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A STUDY ON USE OF CONVENIENCE FOOD CONSUMPTION AMONG ADOLESCENTS - A COMPARISON IN 2009 AND 2019

Aparna Nagendra¹, Jamuna Prakash² and Namrtha Pramod³

¹Senior Dietician,

²Former Professor, University of Mysore

³Chief Nutritionist, Sports Authority of India.

Aparna Nagendra¹

Department of Nutrition and Dietetics,

Sagar Chandramma Hospitals, Bangalore. Karnataka, India

ABSTRACT

The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19. An important transitional phase between the growth and development from childhood to adulthood. Adolescents were selected for conducting this study as it is a period where final growth spurt occurs and where changes in physical, biochemical and emotional development is seen. Since food habits adopted during adolescents are likely to be maintained during adulthood, it is important to identify the correlates of adolescent dietary behaviors to prevent adolescent obesity. Objective was to study the frequency consumption of convenience food, purchasing pattern and source of purchase, along with a comparison in 2009 and 2019. The survey was conducted in Mysore (2009) among 260 subjects and among 104 subjects in Bangalore (2019). Both male and female were included between age 14-20years. A detailed questionnaire was used for collecting the data. Results showed that majority (89%) were staying in hostel in 2019 compared to 2009 (23%). Food pattern was almost similar being non-vegetarians. Convenience food consumption showed, tea/coffee was used daily and no change was observed, soft drinks was consumed fortnightly. There was increase in alcohol consumption in a decade. Fresh fruit-juice was used fairly. Bakery stuff remained the same which was used weekly. Similarly, chocolates were consumed every-day. The weekly consumption of chats (masala-puri, pani-puri, churmuri) had increased from 2009 to 2019. Chips which is supposed to be a favorite snack among youngsters was consumed by majority of subjects which didn't change. There was an increase in fried-food consumption with average 90%. Consumption of fast-food like noodles and gobi - manchurian was reduced from weekly (50% average) to monthly. Pizza and burger were used fortnightly in 2009 but it had gone down to monthly in 2019. It was important to know the source of purchase of these foods which showed that maximum 91% was from bakeries and then was snack bar (79%) respectively. Very limited subjects used supermarkets and restaurants. But 52% still preferred home food. It was observed that in 2019 maximum expenditure was >500rs per month and 42% had an expense of 50-100rs per day indicating an increase in purchasing power. Thus it was observed that adolescents are more prone to eating outside rather than consuming a proper, healthy and nutritious food which seemed to remain and few had an increase since a decade. Food choices of adolescents have become increasingly unhealthy placing them at increased risk of malnutrition and chronic diseases in the future. Hence adolescents need encouragement and

guidance for developing a habit of healthy eating. Teachers and parents can play a major role in bringing a positive and healthy change among adolescents.

KEYWORDS: Adolescents, Convenience foods, Eating Habits

I. INTRODUCTION

Adolescence (10–19 years) is a vulnerable period of life as health-related behaviors that drive the major chronic degenerative diseases which start or are reinforced during this time.¹ This is a period when peer group can influence the teenage eating behavior. During this period onwards, an individual may likely to start skipping meals or possibly under-eat or over-eat.² Change in lifestyle, dietary habits, physical activity, social, cultural and environmental factors are associated with the occurrence of obesity.³ Since children and adolescents are adopting unhealthy dietary habits, problem of obesity and overweight is also increasing at an alarming rate. A marked increase in obesity generally has been noted among adolescents, ranging from 10% to 30%.⁴

Today, adolescents are more independent and have their own food decisions and choices. They need healthy foods to meet their growth demands. They are prone to eat more meals away from home than their younger siblings² and thus, several factors appear to influence the development of adolescent dietary practices. These include : a) individual factors - taste, nutrition-related knowledge, self-efficacy, b) social environmental factors - parents and peers, c) physical environment like school canteen, fast-food establishments and d) macro-system influences like food advertisements.⁵

Adolescent's diets in India appear to be characterized by over-consumption of energy-dense, poor nutrient contained food stuffs and sugar sweetened beverages with low intakes of fruits and vegetables.^(6,7) A rapid proliferation of multinational fast food companies in the Indian food market and the influence of western culture have replaced traditional home cooked meals with ready-to-eat, processed foods in urban Indian households.⁵

Thus a rise in the emergence of adolescent obesity over the last decade in India^(8,9) has led to an increasing concern about the diets of adolescents.¹⁰ Since food habits adopted during adolescents are likely to be maintained during adulthood¹¹, it is important to identify the correlates of adolescent dietary behaviors to assist in development of successful interventions to address adolescent obesity.¹² Therefore, the present study was undertaken to examine whether there is a change in the convenience food consumption pattern among adolescents within a decade (2009 and 2019).

II. METHODOLOGY

Study Design

- a. **Sample Selection:** The study was carried out in different colleges of Mysore and Bangalore city. Among both male and female between 16-20 years. In 2009, 260 subjects (32 male and 228 female) were included, and in 2019, 104 subjects (35 female and 69 male) were included. Approval was obtained from all the Institution head, before initiating the survey. Consent was taken from the students.
- b. **Personal History:** A preformed questionnaire was used to record their personal history adopting the direct personal interview method. Dietary habits was assessed by interviewing in detail regarding type of food consumed, frequency consumption of convenience foods like junk foods, fast foods, processed food, ready to eat food and type of beverage were taken. Other details like place of stay, economic status, pocket money, expenditures and source of purchase was also recorded.
- c. **Interpretation and Analysis of data:** Keeping the objectives in mind, the data collected was compiled tabulated for the appropriateness of analysis. Results were then interpreted; appropriate conclusions were drawn.

III. RESULTS AND DISCUSSION

Demographic characteristics (Table-1) showed that in both the years, 2009 and 2019 majority of the subjects were female with 88% and 66% respectively. Age distribution was highly skewed, in 2009 majority 60% of the subjects were between 16-18 years, while in 2019 the number of subjects (72%) had increased between 18-20 years. There was a huge difference observed in the place of residence where (Figure 1), 77% subjects resided in home in 2009 while it had changed by 2019, where majority of them started preferring hostel (85%).

Table 1: Age and Gender of the Subjects

Gender	2009 No (%)	2019 No (%)
Male	32 (12)	35 (34)
Female	228 (88)	69 (66)
Age		
16-18	156 (60)	29 (28)
18-20	104 (40)	75 (72)

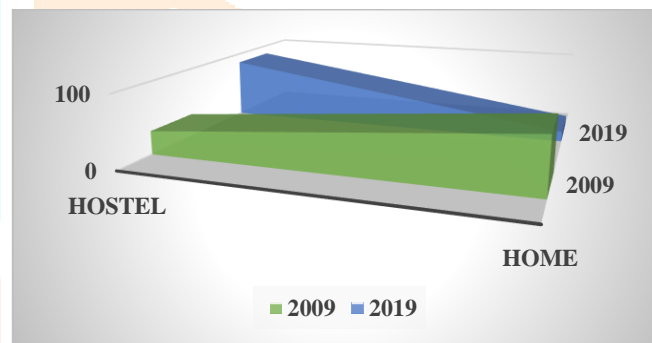


Figure 1: Place of Residence

Table-2 gives a brief information about economic status and pocket money of the subjects. A similarity was observed in the economic status where most of the subjects, fall under the category of middle income group in both 2009 (87%) and 2019 (76%). But, there was an increase in the percentage of pocket money received from 2009 (57%) to 2019 which was about 83%. Not much difference was seen in the food pattern where majority of them were non-vegetarians in both the years (Figure 2).

Table 2: Economic Status and Pocket Money

Income Group	2009 No (%)	2019 No (%)
Low	-	20 (19)
Middle	227 (87)	79 (76)
High	33 (13)	5 (5)
Pocket Money		
Yes	149 (57)	86 (83)
No	111 (43)	18 (17)

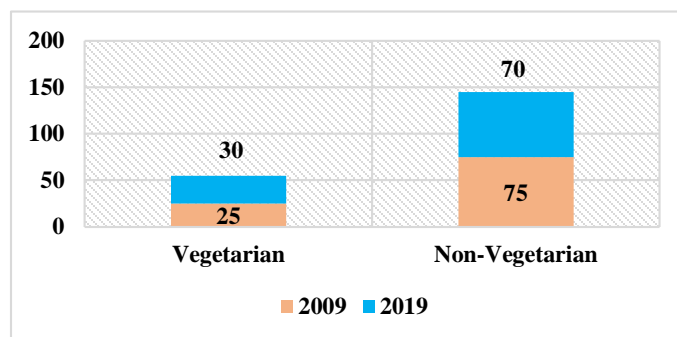


Figure 2: Food Pattern

A gradual increase was seen in the expenditure pattern (Figure 3) of the subjects from 2009 to 2019 where, only 6% of the subjects spent Rs.50 on a day to day basis (2009) which shot up to 46% per day in 2019. Similarly in 2009, 13% had an expense of >500 Rs per month which had increased to 60% in 2019. It was observed that in 2019 maximum expenditure was >500rs per month and 42% had an expense of 50-100rs per day indicating an increase in purchasing power.

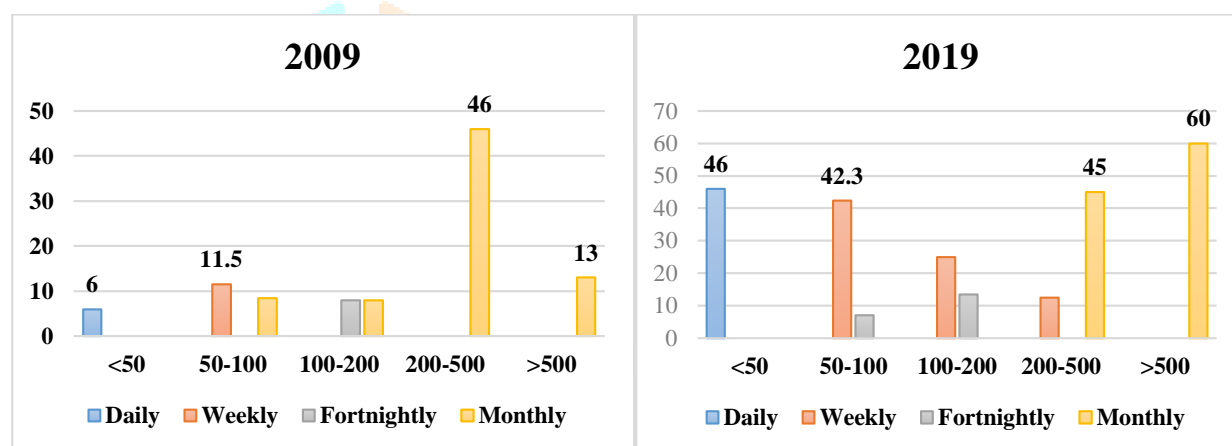


Figure 3: Expenditure of Subjects

The difference in consumption of convenience foods was seen between 2009 and 2019 is depicted in Figure: 4 to 7 where, consumption of tea/coffee/milk did not have any difference (88% and 82%). 21% of the subjects consumed alcohol in 2019 where majority never consumed in 2009. Chocolates was consumed every day by 64% subjects in 2009 which came down to 29% in 2019. Among the chats and fried food category 43% of them had masala-puri daily (2009) but it came down to 56% weekly (2019). Weekly intake of churmuri remained the same with 45% (2009) and 48% (2019), whereas consumption of pani - puri had a rise from 32% (2009) to 58% (2019). Fried foods like chips, bajji and pakoda did not vary much in their consumption pattern while samosa intake had an increase from 37% (2009) to 51% (2019). Fast foods like noodles and gobi - manchurian was taken weekly by majority of them in 2009, 50% and 56% respectively. But this had a drastic decrease in 2019 with 35%. It was fascinating to see that burger was not very commonly purchased by most of the subjects.

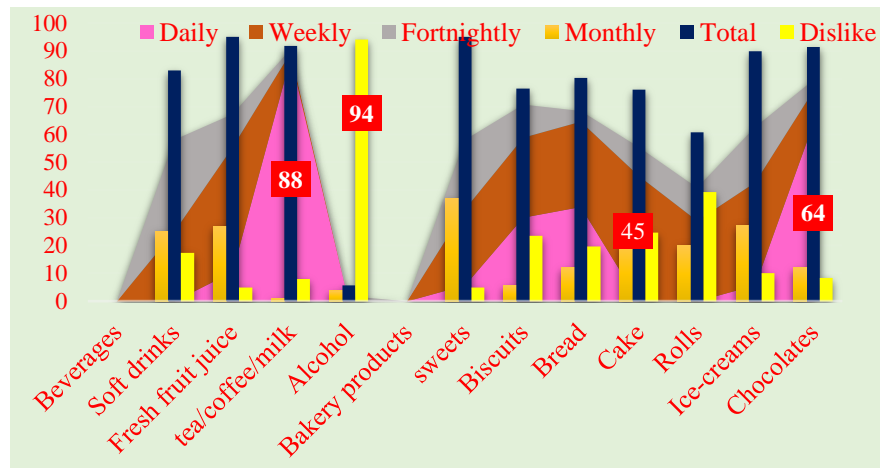


Figure 4: Frequency Consumption of Beverages and Bakery Products -2009

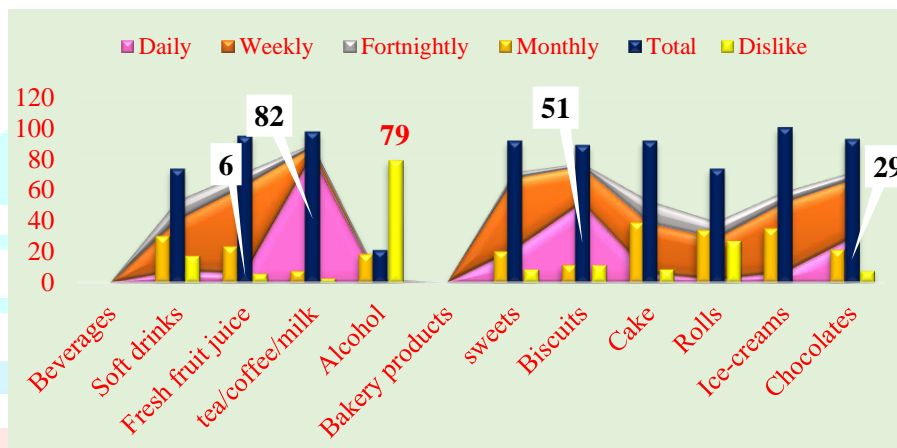


Figure 6: Frequency Consumption of Beverage and Bakery Products -2019

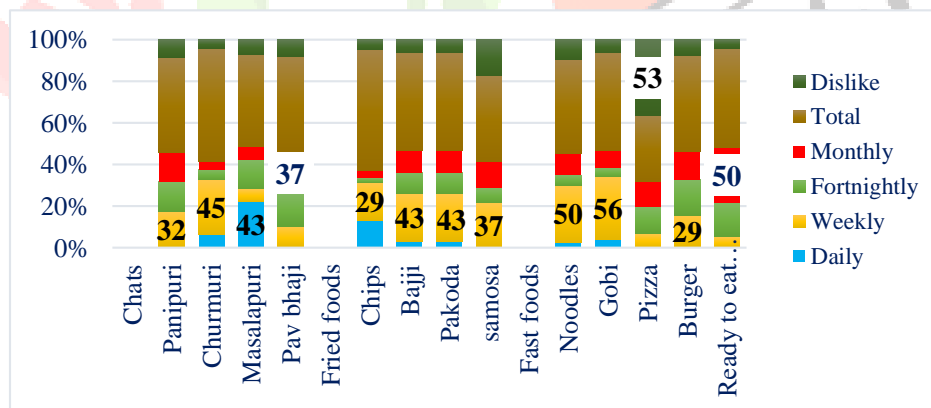


Figure 5: Frequency Consumption of Chats, Fried and Fast Foods-2009

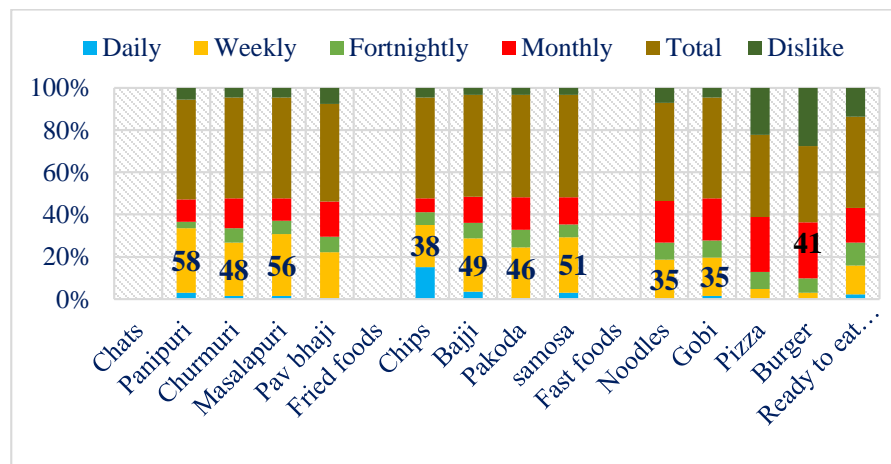


Figure 7: Frequency Consumption of Chats, Fast and Fried Foods -2019

It was also important to know the source of purchase (Table 3) and it was observed that maximum purchase was from the bakeries with 74% and 91%. The second highest was snack bar (79% and 77%) which was almost similar even after a decade. Very limited subjects purchased from supermarkets or shops. Restaurant food consumption also had an increase from 28% to 41% while hotel consumption reduced from 70% to 58%. It was seen that home food was still preferred by most of the subjects and the consumption of home food had increased in 2019 with 53% when compared to 2009. A study on the eating habits of adolescents in Thiruvananthapuram by Sithara Balan V (2016) that the prevalence of underweight was found to be common among the adolescents irrespective of gender. The result also throws light on the emergency to address the health status of adolescents. Another study by Neha Rathi et.al, (2017) on Food consumption patterns of adolescents aged 14–16 years in Kolkata, India showed that the Indian adolescents reported poor food consumption patterns, and 70% reported eating three or more servings of energy-dense snacks, 47% reported drinking three or more servings of energy-dense beverages. The mean consumption of food groups in serves/day varied from 0.88 (SD = 1.36) for pulses and legumes to 6.25 (SD = 7.22) for energy-dense snacks. These findings highlight the need to design effective nutrition promotion strategies to encourage healthy eating in adolescence and targeting food supply and availability.

Table 3: Source of Purchase

Source	2009 No (%)	2019 No (%)
Supermarket	79 (30)	62 (59)
Bakery	193 (74)	95 (91)
Vendors	170 (65)	47 (45)
Shops	110 (42)	49 (47)
Restaurants	74 (28)	43 (41)
Hotels	181 (70)	60 (58)
Snack bars	206 (79)	80 (77)
House	40 (15)	55 (53)

IV. CONCLUSION

Thus, a decade can have various changes in the eating pattern of an individual, but when a group was studied we found similar snacking and junking pattern amongst the adolescent groups. Considering these aspects from the study it was observed that adolescents were more prone to eating outside foods rather than consuming a proper, healthy and nutritious food which seemed to remain and few had an increase since a decade. Eating habits are independent of culture, emotions, peer influenced. The dietary decisions made in adolescence may have long term health implications in the future. Hence adolescents need encouragement. Sufficient education and proper guidance in choosing their eating patterns. This can lead to a development of healthy eating and the guidance leads to positive health benefits among the adolescents and their families that can be imbibed as a healthy change lifelong.

V. ACKNOWLEDGEMENT

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