



Using a positive deviance approach- To study the food and health related practices of rural and urban parents of children (6 – 19 years)

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ABSTRACT

Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. The concept of positive deviance is the comparison of certain children's performance with other children regarding their health, growth, and development in the family or in community.

Aim: To determine the food and health related positive practices of rural and urban parents for their children (6-19 years) by using positive deviance approach.

Methods: 129 parents were interviewed by using a semi-structured questionnaire in rural area of M.P i.e. Khetia and urban area of Gujarat i.e. Navsari.

Result: Out of 129, 55 children were normal, 45 were overweight and 29 were underweight. 117 of total subjects were

vegetarian and 12 were non-vegetarian. Total subject prefers to purchase fresh food and always check manufacturing and expiry date, quality, ingredient etc. Half of subject reads nutrition labels on food packets. Only 120 children consume milk products because 9 subjects were vegan. 96% children were interested in playing sports. All most all the mother use the home remedies for their children health except 5 mothers.

Conclusion: The majority of parents follow positive food and health related practices for their children as well as family's health. there was no significant difference were observed in following healthy practices between parents of normal weight as well as parents of underweight/overweight children.

Keywords: Positive deviance approach, Malnutrition, Healthy practices in children, Nutritional status of children.

Introduction:

One of the major serious issues in India is **Malnutrition**. The term malnutrition has no universally accepted definition and it has been used to define a deficiency, excess or imbalance of a wide range of nutrients, resulting in a measurable adverse effect on body composition function and clinical outcome (Saunders & Smith, 2010). Malnutrition commonly affects all groups in a community, but **infants and young children**

are the most vulnerable because of their high nutritional requirements for growth and development (Blössner et al., 2005). According to the modified UNICEF conceptual framework for child health and survival, there are 3 main practices that are important for child health and survival which are child feeding practices, child health practices and child caring practices. The concept of positive deviance is to know what these positive practices are and how the community can adapt them and such practices are

important for preschool and school children as well.

Positive Deviance:

Positive Deviance (PD) is a strength based approach to behavioral and social change based on observation where the community is having recognized deviants to find the behaviors, attitudes or beliefs that allow PD to be successful. However, in the field of nutrition, Positive Deviance can be specifically described as children identified in a survey, who deviate undoubtedly from the median of the target population, and fall within the range of normally nourished children in the global reference population (Sosanya et al., 2018). It assumes that problems can be overcome using solutions that already exist within the community. The objective of the PD approach is to ascertain successful uncommon behaviors of community members and to teach these behaviors to the whole community (Van Dick & Scheffel, n.d.). A common Intervention for child malnutrition, the so called "hearth" brings mothers together to practice new feeding and caring behaviors. Hearths probably work because they modify unmeasured Behavioral determinants and unmonitored behaviors, which in turn result in better child growth (Roche et al., 2017).

There is a difference between Positive Deviance approach and Positive Deviance concept where an approach means to solving community problems that focuses on positive deviance within the community, Whereas concept means in every community or organizations, there are few individuals who have found uncommon practices and behaviors that enable them to achieve better solutions to problems. (Pascale et al., 2010). Similarly Positive Deviant is a individual or group who demonstrates uncommon behavior and strategies that enables the person or group to overcome a problem without special resources whereas Positive Deviant behavior is an uncommon behavior practiced by a positive deviant that allows them to be more successful than their neighbors who have access to exactly the same resources (Garvin et al., 2019).

A study reviewed that, in the early 1990s, Sternin and his colleagues found that there is a 74% severe malnutrition is reduced among children (1-3 years). These children participated in the positive deviance programs. After 3 years of intervention, Mackintosh and their colleagues revisited some of these children in 1998. They found that the children who took part in the program had a better nutritional status, and not

only these children but also their younger siblings had a better nutritional status, who were born after achievement of the positive deviance program. Semi-structured interviews with mothers strongly suggested that the superior nutritional status of the younger siblings was due to better care from a younger age—improved practices that their mothers had learned during the program (Marsh et al., 2004).

Merits of Positive Deviance Approach:

The use of positive deviance approach has wide benefits-

- It serves equity.
- It introduces a generic approach for local problem-solving.
- Thirdly, positive deviance enhances local research capacity for controlling disease in relevant, affordable, sustainable ways.
- Lastly, the approach reveals at least partial solutions today to challenges rather than waiting for long-term development (Marsh et al., 2004).

Several positive practices for children which contribute to their dietary pattern are recognised to help children gain healthy weight and develop fitness. Some of these practices are –

Food Cooking Practices:

Food choices have an important impact on health. Preparation methods, including home cooking, are associated with food choices, and evidence suggests that home cooking may be linked to dietary and health benefits. (S. D. H. Mills et al., 2016) According to dietary guideline we have to keep some point in mind before cooking i.e. vegetables and fruits should be washed well before cooking, repeated washing of food grains like rice and pulses results in losses of certain minerals and vitamins, water in which the food grains and vegetables have been cooked soaked/should not be discarded but put to use to prevent nutrient loss, etc.

Food production:

Food production has modified to changing demographics; consumer preferences; ideas about health, social and economic conditions; environmental concerns; and advances in science and technology. Over time, food production has taken place and become highly complex. (Introduction - A Framework for Assessing Effects of the Food System - NCBI Bookshelf, n.d.)

Food Purchasing:

The most important stage of providing safe food for the home is by purchasing it. Before purchasing the food products, consumer's takes into account the important criteria such as taste, nutritional value, reliability, quality, price and convenience of food. Consumers gets unsure when gets too many choices as well as quality of products like which product to choose, how best to put money to use and how to provide healthy feeding. (Sanlier & Karakus, 2010). . Mothers are expert in purchasing the appropriate food and ingredients, in the accurate amounts and at the right time but sometime their behaviour and attitude is affects by media, children's demand, peer pressure etc.

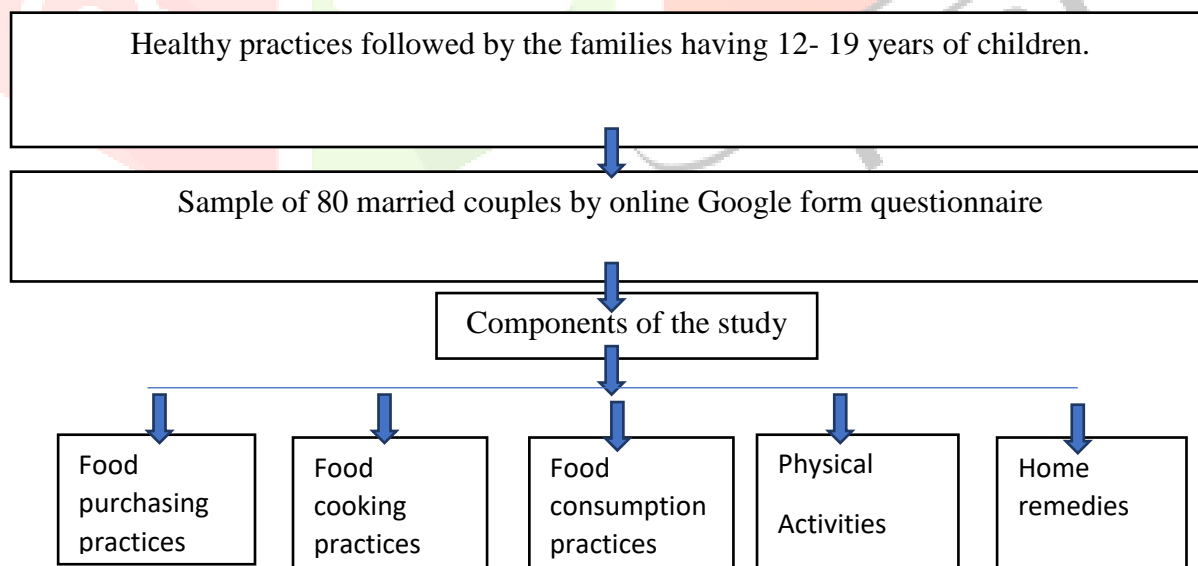
Physical Activity of Children:

Physical exercise is important for the physical, mental, and social well-being of children. WHO recommends that children should do workout at least 60 minutes per day. But Nowadays children become physically inactive because they mostly spend their leisure time watching TV, computer, playing video games etc.

Water, hygiene, and sanitation

Personal hygiene is very important for children. Proper knowledge and practices of personal hygiene play a critical role in avoiding

Research Design: This was an online descriptive study with following components:



Results and Discussion

Socioeconomic status -

The socioeconomic status contains the information about type of family, education and occupation of parents, religion and family income. The result of socioeconomic data shows that the 93% families follow Hinduism. 71 of total

communicable diseases and benefit primary school children to enjoy healthy and productive school life (Ghanim et al., 2016).

Methods and Materials

The main purpose behind designing this study was to survey on the healthy practices followed by the families having children in rural and urban areas of 6- 19 years using Positive Deviance Approach.

Research site – The present study was carried out in Khetia, a rural area of MP and Navsari district, an urban area of Gujarat. The reason behind choosing MP and Gujarat as a research site was the pandemic of COVID-19.

Sample selection – Parents having children (6-19 years) were selected for this study. Parents who gave their consent for participation after explaining the purpose of the study were included in the sample. Total sample size (N) is 129 parents having children. Due to the pandemic of COVID-19, it was difficult to interact with parents face to face. Therefore, the study was designed as an online interview. It was a descriptive study and the data collection was done by online Google questionnaire.

subjects lived with joint family, 53 subjects lived in nuclear family and 5 were extended. Out of 129 subjects only 4 mothers had completed post-graduation, 62 mothers completed graduation and remaining had primary and secondary schooling. Mostly mothers in this study were housewives, only 16 mothers were working women and they

work for 6-7 hours per day. The average annual income of most of the families was 1-5 lakh.

Nutritional status of children (6-19 years) -

A Table-1 represents the anthropometric data of children (6-19 years) of rural and urban area. The children were classified using the Z-scores of BMI-by-age WHO standard 2007. BMI is very

Underweight and overweight is higher in boys as compare to girls.

useful for the assessment of malnutrition among children and they were classified according to 3 categories i.e. Normal weight, underweight, and overweight or obese based on Z-scores. The data depicts that 55 children out of 129 were normal weight and 45 were either overweight or obese. It was observed that the prevalence of

Table-1: Nutritional status of children (6-19 years)

	Underweight		Normal		Overweight	
	N	%	N	%	N	%
Boys	16 (12.40)		27 (20.93)		29 (22.48)	
Girls	13 (10.08)		28 (21.70)		16 (12.40)	
Total	29 (22.48)		55 (42.63)		45 (34.88)	

WHO standard (2007) –

- UNDERWEIGHT = BMI for age is below -2SD
- NORMAL WEIGHT = BMI for age is equal or in-between -2SD to +2 SD
- OVERWEIGHT = BMI for age is above +2SD

The nutritional status of children is affected by various factors it could be socioeconomic status, personal hygiene, lack of knowledge etc. (Kanani and Jain, 2010) found that in Vadodara shows the sample size of 517 children where about one-third of the children were either thin or overweight and obese. Similarly, (Srivastava et al., 2012) found that the majority of the school-age children of the slum area had a poor nutritional status. This study also revealed that the risk of malnutrition was found to be slightly more in school-aged children who lived in a joint family, who had an uneducated mother or a working mother. On the other hand a study showed that the nutritional status of the school children in the Mandya district was found to be low especially concerning the high prevalence of anaemia, micronutrient deficiencies, and personal hygiene (Joseph, 2014).

Water, Sanitation and Hygiene –

Water, sanitation and hygiene play an important role in the maintenance of children health. The result of the study shows that almost all mothers and children wash their hands. All the mothers wash their hand before cooking, feeding their child, before serving food, after dusting and children wash their hand before eating, after using toilet and playing outside. It was also observed that parents encourage their children and gave knowledge about cleanliness practices.

Along with sanitation and hygiene, drinking clean water is also very important. 99 out of 129 families' uses RO water for drinking purpose whereas remaining families used boiled water, filtered water, or tap water. For children health governments had started a program "WASH" i.e. Water, Sanitation and Hygiene. WASH program has good effects on children health. (Alexander et al., 2013) found that Water, sanitation, and hygiene (WASH) programs in schools have been shown to improve the health of children and reduce the absence. (Dreibelbis et al., 2016) also found that initially only 4% of children (4 out of 114) were observed to wash both hands with soap after leaving the latrine. After two weeks of intervention, 74% (151 of 204) washed both hands with soap after leaving the latrine; and after 6 weeks, hand washing with soap remained high (74%; 164 of 222).

The Sustainable Development Goals (SDGs) implicitly highlight the need to expand WASH beyond household settings, in the effort to achieve universal and equitable access to safe and affordable drinking water, sanitation, and hygiene for all (McMichael, 2019). It may reduce the prevalence of under nutrition, Diarrhea, waterborne diseases and any other diseases.

Food purchasing practices –

117 out of 129 subjects were vegetarian from which 9 were vegan and 2 subjects were vegetarians but eats egg and 12 were non-vegetarian. Total subjects prefer to purchase fresh food because they believe that fresh food is much better than readymade and packed food. They usually buy vegetables, fruits, and groceries, dry fruits from local markets or from small shops. Sometime they also buy some pastries, pizza, food packets, and snacks on children's demand or for a change in taste. No significant difference was observed in demand of normal weight children, underweight children and overweight children for unhealthy foods.

According to the objectives of the study we observed that parents do follow the healthy practices for their children's as well as family's health. They always purchase fresh food for their family and before purchasing they always check manufacturing and expiry date, quality, ingredients, rate, brand name etc. vegetarian families see the A-marks on food packets to check that whether food item is veg. or non-veg. half of total subjects, read nutrition label on food and drink packets before purchasing. According to the data, we found that parents of undernourished and over nourished children are more concern for their child's nutrition than parents of normal weight children and always check nutrition label before purchasing food items. Some study shows some factors which influence the positive healthy practises of parents. (Neto & de Melo, 2013) concluded in their study that food product advertisements and promotion affected both parents' as well as children's buying choices, but that product characteristics such as flavour and quality of food had a greater impact than environmental stimuli. Flax et al., (2021) shows many mothers reported shopping for the meals their own circle of relatives likes and prioritizing children's' possibilities and additionally determined that mothers' knowledge of which food was healthy.

Dietary pattern and cooking practices –

The data shows that 99% children eat food that is made for their family but sometimes 95% mothers prepare some special food for their children which is healthy, fresh and nutritious. All subjects believe that fresh food especially homemade food is much better than outside food and canned food. Data also depicts that all the children consume green leafy vegetables, other vegetables, fruits, dry fruits and 120 children consume milk products daily because 9 subjects

were vegan hence they do not consume animal and milk products. It was observed that the consumption of fruits juice, cold drinks, and milk shakes was more in adolescents as compared to school age children. Non-vegetarian children also have all these items daily except non-veg food; they consume non-veg food occasionally. There is no significant different were observed in eating habits of normal weight children and underweight or overweight children.

World Health Organization Europe, 2006, showed that healthy nutrition improved the child's well-being and learning ability, leading to better academic performance. Evidence showed positive links between children who are well-nourished and improved learning, attendance, behaviour, and consequently child-teacher relationships.

(Ogum Alangea et al., 2018) identified Four Dietary Patterns (DP) that explained 53.2% of variation in the diets of children: (1) energy dense; (2) starchy root staple and vegetables; (3) cereal-grain staples and poultry; and (4) fish & seafoods. Energy dense DP characterised by processed meat, fried foods, and sugary foods was associated with child overweight/obese status and Starchy root with vegetable DP was negatively associated with overweight/obese status. (Craig et al., 2010) conducted a survey of sugar intake among Children in Scotland. 2 dietary patterns were identified in each age and sex group. 'Healthier' patterns loading highly for fruit and vegetables were significantly associated with higher socio-economic status and higher education levels of the main food provider whereas more 'unhealthy' patterns ('snacks' and 'puddings') were associated with lower socio-economic status and lower education levels of the main food provider. (Mills, Brown, et al., 2017) showed that more frequent consumption of home cooked meals was associated with greater likelihood of having normal range BMI and normal percentage body fat.

Physical activity –

According to the WHO, the physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure which includes walking, cycling, wheeling, sports, active recreation, and play, and can be done at any level of skill and for enjoyment by everybody. In this study 96% children were interested in playing sports and doing outdoor as well as indoor activities. Result shows that children of all categories are interested in playing sports. Mostly children play outdoor activity daily and spend more than 2 hours in playing.

Children plays outdoor activity such as cricket, hide and seek, cycling, football etc. They also like to do indoor activities such as drawing, playing board games, carom, watching TV etc. Parents play vital role in keeping children physically as well as mentally fit. In this study parents encourage their children and educate them the importance of physical activity.

(Craig et al., 2010)found that physical inactivity was inversely related to 'healthier' patterns in all age and sex groups and positively related to with 'puddings' and 'snacks' in girls aged 5 – 11 years and (Stoian et al., 2018)observed that boys are more overweight or obese than girls, because of unbalanced diet and highly caloric food had been preferable to healthy food and less physical activity. According to WHO, regular physical exercise, such as walking, swimming, wheeling, participating in athletics, or engaging in outdoor work, has many health benefits? It is preferable to engage in any physical exercise rather than doing none.

WHO recommends that children and adolescents 5-17 years

- Children should do at least an average of 60 minutes per day of physical activity, across the week.
- Should incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.
- Should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Home remedies –

Minor illnesses were usually treated in-home and community contexts (Anwar et al., 2015). The data show that 125 mothers used home remedies to treat common diseases such as cough, cold, fever, stomach-ache etc. For normal cough, cold and fever mothers use turmeric milk, kadha, ginger honey mix. Some mothers visited to Healthcare for diarrhoea, High fever, indigestion etc. while other mothers use lemon water, ORS water, and ajwain for same problems. For faster recovery they make light but nutritious food like Khichdi, daliya, soup, dal etc.

Normally mother gives a glass of plain milk or turmeric milk at bedtime every day. Because they know that turmeric is anti-inflammatory and anti-allergic in nature which helps to build immunity of their child.

(World Health Organization, 2010)Book shows the different home remedies to cure the common illness in children and adults. In this book, the author described the chemical formula, method of preparation, dosage, precautions, etc.

Conclusion –The majority of parents follow positive food and health related practices for their children as well as family's health. there was no significant difference were observed in following healthy practices between parents of normal weight as well as parents of underweight/overweight children. Since the study was in a limited area and limited sample size, future research with a larger sample size and research site for this topic is needed.

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