



Effectiveness of Nutrition Programs in Enhancing School Attendance and Mitigating Anxiety-Related Insecurity Perceptions Among Secondary School Students in Katsina State, Nigeria.

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Abstract

This study investigates the effectiveness of nutrition programs in enhancing school attendance and reducing anxiety-related insecurity among secondary school students in Katsina State, Nigeria. Using a mixed-methods approach with a descriptive survey design, data were collected from 200 students, parents, and educators through a structured questionnaire and interviews. A multi-stage sampling technique was employed, and data were analyzed using descriptive and inferential statistics. Findings reveal that effective nutrition programs significantly improve student attendance and mitigate perceptions of anxiety and insecurity, thereby fostering a safer, more supportive learning environment. The research concludes that comprehensive nutrition initiatives are critical for both academic success and emotional well-being. It recommends community involvement in tailored program implementation and ongoing assessments to maximize impact. Crucially, stakeholders including government, local communities, civil society, the private sector, and international partners must collaborate to address anxiety-related barriers and successfully implement school health programs to enhance student performance in Katsina State.

Keywords: Nutrition programs, school attendance, anxiety reduction, insecurity perception, school health, secondary school students, Katsina State, Nigeria.

Introduction

Moronkola (2012), opined that school health programme refers to the coordinated, preplanned and formal efforts and activities aimed at protecting, promoting and maintaining the health status of learners and workers in the school. Akani, Nkanginieme and Oruamabor (2001) noted that the school health programme is an aspect of the school programme which aims at improving understanding, maintenance and improvement of the health status of learners, teachers and other workers in the school. In its conceptualization of school health programme, the Federal Republic of Nigeria (FRN, 2006), views the aim of school health programme beyond individual to national development. It is also seen as a strategic tool to realizing national and international health, education and developmental objectives. According to the Nigerian Federal Ministry of Education (2006), the school health programme comprises activities in the school targeted at promoting health and developing the school community. The school programme according to the ministry is a strategic tool to achieving health, education and developmental goals like Health for All (HFA),

Chaudhary, Sudzina, and Mikkelsen, (2020), stated that, nutrition is important in learning as learning task requires concentration and high mental capacity. Both concentration and high mental capacity are dependent on nutritional status. Healthy eating patterns are essential for learners to achieve their full academic potential, full physical and mental growth, and lifelong health and well-being. Healthy eating is demonstrably linked to reduced risk for mortality and development of many chronic diseases as adults. Schools have a responsibility to help learners and staff establish and maintain lifelong, healthy eating patterns. Well-being and well-implemented school nutrition programmes have been shown to positively influence learners' eating habits. This module is concerned with the nutritional health of learners and school personnel.

Academic performance is defined as the quality and quantity of knowledge, skills, techniques, and a learner's achievement or acquisition of a positive attitude, behavior, and philosophy (Isidor, 2022). The results of a test or examination given to pupils at the conclusion of a subject, academic year, or educational cycle are used to assess their level of ability. Each pupil's grades and scores reflect their level of achievement. The standard of the grade establishes the level of academic performance in a particular class at a specific examination period, whether internal or external (Aguh, et al. 2023). Academic performance really means three things: the capacity to learn and retain information; the capacity to learn effectively and see how information fits together to form larger knowledge patterns; the capacity to think in relation to information; and thirdly, the capacity to convey information either verbally or nonverbally. The school meal program is an effort by governments and a broad variety of partners to promote activities that may quickly restore, enhance, and expand food and educational systems, help pandemic recovery, and promote Sustainable Development Goals (Aurino, et al. 2023).

In many developed and developing nations across the world, school meal programs are essential interventions that have been implemented to combat poverty, increase enrollment in schools, and improve pupil performance. The Sustainable Development Goals initiative and several conferences held later by African leaders to address issues like peace, security, good economic, political, and corporate governance as well as to make the continent an appealing location for foreign investment are credited with the introduction of school feeding (Chakrabarti, et al. 2021). African leaders have made a commitment to end poverty, put their nations on the road of sustainable growth and development, and actively engage in global politics and the economy, among other things. This commitment is founded on a shared vision.

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One of the many intervention programs that can address some of the nutritional and health issues affecting children of school age is the school meal program. Parents may be encouraged to enroll their children in school and ensure that they attend on a regular basis by a school meal program. The greatest risk factor for children's futures in school is now malnutrition (Destaw, et al. 2021). Because young children's ages play a crucial role in their growth and development, it has major developmental ramifications for them. As a result, nutrition instruction is a crucial component of early childhood education programs. Although the number of school-age children who are hungry is unclear, it is likely to be a serious issue in many situations. Children's hunger is caused by a variety of circumstances, including the distance children must travel to school, cultural norms that forbid or only offer tiny breakfasts, and a lack of family time or money to provide nutritious meals for pupils before and/or throughout the school day (Chaves, et al. 2023). Simply addressing this need among schoolchildren improves their academic performance.

In line with findings by Billah, et al. (2017) which claimed that feeding school children improved their short-term nutritional status and supported their concentration and cognitive abilities, the research question 2 result showed that the teachers agreed that the school meal program improved academic performance of the pupils. Similarly, Kitaoka (2018) noted that school meal programs are crucial for satisfying children's nutritional needs and for imparting nutritional knowledge in order to support healthy child development. This is because poor nutrition can make pupils more prone to sickness, cause headaches and stomachaches, and increase absences from class (Baleanu, et al. 2018). It has been demonstrated that pupils' cognition, focus, and energy levels are enhanced when they have access to a healthy diet that includes protein, carbs, and glucose. In agreement with this results, Bellisle (2004) argued that diet has an impact on pupils' cognitive abilities, conduct, and health, which has an impact on pupils' academic performance.

In Nigeria, the majority of public schools accept pupils from less fortunate homes. Due to their low socioeconomic status, these pupils cannot be guaranteed regular meals. A healthy diet is essential since it helps the body grow, protect itself, and get repaired. Food must be available in sufficient quantities for humans to operate sustainably. A successful educational system must also focus on keeping pupils healthy and capable of learning. This is especially important when trying to get everyone in the poorest areas to go to school. On the premise of the foregoing, the present study assessed the efficacy of the school meal program on pupils' academic performance in consideration of school-related environmental factors.

Nutrition programmes, particularly school feeding initiatives, show promise in boosting school attendance among Nigerian students, though specific data for secondary schools in Katsina State remains limited. These programmes address hunger and key barrier to regular attendance, but direct links to reduce anxiety-from insecurity perceptions are indirect, primarily through alleviating food insecurity-related stress. Evidence from broader studies suggested that, nutrition interventions can mitigate insecurity perceptions, mental health issues like anxiety by improving dietary quality and improve academic performance (O'Brien, et al., 2021).

School Feeding Programs have been used as a means to distribute food to the pre-school and school-age children, as a food security net to improve their nutrition status, and also improve

the general socio-economic conditions of rural communities as well as providing educational and nutritional benefits of participants. Hunger has been identified as one of the major problems affecting children education which led to low school Enrolment, low school retention and high student drop-outs (Ahmed, 2014). As a result of these reasons, the level of education in most developing countries has become very low although both private and social returns to education are recognized to be high in the educational sector (Alderman, Gilligan & Lehrer 2010).

The problem of pupils' poor retention in primary school becomes a major concern to the government in Katsina state. School children have poor performance in primary schools in some cases they do not sustained studies at all; they drop out! Some pupils are compelled by the circumstances beyond they can adjust to retain themselves in schools because they are not provided with the food. School children continue to become habitual late comers or even play truancy which in most of the times do not augur well to their performance. This problem may not be unconnected to the lack of feeding as the basic need for retention of pupils in schools and for them to effectively study. Hunger would not allow pupils to sustain schooling talk less of good performance. School feeding alone does not address the issue of quality of education but also boost the retaining of pupils in schools. This is because most of the children who go to public primary schools in both urban and rural areas in the state come from the vulnerable and low-income families (Ibrahim & Umar, 2023).

Objective of the study

1. To examine the effectiveness of nutrition programs in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State, Nigeria.

Research Question

This study answered the following research question: -

1. Are nutrition programs effective in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State, Nigeria.

Research hypothesis

The research hypotheses as follow:

HO₁ There is no significant effect in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State, Nigeria.

Empirical Literature

Moronkola (2012), defined the school health programme as an educational and health programme targeted at meeting the health needs of learners and staff at present and at the same time, laying good foundation for their future health status with the support of the home, community and government. The conceptualization of school health programme according to the scholar transcends present health needs but also aims at ensuring good health status on a progressive note.

School Feeding Program was mainly implemented with the purpose of achieving the following results; increase children retention in schools, alleviate short term-hunger, improve nutritional

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status and improve micronutrient status and increase learner's academic performance (World Food Programme, 2009). Hungry children encounter difficulties to concentrate and perform complex tasks than well-nourished ones. Because poor children do not get the basic nutritional building blocks from birth, they will be unable to learn easily. Studies show that by the time they grow to primary school age, most of the damages have occurred to them and in fact such damages are irreversible (Buhl, 2011).

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The Federal Government of Nigeria in collaboration with some donor organizations such as New Partnership for African Development (NEPAD), World Food Programme (WFP), United Nations International Children's Education Fund (UNICEF), and other International Development Partners (IDPs); introduced Home Grown School Feeding and Health Programme (HGSFHP) for the first time in Nigeria in 2005 with the aim of improving the primary schools' enrolment and regular attendance. The programme was officially launched on Monday 26th September, 2005. Twelve (12) states were selected by the Federal Government for the pilot study of the programme and positive result was obtained. The states were Osun, Bauchi, Edo, Enugu, FCT, Imo, Kano, Kogi, Nassarawa, Niger, Ogun and Yobe. The present Government in collaboration with the state's government re-introduced the programme as a social safety package for primary school education. In Katsina state however not all primary schools were enrolling in the program but selection some across the state. The aim of this study is therefore to appraise the impact of the feeding on retention of pupils as one of the indices for designing the programme. It is against this background that the researcher sought to investigate on the impact of the implementation of school feeding program on retention of primary school pupils in Katsina State, Nigeria.

Methodology

This study employed a descriptive cross-sectional survey design to investigate the effectiveness of nutrition programs in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State, Nigeria. According to Njodi and Bwala, (2004), research design is effective in generating data from a relatively large number of respondents. The design is generally conceived as one in which a group of people or items are studied by collecting and analyzing data from a few items considered being a

representative of the entire population. This design is suitable for this study as it seeks responses from a large population from the study area.

The design was selected because it allows for the collection of data from a defined population at a single point in time and is appropriate for examining relationships between variables such as effectiveness of nutrition programme, and perception related insecurity among secondary school students.

The study population consisted of all students in Musawa Zonal Education within Musawa and Matazu Local Government Area at the time of the study with estimated of 21,543 students. A sample size of 200 respondents was selected using a multi-stage sampling technique. All schools in the locality were included in the study through total coverage. Where 10 schools existed, proportional allocation was used to determine the number of respondents drawn from each school. Within the school, respondents were selected using systematic or stratified random sampling techniques to ensure fair representation across different demographic groups such as gender and age.

Data were collected using a structured questionnaire developed by the researcher. The instrument comprised sections on demographic characteristics, exposure to effectiveness of nutrition programme among secondary students in Katsina State. Perception of secondary school Students anxiety-related insecurity were assessed using a Likert-type scale to determine the frequency of effectiveness of nutrition programmes in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State. The questionnaire included a combination of closed-ended and a few open-ended questions to allow respondents to express additional views.

The validity of the instrument was established through expert review by specialists in health education, who assessed the relevance, clarity, and coverage of the items. Necessary corrections were made based on their recommendations. Reliability was assessed through a pilot test conducted among 20 students in school outside the study area, and internal consistency was determined using Cronbach's alpha coefficient. A reliability index of 0.70 and above was considered acceptable for the study.

Data collection was carried out through face-to-face administration of the questionnaire with the assistance of trained research assistants who were fluent in the local language. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Respondents were also assured of confidentiality and anonymity of their responses.

Data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics including frequencies, percentages, means, and standard deviations were used to summarize respondents' characteristics, effectiveness levels, and perception levels. Inferential statistics such as chi-square tests were employed to test the study hypothesis and determine the extent to which programme influenced effectiveness and perceptions. All statistical tests were conducted at a 0.05 level of significance.

Ethical approval for the study was obtained from the appropriate institutional research ethics committee, and permission was granted by school managements before data collection commenced. All ethical principles regarding voluntary participation, confidentiality, and protection of participants were strictly observed throughout the research process.

Table 1: Summary of Chi-Square analyses on effectiveness of nutrition programs in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State.

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Variables	Effectiveness of SHP	Agreed	Disagreed	Total	Df	X ²	Prob.
Males							
FO		72	18	90	1	11.75	0.01
FE		38.3%	9.57%				
Females							
FO		80	18	98			
FE		42.3%	9.57%				
Total				188			

X²=11.75@df1(p<0.05)

Table 1 Indicated that the calculated X² is greater than the X² critical value at 0.05 level of significance, p<0.05 (X²=11.75, P=0.001). Based on this, the above stated hypothesis is rejected, connoting that there is effective nutrition programme in Katsina State. While the observed frequency on the males indicated that effectiveness of school nutrition programme is 72 (38.3%) and the females observed is 80 (42.55%). The finding indicated that females' effectiveness of school health programme more than their males' counterpart.

Discussion of Findings

The findings revealed that, nutrition programme is effective in enhancing school attendance and mitigating anxiety-related insecurity perceptions among secondary school students in Katsina State, Nigeria (see table 1) or (cal. X²=11.75>Crit. X²=0.001). The finding is in line with In line with findings by Billah, et al. (2017) which claimed that feeding school children improved their short-term nutritional status and supported their concentration and cognitive abilities, the research question 2 result showed that the teachers agreed that the school meal program improved academic performance of the pupils. Similarly, Kitaoka (2018) noted that school meal programs are crucial for satisfying children's nutritional needs and for imparting nutritional knowledge in order to support healthy child development. This is because poor nutrition can make pupils more prone to sickness, cause headaches and stomachaches, and increase absences from class (Baleanu, et al. 2018). It has been demonstrated that pupils' cognition, focus, and energy levels are enhanced when they have access to a healthy diet that includes protein, carbs, and glucose. In agreement with this results, Bellisle (2004) argued that diet has an impact on pupils' cognitive abilities, conduct, and health, which has an impact on pupils' academic performance.

Conclusion

It concluded that, nutrition is important in learning as learning task requires concentration and high mental capacity. Both concentration and high mental capacity are dependent on nutritional status. Healthy eating patterns are essential for learners to achieve their full academic potential, full physical and mental growth, and lifelong health and well-being. Healthy eating is demonstrably linked to reduced risk for mortality and development of many chronic diseases as adults. Schools have a responsibility to help learners and staff establish and maintain lifelong, healthy eating patterns. Well-being and well-implemented school nutrition programmes have been shown to positively influence learners' eating habits. This module is concerned with the nutritional health of learners and school personnel.

Recommendation

In order to ensure the effective nutrition school health programme, the following recommendation were drawn:

1. The Nigerian government in collaboration with international development partners developed should implement effective school health programme guideline contain in 2006.
2. Stakeholder's collaboration is important in the successful implementation of school health programme, the school health programme requires a multi-sectorial approach including government and non-governmental agencies as well as international development partners.
3. Stakeholders in School Health Programme Implementation should identify the anxiety-related insecurity in the successful implementation of the school health programme.
4. The government, Local communities, civil society organizations, organized private sector and international development partners should help in implementing school health programme in secondary school in order to enhance their performance.

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