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Comparative Study of Dietary Habits Between Government and Private School Going Children and Methodologies to enhance Nutritional Care, Parental Counselling, and educational interventions.

Meh Batool
Nutritionist, Institute of Home Sciences, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad,
mehbatool1214@gmail.com

Hira Iftikhar
Lecturer, (Food and Nutrition) Institute of Home Sciences, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad,
hira.iftikhar@uaf.edu.pk

Nahel Noor
Nutritionist, Institute of Home Sciences, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad,
nahlnoor6@gmail.com

Alvina Haseeb
Lecturer, (Human Development and Family Studies) Institute of Home sciences, Faculty of Food, Nutrition and Home Sciences, University of Agriculture Faisalabad, Email:
alvina.asim@uaf.edu.pk

Abstract

Changes in dietary habits and nutrient consumption combined with increasingly sedentary lifestyles, modernization and increasing urbanization has led to the emergence of many chronic diseases as a major new health threat to children. In Pakistan, there is a significant difference between the economic status, lifestyle and nutrition between government and private school students and between male and female children. Habits formed in early life are the major determinant of food choice later in life. Accordingly, this study was designed to assess, monitor, and compare the dietary habits of school going children from both sectors. The intake of junk food which includes snacks, soft drinks and ramen, fried and bakery items was more common amongst private school children than government school students because of the working parents. Whereas the intake of vegetables, less junk, wheat instead of white flour and the trend of daily breakfast consumption was more prevalent amongst government school children. In conclusion, dietary habits of children are affected by their parent's education, economic status, availability, affordability, social influence and being prone towards dining out. Furthermore, that's why we did nutrition educational counselling to the parents to improve their children's dietary habits.

Key words: *dietary habits, nutrition, school children*

Introduction

Dietary habits and eating patterns are mostly developed in early life that later influence the lifestyle of the children. Eating patterns are established early in life. The younger children's diet is almost similar to their parents'. Individual's attitude, lifestyle and behavior is not only influenced by television, but it also affects the culture of the country because television is one of the strongest medium of advertisement (*San Juan 2006).* The social environment plays a massive role in the life patterns of the children.

It is substantial that dietary factors, together with physical activity, play a dynamic role in regulating overall energy balance, thereby influencing body weight. Dietary habits may also contribute to the incidence and rigorousness of overweight in children. Avoiding breakfast, low intake or of fruit and vegetables, high consumption of sweetened products, carbonated beverages, canned items, refined products, and energy dense snacks may be dietary determinants of illness and bad health (World Health Organization).

Parents place a very big impact on their children, specifically the eating habits of the parents are 80% descend to their offspring. Parenthood is connected to the variations in the physical activity and dietary changes in the children because the children mostly acquire from the home (Laroche, HH, et al., 2013). Parents use different strategies to improve, control or modify their children's feeding practices. Parents most likely restrict some foods, pressurizing their child to eat more and monitor their consumption. These strategies are influenced by different complex factors including socio-economic characteristics as in financial condition and education, cultural background, religious beliefs, and psychological health of the child. (Moreira, I et al., 2014; Haycraft, E. & Blissett, J., 2012; McPhie, S et al., 2012).

Early life places the most impact on the children because they're in a developing stage. Breakfast plays a significant role as a crucial part of a person's health and healthy diet. Breakfast must be recommended as part of every diet because breakfast improves cognitive function, intuitive perception, and academic performance. Research demonstrates and determines the importance of providing breakfast to children. An unhealthy breakfast or skip it completely destroys the day and physically activity of the school going children. The historical, bio-psychological, religious, and educational value of breakfast in our culture is extremely important and should be recognized and stressed by the scientific community.

Efforts should be made to promote this practice for the individual health and well-being. (Edefonti V et al., 2014;. Deshmukh-Taskar PR et al., 2010; Hoyland A et al., 2009).

Public health interventions have been and should be strategic, contrivance to promote this concept that more people engage in healthy food eating habits and its patterns (Brug J & Oenema A 2006).

Nutritional assessment permits healthcare providers to thoroughly evaluate the overall nutritional status of patients, diagnose malnutrition, detect underlying pathologies that lead to malnourishment, and design necessary interventions (Kesari A & Noel JY 2022). This screening tool consists of a questionnaire and has a scoring system that helps identify the individual's health. On the other hand, a comprehensive nutritional assessment is performed to evaluate the nutritional status of an individual already identified at nutritional risk.

While performing the assessment, it is significant to understand that there is specific test to evaluate nutritional status. Information should be collected systematically, and an evaluation of nutritional status should be done based on the overall data collected. As per the American Society for Parenteral and Enteral Nutrition guidelines, a comprehensive nutritional assessment involves a systematic clinical examination (history and physical examination), anthropometric measurements, diagnostic tests, and dietary assessments.

Significance of the study:

The study contributes to the existing literature in different ways. Firstly, it provides information about the impact of healthy lifestyles on the lives of children. Secondly, it shed light on the difference of the dietary practices of public and private school children and how the socio economic background of their parents affect the diet of their offspring. The principal objective of the nutritional assessment of a group is to make the outline of the magnitude and geographical distribution of both malnourishment and bad dietary habits as a public health problem, to determine, assess and scrutinize the ecological factor which are linked directly or indirectly with it. This assessment to determine the nutritional status and dietary habits of the government and private school children has been conducted by keeping this recommendation in mind.

Literature Review

The literature has shown that dietary habits of children of public and private school are affecting their lifestyle and health as well. Different scholars have studies its different aspects

and contribute to the literature. (Saeed et al., 2016) has used and activity-based pretest that is designed to check the cognitive and skills of the age group. Their objective was to assess and compare the nutrition education in public and private school children regarding their eating habits and choices. Their study has found that nutrition education is significantly increasing the nutritional knowledge of preschool children regarding the choice of their food. Then, (Ponnambalam et al., 2022) has find the impact of western lifestyle on the lives of Indian children and find that nutritional educational at school level is controlling the unnecessary weight gain among the children of Indian schools.

Childhood obesity is a major concern for the public and private school is South Asian countries (Chhatwal et al., 2004). Countries are facing nutrition transition and dietary habits of children are now shifting towards the unhealthy food and that is increasing sedentary lifestyle and increasing obesity in children (Pathak et al., 2018). The phenomena of childhood obesity is ranges from 5.74% to 8.82% (Rajan et al., 2018) and this is due to their unhealthy lifestyle (Popkin et al., 2012). Based on the above literature, the following hypothesis has made:

Research Hypothesis:

Dietary habits of children are affected by their parent's education, economic status, availability, affordability, social influence and being prone to dine out.

Research Methodology

Research Design

This survey was a cross-sectional study about the dietary habit of government and private school going children. Private schools from rural area and a government school from an urban area were selected. The systematic random sampling technique was applied in this survey to select the subjects. The students of both genders from each school were chosen. There were 25 students along with their parents chosen from each school.

Data collection methods

The Dietary patterns have been studied with the help of data-driven and hypothesis-based approaches. The instruments administered were the self-constructed questionnaire and each child was interviewed alone, and the answers were cross-checked with the parents. It contained questions to determine the frequency of consumption of certain foods and

beverages, the frequency of intake of breakfast, lunch, dinner, and the amount of intake in a month were also included in this section of the questionnaire.

Ethical Consideration

The consent was taken from Principles of both schools prior to conducting survey. All the students fully contributed their attention towards the interview, the response of children was cooperative and thus data was collected quite contentedly. The workforce of both schools was also very obliging. Confidentiality of information was ensured.

Discussion and Analysis

These results describe cross sectional and self-administered questionnaire. The one parent or both parents of each student from each sector were also included to make the results more accurate and exact. The statistical analysis of my survey, I used statistical package for social science **(SPSS 16)** software. I applied frequency distribution, cross tabulation, mean and t test on the results. There is no missing data in the variable analyzed. The survey conducted was between 50 students from government and private schools. 50% were male and 50% were female as shown in table 1. The children under the age of 9 or of 9 years old were 30%, the age of 10 years was 30%, 11 years old were 18%, 12 years old were 16% and children more than 12 years old were just 6% as shown in table 2.

The consumption of breakfast is 92% in government students and 64% in private. The skipping of breakfast was 8% in the government sector and 36% in the private sector. The consumption of lunch is 68% in government and 84% in private. 20% of the government students have their dinner while 72% of the private students have. The remaining 80% skip their dinner in government and 28% in private. Fruits are consumed by 76% of the private students daily either in the form of fresh or dry and only 4% by the government. The intake of fruits is like 98% in total of the private and 76% by the government. Vegetables are consumed by 96% of government students daily and 76% of private.

The intake of chicken in private on the daily basis is 48%, weekly 40% and monthly 12% but in the government student's daily intake of chicken is 0, weekly is 72% and monthly is 28%. The meat intake (beef and mutton) 16% weekly and 24% are such that only have it rarely in government and in private 80% weekly and only 4% rarely that is also because of their food dislike basically based on their choice.

Lentils intake is not having a vibrant difference it was mostly being eaten by all the students 36% daily in government and 28% daily in private. Packaged snacks are consumed 68% on

the daily basis in private school children whereas it is 68% monthly in government school. Sweets or piece of confectionery are consumed 52% daily by the private school students and 44% weekly by the government school children. The trend of using bread is 44% in government and 76% in private on the daily basis. The chapatti is more prevalent in the government by having a 68% daily consumption and 32% in private.

French fries are consumed 40% daily and 56% weekly by the private sector students and the government students have an intake of 36% monthly and 48% of children rarely have the French fries. Carbonated beverages or soda induced drinks are consumed on the monthly basis by the government school children, 72% monthly but in the private school children it is 80% daily. They are more prone to it on a regular level.

Table 1
Difference between males, females, Government and Private Sectors

		Gender:			Student type:		
		Male	Female	Total	Government	Private	Total
Do you have breakfast in the morning	Yes	20	19	39	23	16	39
	No	5	6	11	2	9	11
Total		25	25	50	25	25	50
Do you have lunch during the day?	Yes	18	20	38	17	21	38
	No	7	5	12	8	4	12
Total		25	25	50	25	25	50
Do you eat dinner in the evening?	Yes	9	14	23	5	18	23
	No	16	11	27	20	7	27
Total		25	25	50	25	25	50
Do you eat eggs?	Once in a month	1	0	1	0	1	1
	Once a week	13	19	32	14	18	32
	Almost daily	6	5	11	5	6	11
	Daily	5	1	6	6	0	6
Total		25	25	50	25	25	50
Do you like to eat fruits?	Once in a month	2	4	6	6	0	6
	Once a week	13	11	24	18	6	24
	Almost daily	9	2	11	1	10	11
	Daily	1	8	9	0	9	9
Total		25	25	50	25	25	50
Do you eat vegetables?	Once a week	2	4	6	0	6	6
	Almost daily	8	13	21	14	7	21
	Daily	15	8	23	11	12	23
Total		25	25	50	25	25	50
Do you like to eat chicken?	Once in a month	7	3	10	7	3	10
	Once a week	10	18	28	18	10	28
	Almost daily	8	4	12	0	12	12
Total		25	25	50	25	25	50
Do you eat beef or mutton?	Rarely	3	4	7	6	1	7
	Once in a month	10	9	19	15	4	19

	Once a week	9	9	18	4	14	18
	Almost daily	3	3	6	0	6	6
Total		25	25	50	25	25	50
Do you eat foods like beans or lentils?	Once a week	14	20	34	16	18	34
	Almost daily	11	5	16	9	7	16
Total		25	25	50	25	25	50
Do you eat things like French fries or chips?	Rarely	5	7	12	12	0	12
	Once in a month	5	4	9	9	0	9
	Once a week	6	12	18	4	14	18
	Almost daily	8	2	10	0	10	10
	Daily	1	0	1	0	1	1
Total		25	25	50	25	25	50
Do you like eating bread?	Once a week	11	9	20	14	6	20
	Almost daily	12	9	21	11	10	21
	Daily	2	7	9	0	9	9
Total		25	25	50	25	25	50
Do you have snacks?	Rarely	1	1	2	2	0	2
	Once in a month	11	6	17	17	0	17
	Once a week	4	8	12	5	7	12
	Almost daily	8	10	18	1	17	18
	Daily	1	0	1	0	1	1
Total		25	25	50	25	25	50
Do you have sweets to eat?	Once in a month	11	4	15	13	2	15
	Once a week	4	12	16	11	5	16
	Almost daily	7	7	14	1	13	14
	Daily	3	2	5	0	5	5
Total		25	25	50	25	25	50
Do you drink carbonated drinks?	Rarely	3	3	6	5	1	6
	Once in a month	9	10	19	18	1	19
	Once a week	3	2	5	2	3	5
	Almost daily	3	7	10	0	10	10
	Daily	7	3	10	0	10	10
Total		25	25	50	25	25	50
Do you eat chapatti?	Once a week	3	7	10	1	9	10
	Almost daily	11	4	15	7	8	15
	Daily	11	14	25	17	8	25
Total		25	25	50	25	25	50

Table 2
Age wise results of total frequency and percentages of all the values

		Age:					Frequency	Percent %
		9 years	10 years	11 years	12 years	More than 12 years		
Do you have breakfast in the morning	Yes	10	11	7	8	3	39	78.0
	No	5	4	2	0	0	11	22.0
Total		15	15	9	8	3	50	100.0
Do you have lunch during the day?	Yes	11	11	7	7	2	38	76.0
	No	4	4	2	1	1	12	24.0

Total		15	15	9	8	3	50	100.0
Do you eat dinner in the evening?	Yes	6	8	4	4	1	23	46.0
	No	9	7	5	4	2	27	54.0
Total		15	15	9	8	3	50	100.0
Do you eat eggs?	Once in a month	0	1	0	0	0	1	2.0
	Once a week	6	10	6	8	2	32	64.0
	Almost daily	6	3	2	0	0	11	22.0
	Daily	3	1	1	0	1	6	12.0
Total		15	15	9	8	3	50	100.0
Do you like to eat fruits?	Once in a month	1	1	1	1	2	6	12.0
	Once a week	8	5	4	6	1	24	48.0
	Almost daily	4	7	0	0	0	11	22.0
	Daily	2	2	4	1	0	9	18.0
Total		15	15	9	8	3	50	100.0
Do you eat vegetables?	Once a week	2	3	1	0	0	6	12.0
	Almost daily	6	5	5	4	1	21	42.0
	Daily	7	7	3	4	2	23	46.0
Total		15	15	9	8	3	50	100.0
Do you like to eat chicken?	Once in a month	2	4	2	2	0	10	20.0
	Once a week	9	5	5	6	3	28	56.0
	Almost daily	4	6	2	0	0	12	24.0
Total		15	15	9	8	3	50	100.0
Do you eat beef or mutton?	Rarely	4	0	1	1	1	7	14.0
	Once in a month	3	6	3	6	1	19	38.0
	Once a week	6	7	3	1	1	18	36.0
	Almost daily	2	2	2	0	0	6	12.0
Total		15	15	9	8	3	50	100.0
Do you eat foods like beans or lentils?	Once a week	8	11	5	7	3	34	68.0
	Almost daily	7	4	4	1	0	16	32.0
Total		15	15	9	8	3	50	
Do you eat things like French fries or chips?	Rarely	2	2	1	4	3	12	24.0
	Once in a month	2	3	2	2	0	9	18.0
	Once a week	8	4	6	0	0	18	36.0
	Almost daily	2	6	0	2	0	10	20.0
	Daily	1	0	0	0	0	1	2.0
Total		15	15	9	8	3	50	100.0
Do you like eating bread?	Once a week	8	4	3	4	1	20	40.0

	Almost daily	4	8	3	4	2	21	42.0
	Daily	3	3	3	0	0	9	18.0
Total		15	15	9	8	3	50	100.0
Do you have snacks?	Rarely	2	0	0	0	0	2	4.0
	Once in a month	4	4	4	4	1	17	34.0
	Once a week	2	4	1	3	2	12	24.0
	Almost daily	7	6	4	1	0	18	36.0
	Daily	0	1	0	0	0	1	2.0
Total		15	15	9	8	3	50	100.0
Do you have sweets to eat?	Once in a month	6	4	1	4	0	15	30.0
	Once a week	3	3	4	3	3	16	32.0
	Almost daily	4	5	4	1	0	14	28.0
	Daily	2	3	0	0	0	5	10.0
Total		15	15	9	8	3	50	100.0
Do you drink carbonated drinks?	Rarely	2	1	1	1	1	6	12.0
	Once in a month	5	4	2	6	2	19	38.0
	Once a week	1	2	1	1	0	5	10.0
	Almost daily	3	4	3	0	0	10	20.0
	Daily	4	4	2	0	0	10	20.0
Total		15	15	9	8	3	50	100.0
Do you eat chapatti?	Once a week	4	4	2	0	0	10	20.0
	Almost daily	6	5	4	0	0	15	30.0
	Daily	5	6	3	8	3	25	50.0
Total		15	15	9	8	3	50	100.0

Discussion

Converting to a healthy diet can have an impactful effect on your child's health. It will make them healthy, stabilize their moods, sharpen their minds, and elude a variety of health complications. Healthy food can also create or have a profound effect on your child's cognitive, mental, and emotional wellbeing, supports their growth and development. The results of the study support the alternate hypothesis of this study by rejecting the null hypothesis.

It's important to remember that your kids aren't born with a craving for French fries and pizza and an aversion to vegetables and meat. This habituation happens over time as they're exposed to more and more unhealthy food choices. However, it is possible and likely to

happen to reprogram your children's food preferences so that they crave healthier foods instead.

The sooner you introduce wholesome, nutritious dietary choices into a child's diet, the easier they'll be able to develop a healthy relationship with food that can last them a lifetime. The following are some of the important points that you can introduce healthy eating habits without turning mealtimes into a war zone and give your kids the opportunity to grow into healthy, well-balanced adults.

1. Start using Water and juices instead of carbonated beverages and soda. Sugary drinks are not good for the teeth and overall health of the kids. It has many calories so we must encourage them to drink lots of water.
2. Choose Whole Grains instead of refined staples and snack. This is a worthy substitution you can add in your meal like whole wheat bread, pasta, snacks, and chapatti instead of the products made with refined white flour. Whole grain products contain all of the vitamins and nutrients that are lost when they refine it, plus they provide much more fiber and give feeling and fullness.
3. Physical activity should be included in daily life. The encouragement of movement in children is beneficial for them for their cognitive health and growth. If the children do not participate in a game, running around at a playground and playing actively can provide them with lots of good exercise. Activities such as Dancing, riding a bike are also good.
4. We ought to make breakfast a necessity for the kids. Skipping the first meal of the day is a bad habit and it makes us lethargic the whole day. Breakfast jumpstarts all of our metabolism and it provides us fuel to start our mind and physical activity.

Counselling

Nutrition counselling is a reciprocal interaction between a patient and the health worker. Under the guidance of a registered dietitian/nutritionist, patients learn how to interpret the results of their nutritional assessment and how to integrate a variety of well-balanced nutrients into healthy, economical, and appetizing meals or snacks. Patients can gain an understanding of the influence that nutrition has on their health log and modify their behavior to focus on practical and physical lifestyle changes to reach nutritional goals and to attain better overall health. Patients benefit from establishing and maintaining personal objectives that lead to a healthier lifestyle.

Nutrition education provides general information related to health and important nutrients, often to groups in clinic waiting rooms or community settings. Educators may be trained counselors or health volunteers who deliver prepared talks on specific topics, often using visual aids. They should encourage clients to ask questions and direct them to additional information as needed.

Conclusion

The nutrition will affect and alter their future health either modify it to be better or make it worse. The current study showed that dietary habits of government school children are quite different from private school children in many aspects. The factors that affect the dietary habits of children were parent's education and counselling, social media influence, awareness, accessibility, socio-economic differences, affordability, like dislike, cultural differences, religious beliefs and disbelieve.[0] The consumption of fruits, meat and junk food was more common amongst private school children whereas the intake of vegetables and trend of daily breakfast consumption was more prevalent amongst government school children. The financial condition was the major factor in such diverse changes in the percentages because the government sector students were mostly from a family with a lower income. The prevalence of junk in private school children was more because the hectic routine and schedule of parents made the diet of children to be built on convenience and takeout food as in junk.

Childhood is that period of life in which eating habits and dietary patterns are established, developed and it trail up into the adulthood. The intake of five food groups (dairy, fats and oil, fruits and vegetables, meat, poultry and seafood, grains, and cereals) were present in both groups. Their dietary habits diverge in the rates of food intake. So, enlightening the dietary habits of children either belonging to government school or private school is very important. The awareness of the significance of each food group and the recommendation about the alternatives to any such thing if not available is obligatory.

The causes of bad health or malnourishment are directly related to inadequate dietary intake and disease but indirectly related to many other factors, including childcare, and feeding, sanitation, and hygiene. Counseling should address these various factors to result in

sustainable change. We tried to make awareness through a lot of ways to make sure that the children are getting full nutrition in adequate amount. Their development of body and brain should go perfectly.

Recommendations

Based on the findings of the study, the following recommendations are made:

- Parents should be encouraged to seek counseling and education on proper nutrition for their children. They need to provide proper workshops about the diet of their children.
- Secondly, parents should educate about the negative impact of social media on their lives. They should be encouraged to have a healthy and balanced life style by developing good eating habits in them.
- Thirdly, awareness campaigns should be conducted in both the public and private schools to provide awareness among the students regarding their dietary habits and its impact on their lives.
- Lastly, the government should also make such policies and take initiatives that ensure access to affordable and nutritious food options for all the children of the country regardless of their ages and socio economic backgrounds.

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