

Dietary practices of children and adolescents residing in an area of Chakdaha Block, Nadia district, West Bengal

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Abstract

Background: Childhood and adolescence are crucial developmental stages during the life course. They develop and establish lifelong dietary and lifestyle habits. Unhealthy food environments that influence the risk of obesity and other nutrition-related NCDs by affecting the dietary patterns. Assessment of dietary patterns and factors affecting them will help to provide targeted interventions to improve the same. **Methods:** A community-based cross-sectional study was conducted among children aged more than 6 months and adolescents by interviewing their mothers regarding the dietary patterns. A two-stage sampling method was followed for selection of the participants. **Results:** A total of 325 participants were interviewed. Dietary diversity (DD) was present in 55.4% of the participants. Children of mothers who were educated beyond middle school (aOR = 3.81 (1.87-7.73), *P* = 0.000) and children who stayed in a joint family (aOR = 1.73 (1.11-2.72) P < 0.05) had higher odds of having dietary diversity in their diet, after adjusting for age and sex. Fast food shop location (aOR = 0.14 (0.05-0.38), *P* value = 0.000) was found to have a significant association with fast food intake among participants. **Conclusion:** Children and adolescents residing in the study area have a distinct dietary pattern compared to prevalent dietary practices in India. To improve dietary diversity of children and adolescents, maternal education, family dynamics, and community food environment, which include fast food and market locations, can be points of targeted interventions

Keywords: Adolescent, children, dietary diversity, dietary pattern, fast food intake

Background

Childhood and adolescence are crucial developmental stages during the life course. It is a time of continued growth and development of physical, social, and mental skills.^[1,2] The development of healthy eating habits is important as the rapid physical growth in childhood and adolescence is associated with increased nutritional needs.^[3,4] As children begin to integrate more into the society as individuals, they develop increasing autonomy in their food habits. They develop and establish lifelong dietary and lifestyle habits due to various opportunities, peer influence,

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knowledge, and curiosity.^[5-7] Thus, there is a need to point out and educate parents regarding correct dietary habits for the children to ensure that they can live healthy and productive lives as adults.^[8,9]

The rising trend of noncommunicable diseases (NCDs) in India poses a worrying scenario,^[10] and with the available evidence linking early life nutrition and development of NCDs in later life,^[11] it becomes necessary to study the current dietary patterns of the school going children and intervene accordingly to prevent the development of NCDs in later life.

Food environments are created by the human-built and social environments. They are the physical, social, economic, cultural, and political factors that impact the accessibility, availability, and adequacy of food within a community or region. Community food environments are measured by people's proximity to different

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kinds of food outlets or the density or variety of different types of food outlets within a specific geographic area.^[12,13] Unhealthy food environments that influence the risk of obesity and other nutrition-related NCDs by affecting the dietary patterns.^[14,15] Dietary habit studies have been traditionally conducted in schools focusing on the school food environment.^[16] There is evidence regarding higher impact of home food environment on dietary choices compared to school food environment.^[17,18] Conducting a community-based study would help in engaging the parents and provide a clearer picture of their dietary habits. Factors affecting these dietary habits would help assess the areas of intervention in the study. Availability of foods affects food choices and thus policies near their home vicinity to curtail availability of the unhealthier food options.^[19]

There has been a paucity of literature regarding the dietary habits of children and adolescents in the eastern part of India. Eastern India is a geographically and socioculturally distinct part of India.^[20] Policies and interventions to address fast food trends and deficiencies in dietary diversity can help create healthier food environments.

The current study aims to assess the food habits and dietary preferences and the factors affecting these patterns among children in an area of West Bengal with focus on the community food environment of the participants.

Methods

This community-based cross-sectional study was conducted in Chakdaha block, Nadia, West Bengal. The community-based cross-sectional study was performed in two (A and B) blocks of Kalyani Municipality area, Nadia, West Bengal, India. Kalyani is a planned city and is located 50 km away from Kolkata, having an area of 29.1 km². The municipality area is divided into 21 ward/block areas and caters a population of around 100,000. There are two tertiary care hospitals, two urban primary health centres, 10 subcentres, and more than 50 private dispensaries or hospitals.

Sample size

Due to nonavailability of the community-based study, assuming the proportion of school-going children who meet the score of minimum diversity of diet to be 25%,^[21] power 80%, and alpha error 5%, the required sample size is 300. Assuming a nonresponse rate of 10%, the total number of people who needed to be approached came out to be 330.

Inclusion criteria

All children aged above 6 months and less than 19 years residing in the study area were eligible and were invited to participate along with their parents. The children and adolescents whose parents consented were included in the study. Assent was also obtained from the participants aged more than 5 years.

Exclusion criteria

Extremely sick children and children on some type of special diet due to some medical condition, medical or surgical intervention, or medication were excluded from the study.

Pretesting

After obtaining ethical clearance from Institutional Ethics Committee, pretesting of a standardised questionnaire was performed among mothers of children above 6 months and adolescents in a different urban area. Once the responses were finalised, the standard questionnaire was used for data collection.

Sampling

A two-stage sampling method was adopted wherein the households were selected randomly from the list provided by Kalyani Municipal Corporation.^[22] In case the household selected did not have an eligible child or adolescent, the next household in the random list was approached until the investigator found a household with an eligible participant. In each household only one participant was selected. In case of more than one eligible participant in each household, the KISH method of random sampling was adopted to select the participant.^[23] The primary informant was the mother of the participant. School-going children were interviewed in addition to their mothers to generate a more complete list of items consumed. To ensure the presence of the school-going children at homes, the interviews were mostly conducted in the afternoon and evening.

Study variables

After introduction, information about the sociodemographic variables like age, sex, socioeconomic status, maternal education, occupation, and information about the family were obtained. Information about the dietary patterns was obtained through the 24-hour dietary recall method and classifying the food items into the food groups based on the Food and Agriculture Organization (FAO) dietary guidelines. Pattern of fast food intake was assessed based on the intake of the previous week. It was classified based on a structured classification system developed for the purpose of this study. Meal timings were determined based on the timings in the past week, and the latest time of intake of the meal was considered for the purpose of analysis. Classification into early, normal, and late meal timings was based on a previous study and was modified to suit the sociocultural aspects of the current study setting.^[24]

Tools used

Socioeconomic status

Modified Kuppusamy Scale.^[25]

The fast food consumption frequency was recorded in terms of intake of the specific food item.

24-hour dietary recall method

The 24-hour recall method is a method of eliciting dietary the history regarding information on food, drinks, and supplements

consumed during the past 24 hours and would be collected via interviews or through self-report.^[26]

Dietary diversity and meal pattern were measured by dietary diversity questionnaire of 24-h dietary recall developed from FAO 2011 Guidelines for measuring household and individual dietary diversity of nine food groups and were used to obtain information on subject's food intake.^[27]

Dietary diversity

Dietary diversity is defined as the number of different food groups or foods consumed in a given period. Dietary diversity was present if the child took five or more food groups from the dietary history. ^[27] The list of food items and fast food items and their classification is outlined in the Annexure.

The distance to the markets was measured using Google Maps to correlate the answers provided by the informants.

Statistical analysis

Data entry was performed in Microsoft Excel 2013. All the analyses were conducted in STATA ver. 17.0. Continuous variables were expressed as mean (\pm SD) after assessing for their parametric distribution. Categorical variables were expressed as percentages. Association of dietary patterns and fast food intake patterns with other sociodemographic and anthropometric measurements were performed using bivariate logistic regression and then were adjusted for age and sex of the participants.

Ethical approval

The study was conducted after obtaining ethical clearance from Institutional Ethics Committee, AIIMS, Kalyani (Ref. No.: IEC/ AIIMS/Kalyani/certificate/2024/003). Data were collected from the minors after obtaining written informed consent from parents/care givers. Assent was also obtained from the minors. No personal identifiers were revealed, and information was kept confidential with the primary investigator.

Results

A total of 325 participants were interviewed. Their sociodemographic characteristics are presented in Table 1. Almost half of the participants were male (52.6%). Most of the participants belonged to the age group 5 years to 9 years and stayed in a joint family. The numbers of family members were mostly limited to less than six members. Participants mostly belonged to the upper-lower class (by modified Kuppuswamy classification). Most of the primary caregivers were mothers and had been educated at least until intermediate or were graduates.

Dietary patterns of the participants

Dietary diversity was present in only about half of the participants (55.4%). Staple food like cereals and legumes were

| | participants | | |
|-------------------|---------------------------------|----------------------------|--|
| | Parameters | Frequency n (%), (n=325 | |
| Sex of the | Male | 171 (52.6%) | |
| participants | Female | 154 (47.4%) | |
| Age of the | 6 months to 5 years | 104 (32%) | |
| participants | 5 years to 9 years | 162 (49.9%) | |
| | 10-19 years | 59 (18.1%) | |
| Type of family | Nuclear family | 147 (45.2%) | |
| | Joint family | 178 (54.8%) | |
| No. of members | Less than 5 members | 258 (79.6%) | |
| in the family | 5 or more family members | 67 (21.4%) | |
| Religion | Hindu | 309 (95.4%) | |
| | Muslim | 13 (4%) | |
| | Others | 3 (0.6%) | |
| Monthly family | Less than or equal to Rs. 40000 | 227 (71.8%) | |
| income | More than 40000 | 89 (28.2%) | |
| Socioeconomic | Upper middle class | 8 (2.5%) | |
| status | Lower middle class | 121 (37.2%) | |
| (Kuppuswamy | Upper lower class | 190 (58.5%) | |
| Scale 2023) | Lower class | 6 (1.8%) | |
| No. of under | None | 118 (42%) | |
| 5 children in the | One | 152 (54.1%) | |
| family | Two | 11 (3.9%) | |
| Mothers' | Graduate | 117 (36%) | |
| education | Intermediate | 115 (35.4%) | |
| | High school | 50 (15.4%) | |
| | Middle school | 22 (6.8%) | |
| | Primary school | 4 (1.8%) | |
| | Illiterate | 15 (4.6%) | |

consumed by most of the people along with vegetables. The intake of fish as a staple was also found in almost two-thirds of the participants (68.6%). There was also an increase in the proportion of people consuming animal protein (meat or fish) with age. As the age of the participants increased, a greater proportion of the participants had a late lunch or dinner but the proportion of participant having an early breakfast remained increased with age. Majority of the participants had fast food two to four times per day (52.4%), and almost a third of the participants (35.7%) had fast food five or more times per day. The fast food groups was consumed by more than half of the participants with confectionery items (84.6%) and sides and fritters (62.8%) being the most frequently consumed fast food groups [Table 2].

Factors affecting dietary patterns of the participants

Children of mothers who were educated beyond middle school [aOR = 3.81 (1.87-7.73), P = 0.000] and children who stayed in a joint family [aOR = 1.73 (1.11-2.72), P < 0.05] had higher odds of having dietary diversity in their diet, after adjusting for age and sex [Table 3]. Fast food intake by the participant more than once a week was found to be significantly associated with the presence of a fast food shop within

| Table 2: Dietary patterns of the participants | | | | |
|---|--|--|--|--|
| | | tterns | Regular Dietary Pa | |
| 10 to 19 years n (%) n=59 | 5 to 9 years n (%) n=162 | 6 m – 59 m n (%) n=104 | Frequency <i>n</i> (%) <i>n</i> =325) | Parameter |
| | | | | Food groups |
| 59 (100) | 162 (100) | 103 (99) | 324 (99.7%) | Cereals |
| 6 (10.2) | 12 (7.4) | 8 (7.7) | 26 (8%) | Vitamin A rich Vegetables and fruits |
| - | - | - | None | Dark green leafy vegetables |
| 49 (83.1) | 122 (75.3) | 88 (84.6) | 259 (79.7%) | Other vegetables/fruits |
| 7 (11.9) | 21 (13) | 7 (6.7) | 35 (10.8%) | Flesh or meat |
| 22 (37.3) | 65 (40.1) | 36 (34.6) | 123 (37.8%) | Eggs |
| 44 (74.6) | 112 (69.1) | 67 (64.4) | 223 (68.6%) | Fish/seafood |
| 49 (83.1) | 130 (80.2) | 74 (71.1) | 253 (77.8%) | Legumes |
| 2 (3.4) | 12 (7.4) | 7 (6.7) | 21 (6.5%) | Nuts and seeds |
| 35 (59.3) | 105 (64.8) | 82 (76.6) | 222 (68.3%) | Milk/milk products |
| | | | | Dietary diversity |
| 34 (57.6) | 89 (54.9) | 57 (54.8) | 180 (55.4%) | Present |
| 25 (42.4) | 73 (45.1) | 47 (45.2) | 145 (44.6%) | Absent |
| | | | | Meal timings |
| | | | | Breakfast |
| 4 (6.8) | 10 (6.2) | 9 (8.6) | 23 (7.1) | Early (before 8 AM) |
| 34 (57.6) | 87 (53.7) | 49 (47.2) | 170 (52.3) | Normal (8 AM to 10 AM) |
| 21 (35.6) | 65 (40.1) | 46 (44.2) | 132 (40.6) | Late (after 10 AM) |
| | · · · · | | | Lunch |
| 1 (1.7) | 6 (3.7) | 6 (5.8) | 13 (4.3) | Early (before 12 PM) |
| 24 (40.7) | 92 (5.6) | 64 (61.5) | 180 (59.2) | Normal (12 PM to 2 PM) |
| 29 (49.2) | 53 (32.7) | 29 (27.9) | 111 (36.5) | Late (after 2 PM) |
| | · · · · | () | | Dinner |
| 1 (1.7) | 6 (3.7) | 2 (1.9) | 9 (2.86) | Early (before 8 PM) |
| 22 (37.3) | 79 (48.8) | 50 (48.1) | 151 (47.9) | Normal (8 to 10 PM) |
| 36 (61) | 73 (45.1) | 46 (44.2) | 155 (49.2) | Late (After 10 PM) |
| | | | | Fast Food Consumption Patterns |
| | | | | Type of fast food |
| 50 (84.7) | 139 (85.8) | 86 (82.7) | 275 (84.6) | Confectionery items |
| 39 (66.1) | 101 (62.3) | 64 (61.5) | 204 (62.8) | Fritters and sides |
| 19 (32.2) | | | | |
| 40 (67.8) | · · · · | | | 0 |
| 17 (28.8) | | · / | | |
| 17 (20.0) | (7.04) 01 | 20 (23) | (7.12) | |
| 9 (15.3) | 18 (11 1) | 11 (10.6) | 38 (11 7) | |
| 37 (62.7) | | | | |
| 13 (22) | | | () | |
| | 71 (43.8) 98 (60.5) 46 (28.4) 18 (11.1) 86 (53.1) 58 (35.8) | 56 (53.8) 51 (49) 26 (25) 11 (10.6) 48 (46.1) 45 (43.3) | 146 (44.9) 189 (58.1) 89 (27.4) 38 (11.7) 171 (52.6) 116 (35.7) | Beverages Dough-based and cereal-based nonsweet items Milk and milk products Frequency of fast food consumption Never or once a week 2-4 times a week 5 or more days in a week |

500 meters [OR = 5.37 (2.43-11.91), *P* value = 0.000] and with a joint type of family [OR = 2.02 (1.01-4.02, P < 0.05]. However, on adjusting for age and sex, only fast food shop location [aOR = 0.14 (0.05-0.38), *P* value = 0.000] was found to have a significant association with fast food intake among participants [Table 4].

Discussion

The current study provided an overview of the dietary patterns of the children and adolescents residing in an urban area in the eastern part of India. Our findings depicted some distinct dietary practices in the eastern part of India. Intake of staples like cereal and legumes was almost universal with the intake of fish products or meat products also being found in more than three-fourths of the participants. Available systematic reviews showed a preponderance of vegetarian diets in India and a distinct nonvegetarian meal preponderance in east India.^[28]

Frequency of fast food intake was found to decrease as the children grew. This finding might have been skewed because the mothers of the adolescents were interviewed regarding their fast food consumption. An increase in autonomy of the adolescents might play a role in several instances of unreported consumption of fast food in the schools or other settings outside home.^[29] Adolescent dietary patterns might especially be affected by both their home and school food environment.^[30]

| | Table 3: Correlates of dietary patterns of the participants | | | | | | |
|----------------|---|---------------------|----------------------|------------------|-------|------------------|-------|
| | | D | ietary Diversity | | | | |
| P | arameters | Absent n (%) n=145) | Present n (%) n=180) | OR | Р | aOR* | Р |
| Age | Under 5 | 47 (45.2) | 57 (54.8) | - | - | - | - |
| | 5 to 9 years | 73 (45.1) | 89 (54.9) | 1.01 (0.61-1.65) | 0.983 | 1.01 (0.61-1.65) | 0.984 |
| | Adolescents | 25 (42.4) | 34 (57.6) | 1.12 (0.59-2.13) | 0.728 | 1.12 (0.59-2.14) | 0.723 |
| Sex | Male | 77 (45) | 94 (55) | - | 0.874 | - | 0.866 |
| | Female | 68 (44.2) | 86 (55.8) | 1.04 (0.67-1.61) | | 1.04 (0.67-1.61) | |
| Type of family | Nuclear | 76 (51.7) | 71 (48.3) | - | 0.020 | - | 0.016 |
| | Joint | 69 (38.8) | 109 (61.2) | 1.69 (1.09-2.63) | | 1.73 (1.11-2.72) | |
| Socioeconomic | High | 53 (41.1) | 76 (58.9) | - | 0.299 | - | 0.305 |
| status | Low | 92 (46.9) | 104 (53.1) | 0.79 (0.50-1.23) | | 0.79 (0.50-1.24) | |
| Market | More than 500 m | 63 (47.7) | 69 (52.3) | - | 0.405 | - | 0.399 |
| distance | Less than 500 m | 80 (43) | 106 (57) | 1.21 (0.77-1.89) | | 1.21 (0.77-1.90) | |
| Mother's | Until middle school | 31 (72.1) | 12 (27.9) | - | 0.000 | - | 0.000 |
| education | Beyond middle school | 114 (40.4) | 168 (59.6) | 3.81 (1.88-7.72) | | 3.81 (1.87-7.73) | |

| Pa | rameters | Maximum once a | More than once a | OR | Р | aOR* | Р |
|----------------|----------------------|-----------------|------------------|-------------------|-------|-------------------|-------|
| | | week n (%) n=38 | week n (%) n=287 | | | | |
| Age | Under 5 | 11 (10.6) | 93 (89.4) | - | - | - | - |
| | 5 to 9 years | 18 (11.1) | 144 (88.9) | 0.95 (0.43-2.09) | 0.892 | 0.95 (0.43-2.09) | 0.893 |
| | Adolescents | 9 (15.3) | 50 (84.7) | 0.66 (0.26-1.69) | 0.384 | 0.65 (0.25-1.68) | 0.376 |
| Sex | Male | 19 (11.1) | 152 (88.9) | - | 0.731 | - | 0.710 |
| | Female | 19 (12.3) | 135 (87.7) | 0.89 (0.45-1.75) | | 0.88 (0.45-1.73) | |
| Type of family | Nuclear | 23 (15.6) | 124 (84.4) | - | 0.047 | - | 0.058 |
| | Joint | 15 (8.4) | 163 (91.6) | 2.02 (1.01-4.02) | | 1.97 (0.98-3.97) | |
| Socio-economic | High | 16 (12.4) | 113 (87.6) | - | 0.746 | - | 0.788 |
| status | Low | 22 (11.2) | 174 (88.8) | 1.12 (0.56-2.22) | | 1.01 (0.55-2.19) | |
| Fast food shop | More than 500 m | 14 (28) | 36 (72) | - | 0.000 | - | 0.000 |
| distance | Less than 500 m | 17 (6.7) | 238 (93.3) | 5.44 (2.47-11.99) | | 5.37 (2.43-11.91) | |
| Mother's | Until middle school | 8 (18.6) | 35 (81.4) | - | 0.135 | - | 0.121 |
| education | Beyond middle school | 30 (10.6) | 252 (89.4) | 1.92 (0.82-4.52) | | 1.98 (0.83-4.68) | |
| Dietary | Absent | 16 (11) | 129 (89) | - | 0.741 | - | 0.753 |
| diversity | Present | 22 (12.2) | 158 (87.8) | 0.89 (0.45-1.77) | | 0.89 (0.45-1.78) | |

*Adjusted for Age and Sex

A good dietary practice was observed with an increase in the intake of animal protein with age.^[31]

The current study found that with increasing age, a higher proportion of the participants had a late lunch or dinner. There have been studies demonstrating the obesogenic effect of eating late meals.^[24,32] Lifestyle and school timings often contribute to disrupted meal timings and poorer food choices among school-going children and adolescents.^[33,34] Thus, school plays an important role too in promoting healthy eating habits.

Children staying in a joint family were more likely to have dietary diversity. Family meals have been found to contribute to children's dietary habits as they represent an important moment of control and interaction between the parents and their children. A joint family shall provide more opportunities for such interaction and advice from the more experienced family members.^[9] Also, a joint family might be a proxy indicator of greater food security^[35,36] and thus higher dietary diversity in meals.^[37]

Maternal education has been found to play a role in the eating habits of the children.^[38-40] This might be explained by the fact that as the mother's educational level increases, her knowledge, attitude, and practice towards dietary feeding practice might be improved. An ancillary pathway might be better antenatal care resources, leading to better nutritional counselling and improved dietary patterns.^[41,42] In Indian context, this becomes more important as mothers have traditionally been the primary caregiver of the children and thus proper health education of the mothers regarding dietary practices become necessary.^[43]

Fast food shop location was found to have a significant association with the frequency of fast food consumption among the participants. Several studies have found this relation between time-weighted activity space-based exposure to fast food outlets and fast food consumption frequency.^[44,45]

The role of socioeconomic status in affecting the dietary patterns maybe a confounding factor in all the above findings having association with the type of family, maternal education, and housing locality. $\ensuremath{^{[46]}}$

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Assessment of the dietary diversity would have been more accurate if the history of food intake in the previous day, week, and month could be done as it would have provided a more complete picture. Classification of food groups, especially for green leafy vegetables, was not well understood by the informants, and thus, the response may not have provided a true picture. Apart from the food environment at their place of residence, the school also plays a major role in the food choices of the children. A detailed study on the same would provide a clearer picture of the eating habits of these children.

Further longitudinal research to assess epidemiological impact of junk foods on the growth and development of children and adolescents who have a history of regular junk food consumption would help in assessing the exact long-term implications.^[47]

Strategic risk communication to minimize fast food consumption and improve dietary patterns should be prioritized, and interventions should be incorporated into national nutritional strategies. Behaviour change communication strategies should be tailored to target school children and mothers, apart from the general populations to address these problems.

Conclusion

Children and adolescents residing in the study area have a distinct dietary pattern compared to prevalent dietary practices in India. To improve dietary diversity of children and adolescents, maternal education, family dynamics, and community food environment, which include fast food and market locations, can be points of targeted interventions. Further studies to combine the effect of school and home food environment shall provide us a clearer picture.

Relevance to primary care

Assessment of food habits in children and their food environment is imperative to identify and promote healthy eating habits. Dietary patterns are established as a child grows into adulthood and affects the development of various noncommunicable diseases. Nutrition is an important element of primary care. Promotion of good food habits is essential in the holistic promotion of health. The primary prevention of diseases involves identification of possible poor eating habits and tailor interventions accordingly. Promotion of healthy habits in the family and improving the awareness of the caregivers plays an important role in improving the health of children and help them grow into healthy adults.

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Conflicts of interest

There are no conflicts of interest.

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Annexure

Classification of food items

| Food group | Examples |
|--------------------------------------|---|
| Cereals | corn/maize, rice, wheat, sorghum, millet or any other grains or foods made from these (e.g. bread, noodles, porridge, or other grain products) + insert local foods e.g., ugali, nshima, porridge, or paste |
| White roots and tubers | white potatoes, white yam, white cassava, or other foods made from roots |
| Vitamin a rich vegetables and tubers | pumpkin, carrot, squash, or sweet potato that are orange inside+other locally available vitamin A rich vegetables (e.g. red sweet pepper) |
| Dark green leafy vegetables | dark green leafy vegetables, including wild forms+locally available vitamin A rich leaves such as amaranth, cassava leaves, kale, spinach |
| Other vegetables | other vegetables (e.g. tomato, onion, eggplant) + other locally available vegetables |
| Vitamin a rich fruits | ripe mango, cantaloupe, apricot (fresh or dried), ripe papaya, dried peach, and 100% fruit juice made from these + other locally available vitamin A rich fruits |
| Other fruits | other fruits, including wild fruits and 100% fruit juice made from these |
| Organ meat | liver, kidney, heart or other organ meats or blood-based foods |
| Flesh meats | beef, pork, lamb, goat, rabbit, game, chicken, duck, other birds, insects |
| Eggs | eggs from chicken, duck, guinea fowl or any other egg |
| Fish and seafood | fresh or dried fish or shellfish |
| Legumes, nuts and seeds | dried beans, dried peas, lentils, nuts, seeds, or foods made from these (eg. hummus, peanut butter) |
| Milk and milk products | milk, cheese, yogurt, or other milk products |
| Oils and fats | oil, fats or butter added to food or used for cooking |
| Sweets | sugar, honey, sweetened soda or sweetened juice drinks, sugary foods such as chocolates, candies, cookies, and cakes |
| Spices, condiments, beverages | spices (black pepper, salt), condiments (soy sauce, hot sauce), coffee, tea, alcoholic beverages |

Categorisation of fast food items^[48]

| Fast food category | Description |
|-------------------------------|--|
| Confectionery | Chocolate, baked items like biscuits, cookies, dessert items like cake, pastry, cupcakes |
| Beverages | Carbonated drinks, synthetically produced and packaged juices |
| Fritters and sides | Chips, pakoras, samosas, french fries-which have been fried in oil |
| Dough-based items (not sweet) | Maggi, pizza, sandwich, pasta, chowmein |
| Milk and milk products | Ice cream, milk-based beverages |