to. Girls living in hostels have to be under a constant stress, resulting out of factors that are beyond their control. Majority of these factors take a gradual toll on the adolescent's body making her all the more vulnerable to deficiencies and diseases. Around 78% of the respondents admitted to consuming highly calorific food including fries, pizzas, pastas, and burgers on an almost regular basis resulting in disorders ranging from obesity to an early diagnosis of diabetes. Around 17% were found to be suffering from hair fall and mildly anemic. The remaining 5% complained of skin diseases and randomly occurring rashes all over the body. These trends appear to be disturbing in nature as they are qualitatively impacting the overall essence of being a girl. When the causes were analyzed and assessed, they were downright shocking. One of the major elements leading to this disorder is peer pressure, where the girls with a high sense of self-esteem, compare themselves with peers and eating junk is considered cool. They are very much unmindful of the extremely high salt content of this food and the risk they are exposing themselves to. It also satiates their quest for independence as staying away from

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parents gives them a liberty to choose their food with their own specific whims. In a nutshell, eating habits in these girls are boosting the toxins and letting them fall prey to ailments at a very tender age.

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Introduction

The age of adolescence is the time to experiment, explore and create an opinion about a vast variety of things around. It's the time to develop a deep understanding of things surrounding us and that's what decides how an adolescent would shape up into adulthood. There are a few things which carry a mighty relevance in the overall development of an adolescent girl's physical and mental health, and that is the quality of nutrition that she intakes on a routine basis. As has been reported over the years, girls staying away from their families have a disorderly routine consuming meals at odd hours, turning a blind eye to hygiene, calorific values of junk being consumed and the devastating impact it has on the fragile state of their bodies and minds. Adolescents tend to pick deficiencies of vital nutrients as a result of this random consumption which may further lead to certain complex ailments at a young age which grow up steadily and turn into uncontrollable monsters which then are incurable.

Some of the disorders in eating habits like a heavy intake of sugar, fatty foods high on oil can cause a steady deterioration of important nutrients like vitamin A, folic acid, roughage, iron, calcium and zinc which may in the long run hamper the overall life of the adolescent girl in innumerable ways. A dearth of adequate quantities of iron may seriously hinder the physical performance of the girl, lack of calcium may cause severe impairments in the spinal frame and make the girl more susceptible to fractures and chronic Osteoporosis. Girls in the age group 14 to 23 are anxious to a great extent regarding their looks and in their quest to be thin and appealing, they skip their meals which again causes bodily deficiencies like anaemia, reduced concentration in studies and inadequate stamina.

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Over the years, health educators have found it real hard to educate the girls regarding healthy dietary habits as for these adolescents peer pressure works the most putting an undue burden on the girls to have a specific lifestyle which pushes them towards consuming food which in no way contributes to their health. This may even affect their height and cause obesity and hyperlipidemia which have been recognized worldwide as major causes of depression amongst adolescent girls. It has been a big challenge for educators to change the dietary habits of these girls as their actions are solely motivated by people who are of their age group and pursuing similar goals. Further, junk foods contain chemicals which, with the passage of time may prove to be lethal. Moreover, carbonated drinks, potato wafers and aerated fruit juices carry additives which add on to the calorific content unnecessarily. On the top of that lack of proper nutritional counselling aggravates the problem and the adolescent girls are left with little or no options at all than to follow their instincts and popular food habits.

Objective of the Study

- 1) To assess the nutritional intake of adolescent girls and their dietary preferences keeping in mind the fast changing trends in fooding habits.
- 2) To reach a conclusion regarding reasons that affect their long term health and also result in certain specific deficiencies of vital minerals and nutrients.
- 3) Drawing an inference out of the details collected regarding the best possible preferences and nutritional values that could advantageously impact an adolescent's health.

Research Method

Selection of subjects

Kota has been a city famed across the country for more than a decade now for its quality coaching institutions and thereby attracts around a lakh students every year from the length and breadth of the country. Girls outnumber the boys when it comes to medical coaching institutes. Subjects were selected arbitrarily from a cluster of coaching institutes. These were 50 adolescent girls between the age group 16 to 22 belonging to middle class families and having a moderate lifestyle.

Questionnaire

A wide ranging questionnaire consisting of questions that sought information on age, caste, financial background, dietary habits, behavioural patterns and the impact of their socio economic status on the kind of food they had access to, food beliefs and the changing trends amongst the youngsters regarding consumption, was prepared and handed over to these adolescents to fill in their preferences. Though there might have been a few discrepancies in the information provided, the knowledge gathered can be construed to be conclusive by and far. The questionnaire comprised a second part with certain close ended questions where the girls were required to answer them in either a yes or a no or at the most with a word or two. Further it contained certain open ended questions also where girls were asked to register their responses regarding the common ailments they often suffered from, digestive disorders and how they dealt with them, whether they were ever diagnosed as anaemic, did they ever suffer sudden hair fall, skin rashes or fractures and did they somehow relate these disorders to the quality of food they were consuming.

Dietary practices

Students were subjected to the above discussed questions and their meal consumption practices were garnered through a 24 hour recall method for three successive days. Through the answers collected it was adjudged fairly well the different food items being consumed and translated into their energy equivalent of proteins, fats, carbohydrates, beta carotene, thiamine, folic acid, vitamin C and B. The average intake of nutrients and minerals listed above was calculated via a 100 gm portion of meal being consumed by the subject. The adolescents were also screened for their height, weight, Mid upper arm circumference (MUAC), Triceps skin fold

thickness (TSFT) and eventually the data was processed to calculate their Body Mass Index (BMI).

Results and Analysis

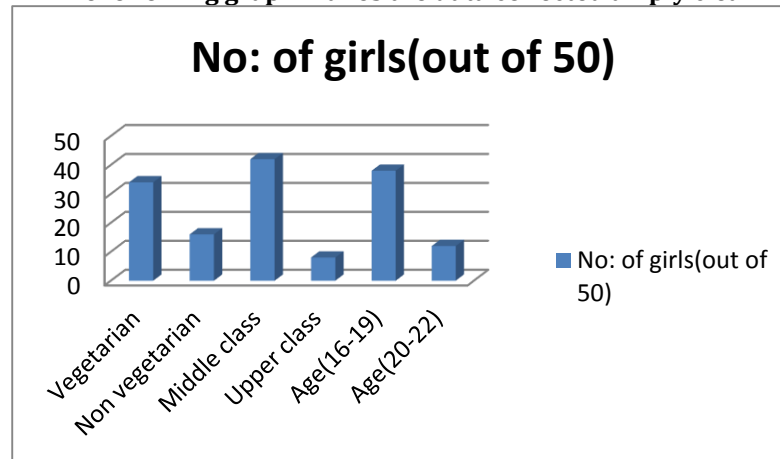
The data gathered on nutrient and food intake was analyzed statistically using mean and standard error of mean. Each studied variable was taken into consideration and subjected to these statistical tools thereby giving rise to the following statistical table reaffirming the beliefs commonly held about adolescents. The undergiven table also reflects a comparison between nutrients and their respective consequences on an adolescent girl's body.

The data was also analyzed for the ailments that majority of the respondents suffered from, the diseases that usually afflicted them, the frequency with which these problems troubled them and with what intensity and the common measures they took to recover.

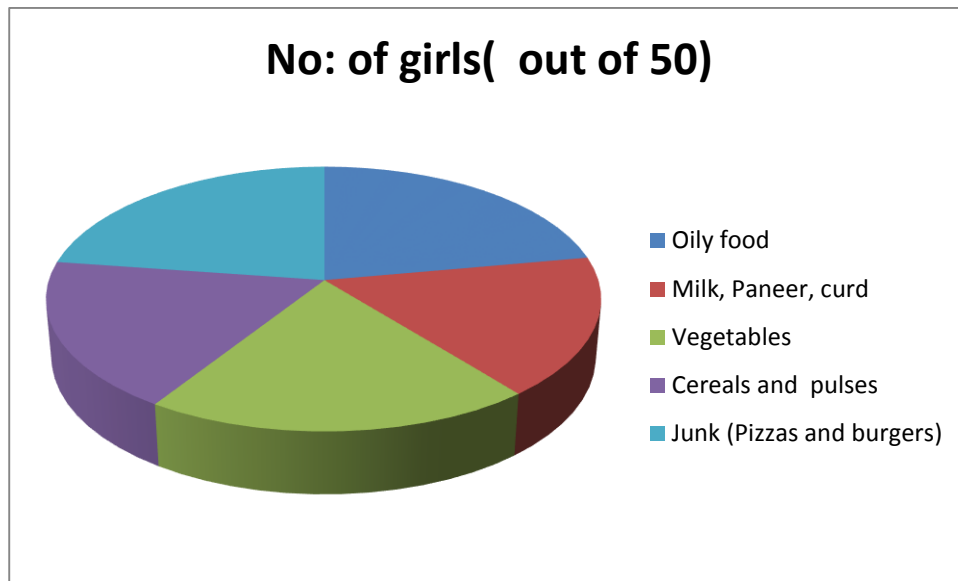
Table of Analysis

Particulars	No: of girls (out of 50)
Vegetarian	34
Non vegetarian	16
Middle class	42
Upper class	08
Age(16-19)	38
Age(20-22)	12

The following graph makes the data collected amply clear

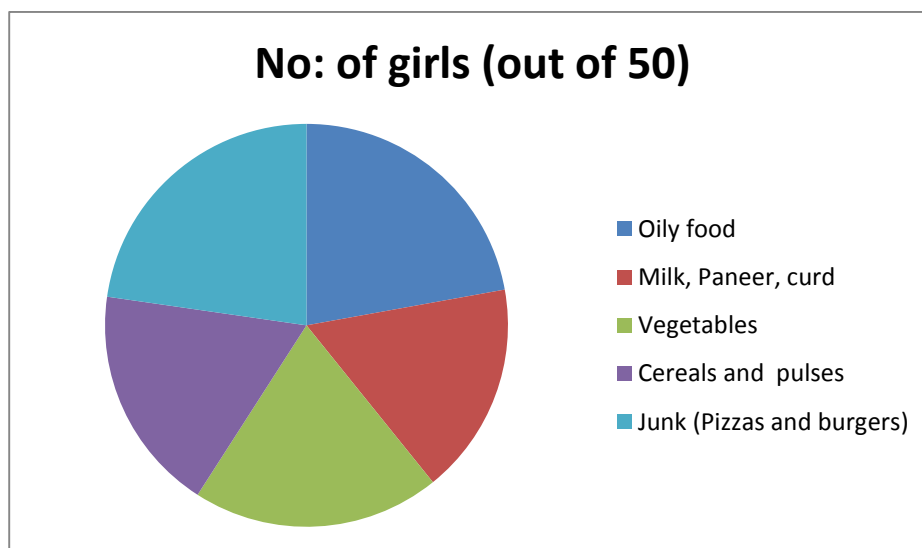


Particulars	No: of girls (out of 50)	No of days a week
Oily food	39	4
Milk, Paneer, curd	30	3
Vegetables	35	2
Cereals and pulses	32	3
Junk (Pizzas and burgers)	40	4



The above given graph quite vividly explains the fooding habits and preferences of adolescents in general

Particulars of Ailments	No: of girls (out of 50)
Anemia	9
Backache	12
Obesity	39
Irregular menstruations	32
Skin rashes	3
Vitamin deficiencies resulting in hair fall	10



Analytical findings and Elucidation

Out of the total respondents chosen, majority of them belonged to the age group 16 to 19 (around 76%) and the remaining (24%) belonged to the age group 20 to 22. The previous 76% were preparing for highly competitive exams and as such were under a constant spell of stress. Almost all of them were hostel dwellers and had no access to home cooked and hygienic food. Around 42 of them (84%) belonged to middle classes and had a fairly good access to sufficient pocket money and disposable funds, remaining 8 (16%) belonged to upper class families and money was never a problem while choosing a certain variety of food even though it might have been exorbitantly priced.

Though majority of them, 34 out of 50 were vegetarians (around 68%), it didn't mean that these vegetarians were not consuming food that was high on calories, in fact a big chunk of these had dietary habits which was almost similar to non vegetarians as far as calorie intakes were concerned. Though religion was specified as the major reason behind vegetarianism, but these adolescents had no clue about the unhygienic stuff they were eating out of their homes.

Nutrient Intake

The food intake habits of girls were recorded cautiously through a 24 hour recall method and a special care was taken that none of them came up with answers that didn't match on certain parameters. Like when a girl said she was a non- vegetarian, it was assumed that she would say yes for oily food too. A certain degree of caution was also exercised while recording the frequency of intake. Though we are pretty sure the answers might have been a bit exaggerated, given the fact that teens can't be assumed to be serious and truthful to the last detail. As is clearly visible in table No: 2, 39 out of 50 girls (around 78%) admitted to consuming oily food around 4 days a week which is quite a precursor to youngsters suffering from excess fat related ailments. Of late youngsters as young as 23 have been diagnosed with blocked arteries and dysfunctional heart valves.

Further it was also found that a moderate number of girls, (30 out of 50) around 60% were consuming Milk, paneer and curd which can be considered to be a rich source of calcium, proteins and vitamins but the frequency was pathetic. Same was the case with the intake of vegetables. Around 70% of the girls (35 out of 50) admitted to consuming green leafy vegetables not more than twice a week which could lead to an easy assumption that they were missing out on vital nutrients like iron, magnesium, manganese, sulphur, sodium and phosphorous. Moreover, the girls were also found to be avoiding cereals and pulses, which are high on proteins, carbohydrates and starch and this all might have actually been impacting their overall wellbeing.

Milk is considered to be a rich source of calcium and mothers ensure that the child has a glassful of milk as he or she grows but as these girls leave their parents to stay away for studies, their regular intake of milk gets interrupted and gradually stops thereby causing a severe gap in the consumption of healthy nutrients. Staying away from parents also ensures that the pulses and cereals that the adolescent is consuming is of an inferior quality and sometimes their consumption is almost negligible. Even the vegetables which are a rich source of iron are almost neglected by these adolescents as the spicy, oily and unhealthy substitutes are easily accessible and that too cheap.

Consumption pattern of Junk food amongst adolescent girls

Junk food was one of the top most priorities amongst the adolescents and a very high percentage(around 80%), 40 out of 50, were recorded to be consuming junk almost 4 times a week which reflects quite an unhealthy pattern as junk is universally infamous as a source of unsaturated fats medically proven to be a serious drag on the digestive system, sometimes even causing chronic digestive disorders like acute constipation resulting out of the fact that such food doesn't contain the necessary roughage vital to keep the bowels clean.

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Junk food simply contributes to the unhealthy fat that accumulates over a period of time. Foods like burgers, pizzas, pastas, samosas, pakoras are nothing but a storehouse. On the top of that adolescents were found to be consuming loads of chocolates, carbonated drinks and ice creams which are high on sugar and contribute practically nothing in terms of overall bodily wellbeing. Being away from family gives these adolescents an opportunity to consume such fatty foods on an almost regular basis with nobody to warn them of their repercussions. Road side vendors selling kulcha bhaturas, bread pakoras, cutlets and noodles add on to those extra calories which are not required at all.

Though the adolescents consume healthy foods too but their consumption pattern is highly erratic and the junk consumption is such routine and regular that harms being caused are almost irreversible. Even beverages like coffee which are high on caffeine are consumed on a regular basis without any check on the quantity. There is such an imbalance in the intake of junk, carbonated drinks and coffee and such an issue of lifestyle associated with these fooding habits that these adolescents find themselves under a severe peer pressure and even the ones who have stayed away from this for quite a while find themselves dragged into the vortex. Over the years outlets selling junk food have mushroomed all around kota there by making it easy for the adolescents to access them pretty much comfortably.

Even skipping lunches and dinners has become a norm amongst the adolescents and youngsters often find themselves feeling hungry for long whiles and then having something absolutely unhygienic or unhealthy, high on oil and fats. Not having meals and replacing it with something out of the normal course is now a trend amongst these adolescents and in fact for girls being thin is almost synonymous to being acceptable. In the process of looking thin they consciously adopt the approach of skipping their healthy meals quite often and with the passage of time get used to it.

Anthropometric Measurements

The analytical findings revealed certain absolutely disturbing trends amongst these adolescents and their vital bodily statistics. The students that were considered obese or slightly on the heavier side had an unusual **Mid upper arm circumference (MUAC)** and **Triceps skin fold thickness (TSFT)** and were found to be suffering from problems ranging from sleeplessness to lack of stamina.

Deficiencies and diseases plaguing adolescents

The erratic and disturbing eating habits take a severe toll on the fragile health of the adolescents as the imbalanced intake of nutrients and the overdose of fats exposes them to risks far beyond the normal ones. For girls staying away from parents and consuming highly unhygienic food the risk is almost multi fold. The analytical findings reveal a painful trend. Majority of the respondents confessed suffering from irregular menstruations which is not just traumatic for their physical but mental health as well. As much as 32 out of 50 girls (around 64%) were found to be a victim of irregularity in their menstrual cycles. This has been found to be a result of excess consumption of fatty foods, packed spices, wafers and foods with preservatives with chemicals and additives quite unfriendly to the human body. Though occasional consumption of such foods can still be considered acceptable but if a regularity is developed in their intake, it may lead to severely harmful consequences. Further an even bigger majority of girls were found to be suffering from obesity which in the long run may cause pathos of unimaginable proportions. Around 78% of girls surveyed (39 out of 50) were noticed to be obese, bearing a weight that didn't match their heights and thereby a skewed BMI. In some of them the obesity was such acute that their attitudes clearly reflected the inferiority they were having to go through because of the burdensome peer pressure that these adolescents have to constantly tolerate. Obesity is proven to be the single biggest reason for the accumulation of unsaturated fats which add on the extra body mass and become a real challenge for the individual to burn. This may in the coming days develop into an uncontrollable problem of thyroid which becomes practically incurable with every passing day. It may even lead to

hyperlipidemia which can make the adolescent highly susceptible to various other complications. Obesity also causes chronic metabolic disorders and makes an adolescent highly vulnerable to cardiovascular disorders. Adolescents, in the recent years have complained of high blood pressures and chest pains which sounds pretty odd at such a young age. Adolescents suffering from obesity are very much prone to accidents resulting out of slips. Researchers have also voiced their fears regarding obese people having a low life expectancy.

All the more, many of these adolescents were found to be anaemic, which is very much a result of malnutrition and irregular meals. Their daily intake of nutrients is highly imbalanced which causes a severe dearth of iron, vitamin B₁₂, folic acid and makes them anaemic. As many as 9 out of 50 girls (Around 18%) were registered to be anaemic which is often a result of excessive blood loss during menstruations, some chronic diseases, and sometimes congenital problems. Anaemia in the long run causes fatigue in these girls thereby putting them off their studies and anorexia where they lose their body weight to such an extent that they can't even sustain mild ailments.

Further many adolescents were diagnosed with skin ailments like rashes which are often a result of lack of vitamin A, D and E which again is a consequence of imbalanced diet and the unhygienic stuff that most of them consume. These adolescents were even found to be tolerating hair loss which was impacting their attitudes and causing a lack of confidence amongst most of them. It is a direct repercussion of shortfall and deficiencies in certain vital vitamins. Backaches and sleeplessness are the other problems constantly troubling these adolescents and are undoubtedly a result of scarcity and lack of balance in dietary habits.

Conclusion

In a nutshell, it can be fairly concluded that nutrition has a significant impact on the overall wellbeing of the adolescents. Till the time they spend with parents, they get a nutrition that can be called pretty much balanced with an adequate proportion of all the vital nutrients but as they leave their parents for their studies, their nutrition suffers to a large extent. Kota is a classic case in point as it could boast of a student strength that runs into lakhs and where these adolescent girls living in hostels have to fend for themselves, choosing the type of cuisine that suits their taste buds, is more conveniently available quite ignoring the fact that this food could deprive them of the nutrients vital to physical as well as mental growth of these girls.

A chronic shortage of these nutrients is lethal as the study has sufficiently suggested that girls suffering from vitamin deficiencies may pick deadly ailments like anaemia which may further deteriorate into a chain of ailments and restrict the natural growth of the adolescent. It is not just detrimental to the physical wellbeing of the girl but even threatens the natural course of life that she may want to pursue in the days to come

The evidences and analysis gained is conclusive enough to prove that growth of these girls, gets severely hampered with the imbalanced diet they are quite used to consuming. It is not just their metabolism which gets disturbed, the physiological changes that their bodies undergo can be devastating for most of them. The excess and unnecessary fats that they consume are not in their natural course and a regularity in them adapts their bodies to a life style which may seem good for a while but with the passage of time worsens their health to the point of no return.

Though the sample taken wasn't big enough to reach a conclusion that could be acclaimed as a universal truth but the similarity of circumstances can be taken into account to sum up the logics garnered with great care. It is imperative to talk of food when it comes to a balanced life and when its consumption pattern suffers, it may lead to innumerable losses specially when we talk about adolescent girls. These ailments that they experience are not just confined to their bodily frames but extend far beyond that and may even affect their mental health seriously thereby leaving the adolescent under a spell of trauma and with uncountable mental scars to deal with. It may also lead to a sequence of disorders which may seem unconnected for the while but are all a part of the same problem which arises out of disorderly eating habits.

Recommendations

Adolescents are on the threshold of their careers and it is this time of their life when they need a nutrition which is balanced and healthy in all aspects. They should take great pains in deciding what to eat and how much. In fact, a proper counselling in food preferences should be conducted in hostels for these adolescent girls so that they could be educated about nutrition and fragile relation it keeps with their physical and mental well-being. If this could be done and the girls become a lot more aware of their health, they could stay away from unwanted ailments, disorders, diseases and bodily harms.

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