



Demographic Variables of Parent as Determinant of Practices of Nutritional Needs of Primary Schools Pupils in North Central, Nigeria

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Abstract

The study investigates the certain demographic variables of parent as determinant of practices of nutritional needs of primary schools pupils in North central, Nigeria. To achieve the stated objective, three (3) research questions and three (3) corresponding null hypotheses guided the study. Expo facto research design was used for the study. The population of the comprises of seven thousand eight hundred and fifty three (7,853) parents of primary school pupils in both public and private schools who are Parents' Teachers Association (PTA) members. Multistage sampling procedure was used to select 340 respondents from six primary schools in North central, Nigeria. Questionnaire was the instrument used for data collection. The reliability of the instrument was estimated using Cronbach's Alpha and a reliability Coefficient of 0.84 was obtained which was considered good enough. Data collected were analyzed using SPSS. Mean and standard deviation were used to answer all the research questions, while t-test statistics were used to test all the null hypotheses at a 0.05 level of significance. The findings of the study among others showed that; parents' level of education, income and marital status significantly influence the nutritional needs of preschoolers. Based on the findings, it was concluded that parents' level of education, income and marital status are necessary for the nutritional needs of preschoolers and recommendations were made.

Keywords: Nutrition, needs, parent, preschoolers

Introduction

Globally, nations that prioritize investments in children through high-quality education, robust security measures, quality childcare services, effective disease control, and sufficient nutrition are at the forefront of current developmental trends. Beyond governmental initiatives and financial commitments, families also play a pivotal role in shaping the well-being and survival of children. Consequently, the nutritional needs of primary school pupils vary, considering the specific contributions of various nutrients to tissue growth (Noland, Drisko & Wagner, 2020).

The essential nutritional requirements for pupils encompass energy-rich foods, proteins, carbohydrates, fats and oils, vitamins, minerals, and water. Energy-rich foods are vital for both growth and activity. Inadequate food intake not only leads to insufficient weight gain but also impedes overall growth. The development of muscle mass, integral to bone growth, necessitates a positive nitrogen balance achieved through a protein intake of 1.5 to 2g/kg of body weight. Additionally, the inclusion of fats and oils is crucial for the nutritional

needs of primary school pupils. Minerals, such as calcium, play an essential role in fortifying bones. Furthermore, pupils require various nutrients like vitamins to facilitate tissue growth and repair (Ibrahim, Gboluwaga, Iliyasu, and Jahun, 2019).

On the other hand, if these dietary requirements are not adequately satisfied, the kid may develop malnutrition or illnesses related to protein-energy deficiencies, which might have an impact on their performance in school. Thus, consuming food for growth and development is referred to as nutrition (Alemu, 2020). According to Ashwita, Jyoti, Rohini, Roja, Varsha, and Sarika (2018), nutrition is the study of how nutrients and other ingredients in food interact with an individual's maintenance, development, reproduction, health, and illness. Food intake, assimilation, absorption, biosynthesis, catabolism, and excretion are all included. What a person consumes is known as their diet. The availability and palatability of food determine this. Nutrition in the context of this study is defined as all the processes used by the child to

take in and to digest, absorb, transport, utilize and excrete food substances. The constituents of this food substance are called nutrients. There are two types of nutrients needed by any individual. These are the micro nutrients and the macro nutrients. Macro-nutrients are required in relatively large quantities while micronutrients are required in smaller quantities (Greger, 2019). When these nutrients are taken out of order, they lead to what is known as malnutrition. Malnutrition refers to insufficient, excessive, or imbalanced consumption of nutrients by an organism or individual. In developed countries, the diseases of malnutrition are most often associated with nutritional imbalances or excessive consumption.

In developing nations, malnutrition is often a consequence of limited access to a variety of nutritious foods or insufficient dietary practices (Govender, Rangiah, Kaswa & Nzaumvila, 2021). The proper balance of nutrients is crucial for children to maintain good health. According to Whitney and Rolfes (2015), nutritional equilibrium is a gradual process that begins from the earliest moments of life, even during the formation of the embryo in the mother's womb. Food plays a vital role in sustaining life, and the dietary choices of both children and adults impact their nutritional well-being and overall health. Therefore, the dietary and exercise habits established during developmental years significantly influence lifelong behaviors that contribute to proper development in later stages. Ensuring a child's readiness for cognitive transitions is facilitated by an adequate diet and nutritional patterns, with parental involvement being essential in the preparatory process for pupils (Achagh, W. I., Ezema, V. S., Ogundele, B. B., Ekele, C. B., Badamasi, A., Ashefor, H. A., ... & Ugwuanyi, C. S. (2020). A parent, whether biological or surrogate, serves as a caregiver for their offspring, influencing the child's development through family interactions. While biological parents contribute through the production of gametes, surrogate parents, who may not be biologically related, nurture and raise the offspring of others. In essence, parents are generally regarded as caregivers or caretakers.

Certainly, engaging in the responsibility of nurturing and looking after children constitutes parenting. The term "parenting" is defined as the ongoing process of fostering the physical, emotional, social, and intellectual growth of a child from infancy to adulthood, as outlined by Keya, Rahman, Nur, and Pasa (2020). The influence of parents on their children's future is profound, with the potential to shape or hinder

their paths in life. Breiner, Ford, and Gadsden (2016) emphasize that a primary parental role is addressing the child's biological needs, encompassing the provision of essential physical care such as proper nutrition, fresh air, adequate lighting, sufficient sleep, and recreational activities. The importance of considering economic factors in interventions aimed at improving nutrition-related behaviors among parents. Economic empowerment initiatives or support programs may be beneficial in this context (Cole, Kantor, Sarapura & Rajaratnam, 2015). Parents create an optimal environment by offering protection, education, guidance, direction, assistance, support, motivation, and more. Wang, Song & Wen, (2014) that parent often associates higher education levels with better awareness and understanding of health-related issues, including nutrition. Policymakers and educators may consider this information when designing interventions to improve nutritional practices among parents.

Consequently, parents must possess sufficient knowledge about children's nutritional requirements to enhance their learning, overall well-being, and cognitive preparedness. It is crucial for parents to adopt effective practices in raising their children. Practice is characterized as the execution of an exercise or activity following training or learning. It manifests as observable behavior, habits, or skills that are often carried out automatically, without conscious decision, in response to environmental stimuli, knowledge, or attitudes (Ghrayeb, 2023). In this context, practice pertains to the behaviors or approaches of parents in child-rearing that significantly influence a child's development. There exists a substantial correlation between specific practices and positive outcomes for children (Gadsden, Ford, & Breiner, 2016). Parenting practices, including aspects such as physical health and safety, emotional and behavioral competence, and cognitive competence, play a pivotal role in facilitating children's attainment of fundamental goals in school. Personal attributes of parents, such as their beliefs and efforts in providing children with proper nutrition, are typically linked to parental behavior and subsequent outcomes (Presseau, McCleary, Lorencatto, Patey, Grimshaw & Francis, 2019). Above all, parents require optimal nutritional practices to promote the growth and development of their children.

The finest dietary practices are vital for children since they support their growth and development. According to Dovey, Kumari, and Blissett (2019), a lot of parents do not provide their kids with the proper nutrients. Children may be more likely

to like and eat healthy meals if their parents model good eating habits and provide them, especially if they are frequently hesitant to try new foods (Elliott, 2023). The observational data that is now available usually demonstrates that parents are crucial role models for their children's dietary behaviors and that children's nutritional intake, especially their consumption of fruits and vegetables, is related to the food alternatives accessible in the household (Bassul, Corish & Kearney, 2020). The demographics of parents may have an impact on parenting practices. The study of population statistics in connection to certain human characteristics is known as demography. Demography, according to Sheth and Angert (2018), is the study of a population's essential and quantifiable statistics. Age, gender, marital status, family size, life cycle of the family, income, occupation, education, religion, race, generation, nationality, and social class are examples of demographic factors (Yadav, Thapa, Mistry, Pokhrel & Harris, 2020).

Demographic determinants encompass demographic characteristics of a population, including age, gender, educational attainment, income level, marital status, occupation, religion, birth rate, death rate, average family size, and average age at marriage (Kanmiki, E. W., Awoonor-Williams, J. K., Phillips, J. F., Kachur, S. P., Achana, S. F., Akazili, J., & Bawah, A. A. (2019). These demographic factors are utilized to characterize a population based on its size, distribution, and structure. Size refers to the total number of individuals in a population, while structure delineates the population in terms of age, income, education, and occupation. Population distribution pertains to the arrangement of individuals in terms of geographic regions and whether they reside in rural, urban, or suburban areas. Kanmiki et al. (2019) further emphasize that each of these variables has the potential to impact parents' understanding, practices related to nutritional needs, and the cognitive readiness of their children. Parental demographic variables such as parents' level of education, marital status and income were investigated to determine the extent they influence parents' practice of nutritional needs of primary school pupils. The reason for the choice of these demographic variables considered was that in the North Central, majority of the people share similar demographic characteristics like religion, culture, gender and so on. However there was a perceived gap in parents' level of education, marital status and income and these variables seemed to influence parents' practices of children's nutritional needs.

To ensure that all school children receive the same quality of food, the Nigerian federal government implemented school feeding programs for primary schools throughout the nation. Nevertheless, this fantastic intervention appears to be limited, as only a small number of schools in each Local Government Area were used as demonstration schools to test the program's efficacy, and many public and private schools are still not part of the intervention program. Although they are few, school feeding is also not practiced by many private preschools. Consequently, most parents in North Central Nigeria, who may or may not have children attending the same school, offer their children food from home that is cooked differently for school. These parents' levels of education, marital status, and income status.

Furthermore, the researcher noted that certain foods provided for children to take to school often have excessive amounts of sugar, fat, or an over-concentration of specific nutrients. Some parents maintain a consistent diet for their children throughout the week, and this dietary pattern may contribute to issues like obesity and fatigue during class. Particularly concerning are those students who endure hunger or an empty stomach throughout the entire school day. The subpar quality of school feeding practices in North Central primary schools prompted the necessity for this investigation. As a result, the overriding interest of the current study was to investigate the demographic variables such parents level of education, income and marital status as determinant of practices of nutritional needs of primary schools pupils in North Central, Nigeria.

Research Questions

The following research questions guided the study:

1. What is the influence of parents' level of education on practice of nutritional needs of primary school pupils in North central Nigeria?
2. What is the influence of parents' income on practices towards nutritional needs of primary school pupils in North central Nigeria?
3. What is the influence of parents' marital status on practices towards nutritional needs of primary school pupils in North central Nigeria?

Hypotheses

The following null hypotheses guided the study and were tested at a 0.05 level of significance.

- H0₁:** There is no significant influence of parents' level of education on practice of nutritional needs of primary school pupils in North central Nigeria.
- H0₂:** There is no significant influence of parents' income on practices towards nutritional needs of primary school pupils in North central Nigeria.
- H0₃:** There is no significant influence of parents' marital status on practices towards nutritional needs of primary school pupils in North central Nigeria.

Methods

The study adopted an ex post facto research design. This design was adopted because the researcher worked with variables that already existed before the research. These variables were not manipulated by the researcher. Again, the researcher was interested in establishing the demographic variables of parent as determinant of practices of nutritional needs of primary schools pupils. The study was carried out in six (6) primary schools across three (3) states in North central, Nigeria. The North central was chosen because it is one of the regions in the federation with high number of primary schools that take care of pupils with observed backwardness in educational facilities and proper implementation of federal government school feeding programme.

The population of the study was 7,853 parents who are members of Parents' Teachers Association (PTA) in both public and private primary schools in North central, Nigeria. The sample for the study consisted 381 parents of primary school pupils. The sample size was determined using Taro Yamane's formula. Multiple stage sampling procedure was used in drawing the sample. Questionnaire was the

instrument used for data collection process. The instrument was validated by three experts (two experts in the Childhood Education, Department of Educational Foundations and one expert in Measurement and Evaluation Unit, in Science Education Department), Faculty of Education, University of Nigeria, Nsukka. Estimate of internal consistency was used to determine the reliability of the instruments.

Specifically, Cronbach's Alpha was used to estimate the reliability Coefficient and 0.74 was obtained. The researcher and six research assistants, who were briefed, administered the instrument. The researcher and the research assistants administered 381 copies of the instrument to the respondents and collect same after completion at PTA meetings and it lasted for a period. Mean and standard deviation were used to answer all the research questions and independent sample t-test were use to test the hypotheses at 0.05 level of significance.

Results

The result in Table 1 shows the mean responses and standard deviations of the influence of parents' level of education on their knowledge of the nutritional needs of preschoolers. The result shows that respondents with First degree & above had a mean response of ($\bar{x} = 3.08$, $SD = 0.72$) while those with NCE and below had a mean of ($\bar{x} = 2.79$, $SD = 0.88$). The mean response for respondents with First degree and above is slightly higher than that of their counterparts with NCE and below. This is indicative that parents' level of education may influence their knowledge of the nutritional needs of preschoolers in favour of those with First degree and above.

Table 1: t-test analysis of the influence of parents' level of education on their knowledge of the nutritional needs of preschoolers

Parents' Level of Education	N	Mean	Std. Deviation	t-val	df	Sig	Dec
First degree & above	244	3.08	0.72	3.477	379	0.001	S
NCE & below	137	2.79	0.88				

Key: df = degree of freedom, Sig. = Significant level/Exact probability value, Dec. = Decision, S = Significant

The result in Table 1 shows the t-test analysis of the influence of parents' level of education on their knowledge of the nutritional needs of preschoolers. The result shows that a t-value of 3.477 with a degree of freedom of 379 and an exact probability value of 0.00 were obtained. Since the exact probability value of 0.00

was less than the 0.05 set as the level of significance for testing the hypothesis, this depicts that the result was significant. For this reason, the null hypothesis was rejected. The inference drawn was that there was a significant influence of parents' level of education on

their knowledge of the nutritional needs of preschoolers.

The result in Table 2 shows the mean responses and standard deviations of the influence of parents' income on practices towards the nutritional needs of primary school pupils. The result shows that respondents with NGN51,000 & above had a mean

response of ($\bar{x} = 3.12$, $SD = 0.87$) while those with NGN50,000 & below had a mean of ($\bar{x} = 2.75$, $SD = 0.69$). The mean response for respondents with NGN51,000 & above is higher than that of their counterparts with NGN50,000 & below. This is indicative that parents' income influences their practices towards the nutritional needs of primary school pupils in favour of those with NGN51,000 & above.

Table 2: t-test analysis of the influence of parents' income on their practices towards the nutritional needs of primary school pupils

Parents' Level of Education	N	Mean	Std. Deviation	t-val	df	Sig	Dec
NGN51,000 & above	185	3.12	0.87	4.612	379	0.00	S
NGN50,000 & below	196	2.75	0.69				

Key: df = degree of freedom, Sig. = Significant level/Exact probability value, Dec. = Decision, S = Significant

The result in Table 2 shows the t-test analysis of the influence of parents' income on practices towards the nutritional needs of primary school pupils. The result shows that a t-value of 4.612 with a degree of freedom of 398 and an exact probability value of 0.00 were obtained. Since the exact probability value of 0.00 was less than the 0.05 set as the level of significance for testing the hypothesis, this depicts that the result was significant. For this reason, the null hypothesis was rejected. The inference drawn was that there was a significant influence of parents' income on practices towards the nutritional needs of primary school pupils.

The result in Table 3 shows the mean responses and standard deviations of the influence of parents' marital status on practices towards the nutritional needs of primary school pupils. The result shows that respondents who are married had a mean response of ($\bar{x} = 3.03$, $SD = 0.73$) while those who are divorced/separated had a mean of ($\bar{x} = 2.84$, $SD = 0.96$). The mean response for respondents who are married is higher than that of their counterparts who are divorced/separated. This is indicative that parents' marital status influenced the practices towards the nutritional needs of primary school pupils in favour of those who are married.

Table 3: t-test analysis of the influence of parents' marital status on practices towards nutritional needs of primary school pupils

Parents' Level of Education	N	Mean	Std. Deviation	t-val	df	Sig	Dec
Married	287	3.03	0.73	2.017	398	0.044	S
Divorce/separated	94	2.84	0.96				

Key: df = degree of freedom, Sig. = Significant level/Exact probability value, Dec. = Decision, S = Significant

The result in Table 3 shows the t-test analysis of the influence of parents' marital status on practices towards the nutritional needs of primary school pupils. The result shows that a t-value of 2.017 with a degree of freedom of 379 and an exact probability value of 0.04 were obtained. Since the exact probability value of 0.04 was less than the 0.05 set as the level of significance for testing the hypothesis, this depicts that the result was

significant. For this reason, the null hypothesis was rejected. The inference drawn was that there was a significant influence of parents' marital status on practices towards the nutritional needs of primary school pupils.

Discussion

The findings from the study provide valuable insights into the influence of parents' level of education, income, and marital status on their practices related to the nutritional needs of primary school pupils in North Central Nigeria.

Table 1 discussed the influence of parents' level of education on the practice of nutritional needs of primary school pupils in North Central Nigeria. The t-test analysis reveals a significant influence of parents' level of education on their knowledge of the nutritional needs of preschoolers. Specifically, parents with a First degree and above demonstrated a slightly higher mean response compared to those with NCE and below. The t-value of 3.477 with a probability value of 0.001 indicates that this difference is statistically significant. The rejection of the null hypothesis suggests that parents' level of education does have a significant impact on their knowledge of nutritional needs.

This finding aligns with the study of Wang, Song & Wen, (2014) that parent often associates higher education levels with better awareness and understanding of health-related issues, including nutrition. Policymakers and educators may consider this information when designing interventions to improve nutritional practices among parents.

The study in table 2 discussed the influence of parents' income on practices towards the nutritional needs of primary school pupils in North Central Nigeria. The t-test analysis indicates a significant influence of parents' income on their practices related to the nutritional needs of primary school pupils. Parents with an income of NGN51,000 and above showed a higher mean response compared to those with NGN50,000 and below. The t-value of 4.612 with a probability value of 0.00 suggests that this difference is statistically significant. The rejection of the null hypothesis implies that parents' income significantly influences their practices regarding the nutritional needs of primary school pupils. This finding is in line with the study of Cole, Kantor, Sarapura & Rajaratnam, (2015) who posit that the importance of considering economic factors in interventions aimed at improving nutrition-related behaviors among parents. Economic empowerment initiatives or support programs may be beneficial in this context.

Table 3 discussed the influence of parents' marital status on practices towards the nutritional needs of primary school pupils in North Central Nigeria. The t-test analysis suggests a significant influence of parents' marital status on their practices related to the nutritional

needs of primary school pupils. Married parents demonstrated a higher mean response compared to those who are divorced or separated. The t-value of 2.017 with a probability value of 0.044 indicates that this difference is statistically significant. The rejection of the null hypothesis implies that parents' marital status does have a significant impact on their practices concerning the nutritional needs of primary school pupils. This finding may have implications on the study of Lloyd, (2016) which states that family support structures and could inform targeted interventions for parents based on their marital status.

Conclusion

Parents with a higher level of education (First degree and above) demonstrated a significantly higher knowledge of the nutritional needs of primary school pupils compared to those with lower education levels. Similarly parents with a higher income exhibited significantly better practices towards the nutritional needs of primary school pupils compared to those with lower incomes. In addition, married parents showed better practices of nutritional needs of primary school pupils compared to parents who were divorced or single parents. The potential role of family stability and support structures influence nutritional practices of preschooler. The need for interventions of the family is dynamic. Ultimately, the study highlights the significance of demographic variables, specifically parents education attainment, income, and marital status, in influencing practices related to the nutritional needs of primary school pupils in North Central Nigeria. Recognizing and addressing these demographic factors are crucial for the development and implementation of effective policies and interventions aimed at improving child nutrition in the region.

Recommendations

Based on the conclusions drawn from the study on the demographic variables of parents as determinants of practices related to the nutritional needs of primary school pupils in North Central Nigeria, the following recommendations can be made:

1. Implement targeted educational programs for parents, especially those with lower educational levels. These programs should focus on enhancing their knowledge and practices of the nutritional needs of primary school pupils. Workshops, seminars, and community-based

initiatives can be effective in conveying essential information.

2. Develop and support economic empowerment initiatives for parents with lower income levels. These programs could include skill development, job creation, and financial literacy training, aiming to improve overall household income and subsequently influence better nutritional practices.
3. Design interventions that recognize and leverage the influence of marital status on nutritional practices. Family-oriented support programs could include counseling services, parenting workshops, and community-based activities that strengthen family stability and support structures.
4. Collaborate with educational institutions to incorporate nutrition education into school curricula. This can contribute to not only raising awareness among parents but also instilling healthy eating habits in primary school pupils. Schools can serve as platforms for disseminating nutritional information to families.
5. Advocate for and implement policies that address socio-economic disparities and support families in meeting the nutritional needs of their children. This may include policies related to income inequality, access to education, and social welfare programs.

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Author's Contribution

The sole author carried out the sponsored research. Designed the methodology, analysed and interpreted the results and, prepared the manuscript.