Impact Analysis of ICT based Educational Intervention on Change in Consumption of Junk Food Among School Going Children in Jaipur: A Vis a Vis Study

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Abstract: Introduction and Objectives of Research Study: World data revealed the facts that twenty-first-century school-going children are more inclined towards the consumption of junk food especially during the COVID 19 pandemic period and this habit of consuming junk food is recognized as a serious health problem around the globe. Thus in this backdrop, the present research framework aims to assess the effectiveness of an ICT based educational intervention program for school going children in Jaipur Metropolitan City, India to reduce junk food consumption habits. Research Methodology: In the present research study data was collected with the help of a simple random sampling technique from n=200, school-going children of study area Jaipur. Primary data collection tool-a self-developed structured questionnaire was used in the present study. Data was collected in a phased manner i.e. Pre-test before intervention study and post-test after the ICT based interactive study. For statistical analysis, a multiple linear regression model and a paired t-test were used to assess the effectiveness of ICT based educational intervention programs in the present research study. Findings and Conclusion: Findings obtained from the present study concluded that among school children of Jaipur the behavioural intention of junk food consumption was different in pretest and posttest [4.98 ± 1.6 and 6.84 ± 1.2]. The present research study concludes that the ICT based intervention program developed by the research scholar has been proved as an effective education program for changing the intentions of school-going children and also prevent them from making the habit of consuming junk food which was found statistically significant at the p-value <0.05. It was also found from the study that, the behavioural intention of junk food consumption, the attitude of school-going children towards junk food consumption, and perceived behavioural control toward junk food were statistically significant as the obtained p-value was <0.05. Implications of the study: In a nutshell, it can be postulated from the present research study that ICT based intervention program has a significant positive influence on the perceived behaviour without a control group of school-going children in the study area Jaipur and the same findings can be used unanimously in other study conditions around the globe.

Keywords: ICT, Intervention, Junk Foods, Obesity, School, Jaipur, SPSS.

I. INTRODUCTION

In general terms, food is usually fast food that contains low fibre and nutrients but high fat, saturated fat, sodium are known as Junk food. (Boylan S. et. al., 2017). Varied researchers around the globe have scientifically claimed that these junk food have negative or ill effects on the overall nutritional status, health and cognitive development of school-going children. (Nazari A. et. al., 2016 and Sahoo K., et.al., 2015) World data revealed the fact that twenty-first-century school-going children are more inclined towards the consumption of junk food especially during the COVID 19 pandemic period. (Niemeier H. M. et. al., 2006 and Nixon H et. al. 2011) Factors that contribute to more consumption of junk food among school children are good quality taste, simple ease of use, reasonably priced price, choice, & flavour. (Shah T. et. al. 2014) This habit of consuming junk and fast food is worldwide leading to the danger of fatness & cause public health problems especially among school-age children i.e 10 to 12 years school students. (Kar S. et. al., 2018)

Data obtained from WHO Nutrition report (2020) proclaims that 46 million children around the globe are victims of obesity or related health disease because of consuming Junk and fast food. (Rayner G. et. al., 2020) The ill effect of Junk food is through the globe but unfortunately developed countries have more cases than undeveloped countries and in developed countries like the USA or India the instances of more consumption of fast food are found considerably senior in urban school-going children than in rural school students. This trend can be an impact of liberalization of deal & overseas asset rule on foodstuff & drink crop in countries such as India. (Thow A. M. et. al., 2019) Thus the researcher found a significant change in consumption of food with low nutritional value has been the main cause of obesity among school-going children. (Popkin B. M. et. al., 2008) This insight the facts that ICT based intervention strategies should be developed specifically for school going children which can reduce the use of fast food and highlights the pros & cons of eating healthy food.
II. REVIEW OF LITERATURE AND RESEARCH GAP ANALYSIS

Many countrywide and worldwide researchers have carried out research primarily base on fast food intake & contain located so as to there is a connection among features (corporeal & cognitive) & the right weight-reduction plan and the body. (Gomez-Pinilla F. et. al., 2008 and Northstone K. et. al., 2012) in this look upon, the right nourishment facilitate the growth of the corps & thoughts amongst brood. (Adversity I. F. et. al., 2003 and P’eneau S. et. al., 2011) Moreover, suitable nutrients at some stage in those degrees are crucial for obtaining abilities. (Hoyland A. et. al., 2009) Otherwise, it could result in increased morbidity and mortality among school-going children. It turned into found that every day, approximately 4200 school going youngsters had been dying because of preventable illnesses (vitamins deficiency, respiration infection, and twist of fate) around the sector. moreover, it indicates the bad fitness consequences related to growing the threat of chronic diseases. (Shetty P. et. al., 2013)

In India, changes in food subculture were considerable over the past decade. those changes aren't most effective for eating conduct however too designed for foodstuff manufacture & approach towards it. That be especially discovered by several college-going children. nearly one-fourth of the total populace is made from faculty going youngsters. Of them, 54.2%, over 1/2 of school-going children have low information of right meals and their consequences; for this reason, the majority of them were prone to consuming junk meals. (Sapkota S. D. et. al., 2017) further, the use of fast meals various through period; it be establish so as to the senior percentage of fast food be in near the beginning faculty going youngsters (93%) as compared to overdue school going children (89%). (Aryal R. K. M. K. K. et. al., 2014) This dissimilarity inside the expenditure of fast meals is strong-minded utilizing the flavor & ease of use and via domestic & ecological factor. As a result, learning vitamins may be useful in improving the health and well being of college-going children and people.

Primarily research gap obtained from the finds of review claims that an instructional interference designed for alter in the behavioural meaning on the use of fast food meant for educate going children be able to assist to expand a improved sympathetic of the do & use of good food and school-going children within the revise scenery be chosen as rejection revise has be complete on this theme in research study area Jaipur, Rajasthan. Therefore this research endeavour will focus on school children which have be recognized as an significant location designed for collect the in order because student were incessantly in get in touch with with the teacher, teacher who can direct them to expand high-quality behavior all through their existence in educate. (Khorasani E. C. et. al., 2017) Thus, faculties are suitable vicinity for ICT based instructional intervention in the direction of add to information, attitude, & behaviour intended for promoting healthy eating habits among school-going children. Consequently, the present study will goal to evaluate the efficiency of instructive interference software (ICT enabled) base totally on top of the novel ICT strategies intended for plummeting fast food use amongst school-going children in Jaipur, India. Answer of the learn will surely assist to give the equipment used for raise focus, preparation fitness encouragement intervention, & promote studies in the direction of lessen fast food use behaviour, mainly amongst school-going children. Furthermore, the answer of the present learn determination be causal in the direction of improved treatment of the do of nourishment among school children around the globe.

III. RESEARCH METHODOLOGY

| Research Methodology                                  |
|-------------------------------------------------------|
| **Objectives of Research**                            |
| - To tax the efficiency of an ICT based instructive interference agenda for school going children in Jaipur to reduce Junk Food eating habits.  |
| - To suggest nutritional food eating habits for school going children in order of Cognitive development of children.  |
| **Hypothesis of Research**                            |
| H0: There is no significant effect of an ICT based educational intervention program in reducing Junk Food eating habits among school-going children in Jaipur |
| **Research Design**                                   |
| Exploratory – In the direction of be acquainted with the parameter & devise the hypothesis.  |
| Analytical – In the direction of study the parameter establish absent.  |
| Pre-test & Post Test Research plan. (Before and after ICT Intervention) |
| **Selected School Understudy**                        |
| Four Co-Ed schools of Jaipur Urban (Having Annual fee of More than Rs 50,000/-) |
| **Sampling Design**                                   |
| Stratified Random sampling Method                     |
| **Sample Size**                                       |
| 200 School Going Students of Grade 7 and age group 11 to 12 years. |
| **Data Collection Techniques**                        |
| Primary Data collection – A frame place of questionnaires for  |
| Secondary Data Collection – Research reports, WHO, CDC reports, Nutritional and health reports of Govt of India, books, journals, research papers etc. |
| **Intervention Study**                                |
| ICT based educational intervention tool was developed by a research scholar.  |
| **Period of Intervention**                            |

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IV. RESULTS AND DISCUSSION

4.1. Pilot Study results:

“It was found that Cronbach’s alpha was 0.78, 0.79, 0.83, and 0.82 for behaviour intention, attitude, subjective norm, and perceived behaviour, respectively.” “Then pretesting was conducted on 10% of the total sample size in a similar setting but different school. Necessary changes were corrected accordingly after the pretesting of the tools.” Figure 1 reflect the addition of school-going children and schools for this study.

![Figure 1. Research Flow Chart](image)

Source: Researcher’s Illustration

4.2. Demographic characters of School going Children under study.

“As stated earlier n = 200 school going children of four private schools of Jaipur, the data for the present study was collected with a varied set of demographic characters” Table 1 shows the socio-demographic characteristics of respondent’s i.e. school-going children. The majority of the respondents were from the middle school age group i.e. of Class 8th (59%), were male students (63%), and were Hindu (58%). However, the preponderance of their father & mother be graduates in qualification.

| Variables            | Frequency | Per cent |
|----------------------|-----------|----------|
| Age                  |           |          |
| Middle school-going children (Class 8) | 118       | 59       |
| Late school-going children (Class 9) | 82        | 41       |
| Sex                  |           |          |
| Male                 | 126       | 63       |
| Female               | 74        | 37       |
| Religion             |           |          |
| Hindu                | 116       | 58       |
| Muslim               | 35        | 17.5     |
| Buddhist/ Sikh       | 28        | 14       |
| Christian            | 21        | 10.5     |
| Father’s education   |           |          |
| Matric               | 11        | 5.5      |
| Higher Secondary     | 23        | 11.5     |

Table 1: Demographic characteristics of Selected School Going Children.
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|                      | Graduate | Post Graduate | Doctorate/ Technical Qualification |
|----------------------|----------|---------------|-----------------------------------|
| **Mother’s education** |          |               |                                   |
| Matric               | 22       | 11            |                                   |
| Higher Secondary     | 34       | 17            |                                   |
| Graduate             | 45       | 22.5          |                                   |
| Post Graduate        | 68       | 34            |                                   |
| Doctorate/ Technical Qualification | 31 | 15.5 | 

Graph 1: Demographic characteristics of Selected School Going Children.

4.3. Pre-test and Post-test results of Meaning to Fast Food Use.

In the present research, study school going students of Jaipur show a statistically important disparity in intention within stipulations of their meaning in the direction of consume ($P < 0.0001$) & diagram to consume fast food in excess of the after that week ($P < 0.0001$) as exposed in Table 2. The regular attain of behavioural meaning in the direction of fast food use throughout the pretest was 4.98±1.6, which be distorted before the interference 6.84±1.2.
Results of the present study proclaimed that before the ICT based intervention, 52.23% of student have a far above the ground meaning in the direction of eat fast food in excess of the after that week which was decreased to 12.36% following the ICT based educational interference. The consequence of balancing t-tests show a statistically important dissimilarity inside behavioural meaning toward fast food use following the interference ($P < 0.0001$) as shown in Table 3.

Table 2: Intention toward junk food consumption in Pre and Post-test (ICT based Intervention)

| Statements                                      | Pretest Mean ± SD | P-value | Posttest Mean ± SD | P-value |
|-------------------------------------------------|-------------------|---------|--------------------|---------|
| Attitude toward junk food                       |                   |         |                    |         |
| I like the taste of junk food                   | 3.40 ± 0.90       | <0.0001 | 4.60 ± 0.69        | <0.0001 |
| Satisfaction after eating junk food             | 3.19 ± 0.68       | <0.0001 | 4.23 ± 0.56        | <0.0001 |
| Junk food is good for health                    | 3.85 ± 0.59       | <0.0001 | 4.95 ± 0.38        | <0.0001 |
| Junk food increases the weight                  | 3.56 ± 0.78       | <0.0001 | 3.98 ± 0.67        | <0.0001 |
| It is convenient to prepare junk food           | 3.67 ± 0.88       | <0.0001 | 4.12 ± 0.62        | <0.0001 |
| Subjective norm toward junk food                |                   |         |                    |         |
| Parents’ approval for junk food                 | 3.98 ± 0.32       | <0.0001 | 4.92 ± 0.36        | <0.0001 |
| Teachers’ approval for junk food                | 4.95 ± 0.48       | <0.0001 | 4.98 ± 0.42        | <0.0001 |
| Friends’ approval for junk food                 | 3.22 ± 0.86       | <0.0001 | 4.33 ± 0.69        | <0.0001 |
| Siblings’ approval for junk food                | 3.58 ± 0.80       | <0.0001 | 4.38 ± 0.70        | <0.0001 |
| Perceived behavioural control for junk food     |                   |         |                    |         |
| Advertisement influences me to eat junk food    | 3.63 ± 0.65       | <0.0001 | 4.52 ± 0.64        | <0.0001 |
| Price influences me to eat junk food            | 3.65 ± 0.61       | <0.0001 | 3.90 ± 0.60        | <0.0001 |
| Limited time influences me to eat junk food     | 3.56 ± 0.71       | <0.0001 | 4.31 ± 0.72        | <0.0001 |
| Easy accessibility of junk food in school        | 3.72 ± 0.77       | <0.0001 | 4.35 ± 0.82        | <0.0001 |
| Behavioural intention toward junk food           |                   |         |                    |         |
| I intend to eat junk food over the next week    | 3.85 ± 0.88       | <0.0001 | 4.95 ± 0.28        | <0.0001 |
| I plan to eat junk food over the next week      | 3.79 ± 0.80       | <0.0001 | 4.99 ± 0.19        | <0.0001 |

The result of balancing t-tests show a statistically important dissimilarity inside outlook to fast food expenditure subsequent to the interference ($<0.0001$) as exposed inside Table 3. Thus as the P-value is highly significant it is found that null hypothesis $H_0$: "There is no significant effect of an ICT based educational intervention program in reducing Junk Food eating habits among school-going children in Jaipur" is Rejected and Alternate Hypothesis $H_1$: “There is no significant effect of an ICT based educational intervention program in reducing Junk Food eating habits among school-going children in Jaipur” is Accepted and Proved.

Table 3: Level of construct before and after intervention

| Attitude                                   | Pretest n (%) | Construct of TPB | Pre-t-test Mean ± SD | Post-t-test Mean ± SD | P-value |
|--------------------------------------------|---------------|------------------|----------------------|----------------------|---------|
| Positive (≥mean)                           | 79 (28.8%)    | 142 (51.8%)      | 11.9 ± 1.5           | 16.3 ± 1.6           | <0.0001 |
| Negative (<mean)                           | 195 (71.2%)   | 132 (48.2%)      |                      |                      |         |
| Subjective norm                            |               |                  | 11.1 ± 1.3           | 14.3 ± 1.4           | <0.0001 |
| Positive (≥mean)                           | 146 (53.3%)   | 181 (66.1%)      |                      |                      |         |
| Negative (<mean)                           | 128 (46.7%)   | 93 (33.9%)       |                      |                      |         |
| Perceived behavioural control              |               |                  | 9.9 ± 1.0            | 12.76 ± 1.5          | <0.0001 |
| Positive (≥mean)                           | 105 (38.3%)   | 142 (51.8%)      |                      |                      |         |
| Negative (<mean)                           | 169 (61.7%)   | 132 (48.2%)      |                      |                      |         |
| Behavioural intention                      |               |                  | 4.98 ± 1.6           | 7.96 ± 1.3           | <0.0001 |
| High (≥mean)                               | 182 (66.4%)   | 5 (1.8%)         |                      |                      |         |
| Low (<mean)                                | 92 (33.6%)    | 269 (98.2%)      |                      |                      |         |
Junk food is commonly eaten fast food or unhealthy leading meals in India, mainly with children of school age group around 11 to 13 years old and enhanced significantly during COVID-19 pandemic period. The present study revealed that 94% of school-going children under study eat Junk fast food. Consequently it is important in the direction of keep in mind how fast food desire be developing several school-going children. “Therefore, this takes a look highlights the effectiveness of ICT based instructional intervention by means of the variables of mindset, slanted norm, apparent conduct, & behavioural goal towards fast food for several school-going children by the use of more than one linear weakening replica & balancing t-test.” “Results of the present study revealed that 85% of school-going children had fed on junk meals even as they were during intervention programme days.” “The positive outcome of the effect was that majority of students who is school-going children under the present study have significantly reduced the consumption of junk food after ICT based intervention.”

“Different studies carried out around the globe recommended that if the human beings acquired the information as of some basis of media/methods, then their purpose distorted into modified through physical condition schooling sports & for that reason decreased the intake of junk food.” (Pour-Abdollahi P. et al., 2004 and Khalaj M. et al. 2006) Consequently, students turn into much fewer tending in the direction of consume fast food in the container wherein they’ve distorted attitude closer to fast meals, & their intention, otherwise pressure resting on them, toward apply fast meals are near to the ground. As a result, school-going children wonderful attitude be supposed to be bolstered inside do thru instructional interventions.

“Moreover, the denote rating of behavioural meaning for decreasing fast food intake becomes accelerated subsequent to the interference.” “The denote rating of behavioural purpose at some stage in pretest became 8.2 whilst 11.9 throughout posttest.” An add to inside the terrible approach in the direction of the fast meals intake has sensibly unspecified so as to present may be a growth inside the degree of information on top of fast food which help in the direction of boom the extent of consciousness & saves you the excessive use of fast food. “Alike answer of our test be coordinated with some additional study which show so as to teaching be the important thing plan in the direction of fetch effective modifications in the direction of junk food consumption. Further, after converting their recognition stage, the general mean rating become found as 3.93 in pretest, while it becomes 5.34 in the posttest” “As a result, it be establish so as to instructive interference have a main position inside prevent the use of fast food.” “These strategy do something in the direction of add to the constructive thoughts feel through school-going children & show the way in the direction of rising the optimistic result of physical condition & growth.” Therefore this learn indicate so as to fast food use was mainly affected through the ICT based teaching interventional wrap up &., the educate establishment & administration be supposed to disburse additional notice to fast food & give wanted letters next to the expenditure of fast food inside school.

V. CONCLUSIONS

This learn show the efficiency of an ICT based instructive interference agenda in the middle of the school-going children in Jaipur. It be establish so as to the ICT based interactive technique is an effectual method intended for altering the meaning in the direction of eat fast food among school-going children under study. “Therefore, the instructive interference plan is effectual in favor of altering the student’s outlook, prejudiced standard, & insight behaviour in the direction of the use of fast food.” Thus, it be optional so as to alike study call for toward be perform in additional community & districts, on the local & nationwide level in India.

1. Limitations of the Study: Firstly, the learn listening carefully merely on the school-age student as of chosen schools; we do not take in other student unpaid in the direction of the unavailability of occasion. Secondly, a researcher was not able to explore the behaviour of fast food in the midst of the school-going children outstanding on the way to the petite epoch. Consequently, it can not be alive potential to assess the efficiency of interference on behalf of prevent the use of fast food.

2. Data Availability: Data will be provided upon reasonable request from the corresponding author.

3. Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the publication of this paper.

REFERENCES

1. Adversity I. F., (2003) “Malnutrition at age 3 years and lower cognitive ability at age 11 years,” Archives of Pediatrics and Adolescent Medicine, vol. 157, no. 6, pp. 593–600.
2. Aryal R. K. M. K., Chalise B., Mehata S., and Sapkota F., (2014) Adolescent Nutrition Survey in India, NHRC, New Delhi, India.
3. Boydan S., Hardy L. L., Drayton B. A., Grunseit A., and Mihrshahi S., (2017) “Assessing junk food consumption among Australian children: trends and associated characteristics from a cross-sectional study,” BMC Public Health, vol. 17, no. 1. p. 299.
4. Brenner A. A. and Lustig R. H., (2012) “Effects of sugar-sweetened beverages on children,” Pediatric Annals, vol. 41, no. 1, pp. 26–30.
5. Gomez-Pinilla F., (2008) “Brain foods: the effects of nutrients on brain function,” Nature Reviews Neuroscience, vol. 9, no. 7. pp. 568–578.
6. Gronhøj A., Bech-Larsen T., Chan K., and Tsang L., (2013) "Using theory of planned behaviour to predict healthy eating among Danish adolescents," Health Education, vol. 113, pp. 4–17.
7. Hosseini Z., Aghamolaei T., GharipourGharibani Z. Z, and Ghanbarnejad A., (2015) "Effect of educational interventions based on the theory of planned behaviour to promote breakfast consumption behaviour in children," JMI, vol. 19, pp. 31–39.
8. Hoyland A., Dye L., and Lawton C. L., (2009) “A systematic review of the effect of breakfast on the cognitive performance of children and school-going children,” Nutrition Research Reviews, vol. 22, no. 2, pp. 220–243.
9. I am. Sharma, (1998) "Trends in the intake of ready-to-eat food among urban school children in India," SCN News, vol. 16, p. 21.
10. India Health Research Council, (2014) Adolescent Nutrition Survey in India, India Health Research Council, New Delhi, India.
11. Joseph N., Nelliyanil M., Sharada Rai R. B., Kotian S. M., Ghosh T., and Singh M., (2015) “Fast food consumption pattern and its association with overweight among high school boys in Mangalore city of southern India,” Journal of Clinical and Diagnostic Research: JCDDR, vol. 9, no. 5, pp. 1–10.
12. Kar B. R., Rao S. L., and Chandramouli B. A., (2008) “Cognitive development in children with chronic protein-energy malnutrition,” *Behavioral and Brain Functions*, vol. 4, no. 1, p. 31.

13. Kar S. and Khandelwal B., (2018) “Fast foods and physical inactivity are risk factors for obesity and hypertension among adolescent school children in and district of Sikkim, India.” *Journal of Natural Science, Biology and Medicine*, vol. 6, no. 2, p. 356.

14. Khalaj M., (2006) “Health education effects on nutritional behaviour modification in primary school students,” *Journal of Shahrekord University of Medical Sciences*, vol. 8, pp. 41–49.

15. Khooni T., and Moghimi M., (2017) “Application of the Theory of Planned Behavior to predict low-nutrient junk food consumption among male students,” *Journal of Health Sciences and Technology*, vol. 1, no. 2, pp. 75–79.

16. Lloyd L. J., Langley-Evans S. C., and McMullen S., (2012) “Childhood obesity and risk of the adult metabolic syndrome: a systematic review,” *International Journal of Obesity*, vol. 36, no. 1, pp. 1–11.

17. Mallick N., Ray S., and Mukhopadhyay S., (2014) “Eating behaviours and body weight concerns among adolescent girls,” *Advances in Public Health*, vol. 2014, pp. 1–8.

18. Ministry of Health and Population, (2011) Population Division, India Population Report, Ministry of Health and Population; Population Division, Kathmandu, India.

19. Nazari A., Jalili Z., and Tavakoli R., (2016) “The evaluation of effects of educational intervention based on planned behaviour theory on reduction of unhealthy snack consumption among Kermanshah elementary school students, 2015–2016,” *International Journal of Research in Medical Sciences*, vol. 5, pp. 67–71.

20. Nienmeier H. M., Raynor H. A., Lloyd-Richardson E. E., Rogers M. L., and Wing R. R., (2006) “Fast food consumption and breakfast skipping: predictors of weight gain from adolescence to adulthood in a nationally representative sample,” *Journal of Adolescent Health*, vol. 39, no. 6, pp. 842–849.

21. Nixon H. and Doud L., (2011) “Do fast food restaurants cluster around high schools? a geospatial analysis of the proximity of fast-food restaurants to high schools and the connection to childhood obesity rates,” *Journal of Agriculture, Food Systems, and Community Development*, vol. 2, pp. 181–194.

22. Northstone K., Joosin C., Emmett P., Ness A., and Paas T., (2012) “Are dietary patterns in childhood associated with IQ at 8 years of age? A population-based cohort study,” *Journal of Epidemiology and Community Health*, vol. 66, no. 7, pp. 624–628.

23. P’eneau S., Galan P., Jeandel C. et al., (2011) “Fruit and vegetable intake and cognitive function in the SU.VI.MAX 2 prospective study,” *6e American Journal of Clinical Nutrition*, vol. 94, no. 5, pp. 1295–1303.

24. Popkin B. M. and Doak C. M., (1998) “The obesity epidemic is a worldwide phenomenon,” *Nutrition Reviews*, vol. 56, no. 4, pp. 106–114.

25. Pour-Abbolahi P., Zarate M., Razavieh S. V., Dastgiri S., Ghaem Maghami S. J., and Fathi Azar E., (2004) “The effect of nutrition education on the knowledge and practice of elementary school children regarding junk food intake,” *Journal of Zanjan University of Medical Sciences*, vol. 13, pp. 13–20.

26. Rayner G., Hawkes C., Lang T., and Bello W., (2006) “Trade liberalization and the diet transition: a public health response,” *Health Promotion International*, vol. 21, no. suppl. 1, pp. 67–74.

27. Rising India, *Changing Food Culture*, Rising India, Kathmandu, India.

28. Sahoo K., Sahoo B., Choudhury A. K., Sofi N. Y., Kumar R., and Bhadoria A. S., (2015) “Childhood obesity: causes and consequences,” *Journal of Family Medicine and Primary Care*, vol. 4, no. 2, p. 187.

29. Sapkota S. D. and Neupane S., (2017) “Junk food consumption among secondary level students, Chitwan,” *Journal of India Paediatric Society*, vol. 37, no. 2, pp. 147–152.

30. Seo H. S., Lee S. K., and Nam S., (2011) “Factors influencing fast food consumption behaviours of middle-school students in Seoul: an application of the theory of planned behaviours,” *Nutrition Research and Practice*, vol. 5, no. 2, pp. 169–178.

31. Shah T., Purohit G., Nair S. P., Patel B., Rawal Y., and Shah R. M., (2014) “Assessment of obesity, overweight and its association with the fast-food consumption in medical students,” *Journal of Clinical and Diagnostic Research: JCDR*, vol. 8, no. 5, pp. CC05–CC07, 2014.

32. Shahjanarini A. K., Shojaezadeh D., Majdzadeh R., Rashidian A., and Omidvar N., (2009) “Application of an integrative approach to identify determinants of junk food consumption among female adolescents,” *Journal of Health Sciences and Technology*, vol. 4, no. 2, pp. 61–70.

33. Shetty P., (2013) “Nutrition transition and its health outcomes,” *8e Indian Journal of Pediatrics*, vol. 80, no. 51, pp. 21–27.

34. Stuckler D., McKee M., Ibrahim S., and Basu S., (2012) “Manufacturing epidemics: the role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco,” *PLoS Med*, vol. 9, no. 6, Article ID e1001235.

35. Thow A. M. and Hawkes C., (2009) “The implications of trade liberalization for diet and health: a case study from Central America,” *Globalization and Health*, vol. 5, no. 1, p. 5.

36. Venables W. N. and Smith D. M., (2008) *8e Development Core Team. An Introduction to R*, R Foundation for Statistical Computing, Vienna, Austria.

37. Von Stumm S., (2012) “Are you what you eat? meal type, socioeconomic status and cognitive ability in childhood,” *Intelligence*, vol. 40, no. 6, pp. 576–583.

38. World Health Organization, (2016) *8e Stronger Focus on Adolescent Health*, World Health Organization, Geneva, Switzerland.

39. World Health Organization, (2018) *Maternal, Newborn, Child and Adolescent Health*, World Health Organization, Geneva, Switzerland.

40. World Health Organization, (2020) *Tenfold Increase in Childhood and Adolescent Obesity in Four Decades*, World Health Organization, Geneva, Switzerland.

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