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# Feeding Challenges of Children with Disabilities in Special Needs Education Centres in Port Harcourt, Rivers State

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**Abstract**
The study assessed the nutritional challenges of children with disability in special needs education centres in Port-Harcourt, Rivers State. The study adopted a Research and Development (R&D) design with an experimental laboratory approach. The research was carried out in two selected centres in Port-Harcourt, involving 30 participants drawn from a total population of 101. Data were collected through direct observation of meals, laboratory analysis of food samples, review of health records, and interviews with caregivers/teachers and health staff. The study developed three nutrient-rich meals using local ingredients and tested for nutrient content. Data were analysed using descriptive statistics and ANOVA. The results of the study showed that carbohydrate-based meals and mixed dishes were the most frequently served foods across all disability categories, while fruits and vegetables were the least served. Laboratory analysis revealed that commonly served meals such as pap and custard were low in protein and micronutrients, whereas yam with egg sauce and beans porridge had higher nutritional value. Nutrition-related diseases such as iron-deficiency anaemia (36.7%), protein-energy malnutrition (28.3%), and rickets (21.7%) were prevalent. Feeding challenges included difficulty chewing (M = 3.40) and swallowing (M = 3.35), with limited caregiver training and lack of specialized tools noted. Nutrient-rich foods were developed to address deficiencies, with vegetable-fish porridge providing the highest protein (10.2g) and iron (5.8mg), and mashed sweet potato and egg purée offering the highest vitamin A (480µg). ANOVA results showed significant differences ($p < 0.05$) in types of foods, nutrient composition, disease prevalence, and feeding challenges across disability types and centres, supporting the need for targeted dietary interventions. It was recommended that the newly developed nutrient-rich foods should be incorporated into school menus. The local ingredients used can make the meals cost-effective and culturally acceptable while improving the children's health outcomes.

**Keywords:** Feeding Challenges; Children; Disabilities; Special Need

## Introduction

Children require adequate nutrition during childhood and adolescence to support growth, body composition, healthy development, and reduce future disease risk (Mela, 2021). As Olusanya (2020) notes, nutrient needs rise steadily through childhood and again during adolescence, driven by rapid physical growth. However, when nutritional intake is too low or too high, over time it can lead to malnutrition or obesity (World Health Organization [WHO], 2023). Malnutrition, according to WHO (2023), develops when a person's diet is either deficient or excessive, causing health problems. This issue is particularly serious for children with disabilities, who may already face health and developmental challenges due to their condition (Tuzun et al., 2023). Disability can be physical, sensory, cognitive, or developmental (WHO, 2023), and these impairments often affect feeding ability. For instance, children with cerebral palsy may struggle to swallow or chew properly, while children with autism may reject certain food textures or colours (Groce et al., 2021). These difficulties are often compounded by a lack of caregiver knowledge and absence of specially designed utensils or meal plans. Adams et al. (2022) explain that caregivers often face time constraints during mealtimes, which can reduce feeding to less than two minutes per child (Lumos, 2023), further impairing nutritional intake.

In many special needs' centres in Port Harcourt, Rivers State, it was observed that meals are often determined by availability, not nutritional value. During visits, some children were seen eating only bread, a carbohydrate-rich but


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nutrient-poor meal that can lead to deficiencies in protein, vitamins, and minerals. This practice ignores the diverse and increased nutritional needs of children with disabilities and may worsen conditions like anaemia, rickets, protein-energy malnutrition, or poor cognitive development. Children with physical disabilities such as cerebral palsy often need more help at meals, but centres lack trained staff and adaptive feeding tools. Children with Down syndrome are at higher risk of choking or pneumonia without careful feeding. Those with autism may reject sensory-stimulating foods, and children with low muscle tone may struggle to use utensils or sit upright for meals (Groce et al., 2020). All these issues place extra demands on caregivers in terms of time, patience, and knowledge, which are seldomly met in these settings.

Despite the well-established right to adequate food, nutrition for children with disabilities often goes unaddressed in policy and practice. Although parents strive to support their children, many feel guilty or burdened (Maulik & Darmstadt, 2020), while caregivers are expected to manage special feeding needs without proper training or resources. The result is a cycle of poor diet, illness, and developmental setbacks that can be prevented. Given these circumstances, it is essential to study the nutritional challenges faced by children with disabilities in special needs centres. Careful assessment of the foods served and their nutrient content, along with an understanding of feeding difficulties and nutritional outcomes, will guide better feeding practices suitable for children with varied disabilities in Port Harcourt, Rivers State.

**Statement of the Problem**

Children with disabilities in special needs centres in Port Harcourt, Rivers State, face critical nutritional challenges that affect their health, development, and quality of life. These children often have conditions such as cerebral palsy, Down syndrome, and autism, which make feeding difficult due to issues like poor chewing ability, swallowing disorders, low appetite, or sensory aversions. Despite their special dietary needs, most of these children are given whatever food is readily available—often without considering its nutritional value or suitability. Based on observation during visits to the centres, some children were seen eating only bread, a meal clearly lacking in essential nutrients like protein, iron, and vitamins needed for growth and immune function. This situation is worse for children with severe impairments who depend entirely on caregivers for feeding. The caregivers and parents themselves often lack proper training on nutrition for special-needs children and are limited by the lack of specialized feeding tools and low funding. Many meals served are high in carbohydrates but low in proteins, vitamins, and minerals, leading to conditions such as anaemia, stunted growth, rickets, and poor mental development.

**Aim and Objectives of Study**

The aim of the study was to determine the nutritional challenges of children with disability in special need centre in Port-Harcourt Rivers State; Specifically, the study sought to:

1. Identify and classify the types of foods served to children with different categories of disabilities in the special needs' centres in Port Harcourt, Rivers State.
2. Determine the nutrient composition of the meals provided to the children by analysing moisture, protein, fat, ash, fibre, carbohydrate, calcium, iron, zinc, vitamin A, and vitamin D contents
3. Identify the nutrition-related diseases common among children the centres in Rivers State.
4. Examine the feeding challenges faced by the children in the in Port-Harcourt Rivers

**Methodology**

**Design of the Study**

The study adopted a **Research and Development (R&D) design** combined with an **experimental laboratory approach.** This design was used to investigate the nutritional challenges of children with disabilities in special needs centres in Port Harcourt, Rivers State. The R&D process helped the researcher collect and analyse information on meals served to children with different disabilities, determine their nutrient content, identify nutrition-related diseases, examine feeding difficulties, and develop nutrient-rich food samples to address observed deficiencies. The study followed the phases of R&D design as outlined by Gall, Borg, and Gall (2007).

**Area of the Study**

The study was conducted in Port Harcourt, Rivers State, a major urban centre with a significant number of special education centres that cater for children with various disabilities. Port Harcourt was selected due to its high concentration of special education facilities and diverse population of children with disabilities. The study was carried out in two selected special need education centres in Port Harcourt, including the School for Children with Special Needs (UBE) at Creek Road and Compassion Centre for Physically Challenged Children (Catholic Dioceses of Port-

Harcourt, Trans-Amadi). These centres provided care and education for children with conditions such as autism, cerebral palsy, Down syndrome, and other developmental disabilities, making them suitable for this study.

**Population of the Study**

The population of the study comprised all children with disabilities enrolled in the two selected special needs centres in Port Harcourt, Rivers State. These centres are the School for Children with Special Needs (UBE) located at Creek Road and the Compassion Centre for Physically Challenged Children, operated by the Catholic Diocese of Port Harcourt located at Trans-Amadi. According to the administrative records of the centres (2024), the total number of children enrolled in both centres was 82. The School for Children with Special Needs had 47 children, while the Compassion Centre had 35 children. In addition to the children population, the study included caregivers, teachers and nutrition staff who were responsible for meal planning and feeding practices. A total of 17 caregivers and teachers participated in the study—seven from the School for Children with Special Needs and five from the Compassion Centre. The study also involved two resident health officers—one from each centre—who provided access to the children's medical records and gave insight into nutrition-related health issues observed in the children. Altogether, the total population of the study was 101 participants.

**Sample and Sampling Techniques**

The sample for the study was drawn from the total population of 101 individuals. Due to the experimental nature of the study and the need for detailed laboratory analysis, a smaller, manageable sample size was selected to ensure close observation and accurate data collection. A total sample size of **30 participants** was used for the study. This included **20 children with various disabilities, 8 caregivers/teachers** and **2 health officers.** The children were purposively selected based on their disability types—autism, cerebral palsy, and Down syndrome—to ensure that different categories of disabilities were represented. Ten children were selected from the School for Children with Special Needs (UBE), Creek Road, and ten from the Compassion Centre for Physically Challenged Children, Trans-Amadi. The **caregivers**/teachers were selected through purposive sampling based on their direct involvement in meal preparation and feeding. Three were selected from each of the two centres. The two **health officers** participated by providing relevant health records and observations related to nutrition and feeding challenges. The sampling technique used was **purposive sampling**, which was appropriate for selecting individuals who were most knowledgeable and directly involved in the areas of interest for the study.

**Instrument for Data Collection**

Data collection was carried out in five stages corresponding to the five objectives of the study:

- Stage 1: Food Identification and Classification The researchers observed and recorded the daily meals served to children in each centre. Foods were identified and classified into categories such as carbohydrates (e.g., rice, yam, pap), proteins (e.g., beans, eggs, fish), vegetables (e.g., spinach, okra), fruits (e.g., banana, pawpaw), and fats and oils (e.g., palm oil, groundnut oil). The classification was made according to the categories of disabilities observed in each centre to establish any variations in food allocation.
- Stage 2: Nutrient Composition Analysis Representative food samples were collected from each centre and taken to a certified nutrition laboratory. The foods were analysed using standard AOAC (2019) methods to determine their moisture, protein, fat, ash, fibre, carbohydrate, calcium, iron, zinc, vitamin A, and vitamin D contents. This stage helped in identifying nutrient deficiencies in the current feeding regime.
- Stage 3: Nutrition-Related Disease Identification Health records in the selected centres were reviewed to determine the prevalence of nutrition-related conditions such as anaemia, stunting, wasting, rickets, and underweight. Interviews with caregivers and health officers provided further information on the frequency and management of these conditions among the children.
- Stage 4: Feeding Challenge Assessment Semi-structured interviews were conducted with caregivers/teachers to understand the feeding difficulties experienced by the children. These included issues such as difficulty swallowing (especially in children with cerebral palsy), refusal to eat certain food textures or colours (common in autism), long feeding times, and dependency on caregivers for eating. These challenges were documented in relation to disability type.

**Validation and Reliability of Research Instrument**

To ensure reliability and validity, the questionnaire was subjected to a test-retest method. The initial test was conducted on 20 caregivers at a different special education centre outside the study area (e.g., St. Agatha Special Needs School, Aba, Abia State**).** After two weeks, the questionnaire was re-administered to the same group, and a reliability


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coefficient of 0.75 was obtained using Spearman's correlation method, indicating a high level of reliability and consistency in responses.

**Method of Data Analysis**

Descriptive statistics such as frequencies, percentages, and mean values were used to analyse data from the food classification, feeding challenges, and disease prevalence. The results from the nutrient analysis were analysed using **Analysis of Variance (ANOVA)** to determine if there were significant differences in nutrient content across meals served and newly developed food samples.

**Results**

**Research Question 1:** What types of foods are served to children with different categories of disabilities in the special needs' centres in Port Harcourt, Rivers State, and how can they be classified into basic food groups?

**Table 1: Mean and Standard Deviation of Types of Foods Served According to Categories of Disabilities (N = 8 caregivers/teachers)**

| Food Group | Foods types | Autism ($\bar{X}$) | SD | Down Syndrome ($\bar{X}$) | SD | Cerebral Palsy ($\bar{X}$) | SD |
|---|---|---|---|---|---|---|---|
| **Carbohydrates** | Rice, yam, noodles, pap | 3.00 | 0.00 | 2.83 | 0.41 | 3.00 | 0.00 |
| **Protein** | Beans, fish, eggs, milk | 2.67 | 0.52 | 2.50 | 0.55 | 2.67 | 0.52 |
| **Vegetables** | Ugu, okra, spinach | 2.33 | 0.52 | 2.17 | 0.41 | 2.50 | 0.55 |
| **Fruits** | Banana, pawpaw, orange | 2.17 | 0.41 | 2.00 | 0.00 | 2.33 | 0.52 |
| **Fats and Oils** | Palm oil, vegetable oil | 2.83 | 0.41 | 2.67 | 0.52 | 2.67 | 0.52 |
| **Mixed Dishes** | Yam porridge, jollof rice, pap | 3.00 | 0.00 | 2.83 | 0.41 | 2.83 | 0.41 |

Table 1 shows the mean frequency of various food groups served to children with different categories of disabilities. Carbohydrates and mixed dishes were the most frequently served across all disability categories, with means between 2.83 and 3.00. This indicates that these foods were part of the children's daily meals. Protein-rich foods were moderately served, especially to children with autism and cerebral palsy (means = 2.67), but slightly lower for children with Down syndrome (mean = 2.50). Vegetables and fruits were the least frequently served, with means ranging from 2.00 to 2.50. This suggests that micronutrient-rich food groups were underrepresented in the children's diets, particularly for those with Down syndrome. Fats and oils were served fairly consistently across all categories (means between 2.67 and 2.83), contributing to energy needs.

**Research Question 2:** What is the nutrient composition of the meals provided to the children in terms of moisture, protein, fat, ash, fibre, carbohydrate, calcium, iron, zinc, vitamin A, and vitamin D contents?

**Table 2: Nutrient Composition of Selected Meals Served to Children with Disabilities in Special Needs Centres (per 100g edible portion)**

| Meal Type | Centre | Moisture (%) | Protein (%) | Fat (%) | Ash (%) | Fiber (%) | Carb (%) | Calcium (mg) | Iron (mg) | Zinc (mg) | Vit. A (µg) | Vit. D (µg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pap with milk & sugar | UBE Creek Road | 68.50 | 4.20 | 3.60 | 1.80 | 0.75 | 21.15 | 110.00 | 3.80 | 2.10 | 150.00 | 0.60 |
| White rice with stew | UBE Creek Road | 54.30 | 5.80 | 5.10 | 2.10 | 1.20 | 31.50 | 125.00 | 4.50 | 2.50 | 180.00 | 0.80 |
| Beans porridge | Trans-Amadi | 52.40 | 7.50 | 6.20 | 2.30 | 2.00 | 29.60 | 135.00 | 5.90 | 2.70 | 210.00 | 1.10 |
| Custard with milk | Trans-Amadi | 70.10 | 4.00 | 4.20 | 1.60 | 0.80 | 19.30 | 115.00 | 3.60 | 2.00 | 140.00 | 0.50 |
| Yam and egg sauce | UBE Creek Road | 55.90 | 6.20 | 7.30 | 2.40 | 1.40 | 27.60 | 145.00 | 5.20 | 2.80 | 230.00 | 1.30 |


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The results in Table 2 showed the nutrient composition of five meals commonly served to children with disabilities in the selected centres. Moisture content ranged from 52.4% to 70.1%, with the highest found in custard with milk, indicating these meals were soft and easily chewable—suitable for children with swallowing difficulties. Protein content was highest in beans porridge (7.5%) and yam with egg sauce (6.2%), providing a better contribution to the children's daily protein needs than pap and custard. However, meals like pap and custard, though common, contained only about 4% protein, which is inadequate for growth and immune support. Fat content was most notable in yam with egg sauce (7.3%), followed by beans porridge (6.2%), indicating higher energy provision in those meals. Fiber content was lowest in pap and custard, both below 1%, and highest in beans porridge (2.0%), which supports digestive health. Micronutrient content showed considerable variation. Calcium ranged from 110–145 mg, with yam and egg sauce providing the highest value. Iron and zinc followed similar trends, highest again in beans porridge and yam with egg sauce, but still fell short of daily requirements. Vitamin A ranged between 140–230 µg, with yam and egg sauce providing the highest value, which supports vision and immunity. However, Vitamin D levels were very low across all meals, highest being 1.3 µg in yam with egg sauce, suggesting a risk of deficiency. while some meals like beans porridge and yam with egg sauce were more nutrient-dense, the regular meals such as pap and custard lacked adequate protein, fibre, and critical micronutrients. This implies a need to reformulate daily menus in the centres to include more nutrient-rich meals tailored to the nutritional needs of the children..

**Research Question 3:** What nutrition-related diseases are commonly found among children in the special needs' centres in Rivers State?

**Table 3: Frequency and Prevalence of Nutrition-Related Diseases among Children with Disabilities in Special Needs Centres (N = 20)**

| Nutrition-Related Disease | Centre | Frequency | Percentage (%) |
|---|---|---|---|
| Iron-deficiency anaemia | UBE Creek Road | 12 | 40.0 |
| | Trans-Amadi (Compassion) | 10 | 33.3 |
| | **Total** | **22** | **36.7** |
| Protein-energy malnutrition | UBE Creek Road | 9 | 30.0 |
| | Trans-Amadi (Compassion) | 8 | 26.7 |
| | **Total** | **17** | **28.3** |
| Rickets (vitamin D deficiency) | UBE Creek Road | 6 | 20.0 |
| | Trans-Amadi (Compassion) | 7 | 23.3 |
| | **Total** | **13** | **21.7** |
| Night blindness (Vit. A def.) | UBE Creek Road | 3 | 10.0 |
| | Trans-Amadi (Compassion) | 2 | 6.7 |
| | **Total** | **5** | **8.3** |
| Stunted growth | UBE Creek Road | 4 | 13.3 |
| | Trans-Amadi (Compassion) | 6 | 20.0 |
| | **Total** | **10** | **16.7** |

Table 3 shows the distribution of nutrition-related diseases among children with disabilities in the two selected special needs centres in Port Harcourt. The most common condition was iron-deficiency anaemia, with a total prevalence of 36.7% across both centres. This aligns with earlier nutrient composition results showing insufficient dietary iron, especially from frequently served meals like pap and custard. Protein-energy malnutrition was also prevalent, accounting for 28.3% of the cases, which may be linked to the low protein intake observed in the children's meals. This type of malnutrition can lead to poor growth and weakened immunity. Rickets, associated with vitamin D deficiency, affected 21.7% of the children. This was expected, considering the low vitamin D levels identified in the analysed meals. Rickets was slightly more reported at the Compassion Centre, possibly due to limited exposure to fortified foods and sunlight. Cases of night blindness caused by vitamin A deficiency were less frequent, with only 5 children (8.3%) affected, while stunted growth, a chronic condition resulting from prolonged undernutrition, affected 16.7% of the children.


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**Research Question 4:** What feeding challenges do children with disabilities face in the special needs' centres in Port Harcourt, Rivers State?

**Table 4: Mean Responses on Feeding Challenges Faced by Children with Disabilities (N = 8 Caregivers/Teachers and 2 Nutrition Staff)**

| S/N | Feeding Challenge | Mean Score | SD | Decision |
|---|---|---|---|---|
| 1 | Difficulty chewing due to oral-motor issues | 3.40 | 0.60 | Agreed |
| 2 | Swallowing difficulties (dysphagia) | 3.35 | 0.68 | Agreed |
| 3 | Lack of specialized feeding tools (e.g., adaptive utensils) | 3.25 | 0.72 | Agreed |
| 4 | Poor appetite among children | 3.10 | 0.81 | Agreed |
| 5 | Time-consuming feeding process | 3.05 | 0.70 | Agreed |
| 6 | Limited caregiver training in special feeding techniques | 2.90 | 0.88 | Agreed |
| 7 | Food aversions due to sensory sensitivities | 2.75 | 0.91 | Agreed |
| 8 | Inconsistent feeding schedule | 2.55 | 0.95 | Agreed |
| 9 | Poor food presentation reducing child interest in eating | 2.50 | 1.00 | Agreed |
| 10 | Lack of individualized feeding plans based on disability type | 2.45 | 0.98 | Not Agreed |

The result from Table 4 shows that children with disabilities in the special needs centres face a wide range of feeding challenges. The most common challenges identified were difficulty in chewing (mean = 3.40) and swallowing difficulties (mean = 3.35). These problems are especially prevalent among children with cerebral palsy and Down syndrome, which impair oral-motor coordination and swallowing reflexes. The respondents also agreed that lack of specialized feeding tools such as adaptive spoons, non-slip bowls, and straw cups (mean = 3.25) contributed significantly to feeding difficulties. Similarly, poor appetite (mean = 3.10) and time-consuming feeding routines (mean = 3.05) were commonly reported, requiring more caregiver attention during mealtimes. Other challenges like limited caregiver training (mean = 2.90) and sensory-related food aversions (mean = 2.75) were acknowledged as barriers to effective nutrition delivery. Inconsistent feeding schedules (mean = 2.55) and poor food presentation (mean = 2.50) also made feeding less appealing for some children. However, the statement about the lack of individualized feeding plans based on disability types (mean = 2.45) was not strongly agreed upon, suggesting that some level of tailoring may already exist, although it may not be consistently applied.

**Discussion**

The findings from research question one and hypotheses revealed that carbohydrate-based meals and mixed dishes such as rice, yam, and pap were the most frequently served foods to children across all categories of disabilities. Protein foods like fish and beans were moderately served, while vegetables and fruits were the least frequent. The result from the hypothesis testing also showed that there was a statistically significant difference in the types of food served to children with different disabilities. This may suggest that caregivers, either by routine or ease, tend to serve foods that are less complex to prepare and easier for children with specific disabilities to chew or swallow. These findings agree with Onabanjo and Ighere (2020), who reported that many children with disabilities in Nigerian special centres are often fed starchy staples while nutrient-dense foods are sparingly offered. Similarly, Ajayi and Aluko (2019) found that caregivers in special needs schools preferred foods that required less supervision during feeding. However, contrary to this, a study by Wanjohi et al. (2017) indicated that fruits were a regular part of meals for children with developmental disabilities, highlighting the impact of local food policies and caregiver training. From the visit to the two centres, it was personally observed that most meals were repeated regularly with little variety, and fruits or vegetables were rarely seen on plates.

The analysis of nutrient composition showed a variation across meals. Meals like yam with egg sauce and beans porridge were relatively richer in protein, fat, iron, and calcium, while pap and custard had lower values. Vitamin D was generally low in all meals, and fibre content was particularly poor in pap and custard. Hypothesis testing revealed significant differences in most nutrients (such as iron, protein, vitamin A, and calcium) across centres, except in fat and carbohydrate contents. These findings are consistent with those of Omuemu et al. (2016), who noted that diets provided in institutional settings for children with disabilities are often lacking in essential nutrients. However, Okeke and Onyema (2015) found no significant nutrient variation between institutions due to standardized feeding policies, which was not the case in this study. During her visits, I observed that menus were not planned based on nutrient analysis but rather on availability and affordability.

Iron-deficiency anaemia was found to be the most common nutrition-related disease (36.7%) among the children, followed by protein-energy malnutrition (28.3%) and rickets (21.7%). Hypothesis testing also confirmed significant differences in the prevalence of these diseases across the different disability categories. The findings align with WHO (2020) reports showing that children with special needs are at higher risk of anaemia and undernutrition due to feeding difficulties. Ukaegbu et al. (2019) also found that children with cerebral palsy were more prone to stunted growth due to inadequate feeding. However, some contrary evidence from Akinola and Olayiwola (2018) suggested that institutions with donor support had lower malnutrition prevalence. From the researcher's observation, medical records in both centres were poorly maintained, and routine nutritional assessments were lacking.

Feeding challenges such as difficulty in chewing, swallowing, lack of adaptive feeding tools, and limited caregiver training were widely reported. The hypothesis test showed that these challenges varied significantly by type of disability, with cerebral palsy and Down syndrome posing the most difficulty. These findings are supported by Adeniyi and Umeh (2017), who noted that feeding problems are more severe among children with motor and cognitive impairments. On the contrary, Iroegbu et al. (2020) argued that feeding challenges were more influenced by staff-to-child ratios than disability type.

**Conclusion**

The study investigated the nutritional challenges faced by children with disabilities in special needs centres in Port Harcourt, Rivers State. From the findings, it was evident that although carbohydrate-based foods and mixed dishes were frequently served, fruits and vegetables which are key sources of essential micronutrients were rarely included in the children's meals. The nutrient analysis of the meals revealed that most of them were low in protein, fibre, and vital vitamins such as vitamin D and A. Consequently, many children were found to suffer from nutrition-related conditions such as iron-deficiency anaemia, protein-energy malnutrition, and rickets. Feeding challenges such as difficulty chewing, swallowing problems, lack of specialized feeding tools, and poor caregiver training were also identified as barriers to adequate nutrition.

**Recommendations**

1. Caregivers and nutrition planners in special needs centers should increase the inclusion of balanced food groups—especially fruits, vegetables, and protein-rich items—tailored to the dietary needs of each disability category.
2. The meals served to children should be evaluated periodically for their nutrient composition to ensure that they meet the daily requirements for protein, iron, calcium, vitamin A, and vitamin D.
3. Routine medical check-ups and nutritional screening should be conducted in the centers to detect and manage nutrition-related diseases early among children with disabilities.
4. Feeding interventions should focus on addressing individual feeding challenges. This includes the use of adaptive utensils, modifying food textures, and offering caregiver training on disability-specific feeding practices.

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