



MALNUTRITION AMONG CHILDREN WITH DISABILITIES: CHALLENGES AND OPPORTUNITIES FOR ZAMBIA

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ABBREVIATIONS AND ACRONYMS

CTs	Cash Transfers
CRPD	Convention on the Rights of Persons with Disabilities
CSO	Central Statistics Office
IDD	Iodine Deficiency Disorder
MCDP	Most Critical Days Project
SSA	Sub-Saharan Africa
UN	United Nations
UNICEF	United Nations International Children's Fund
WHO	World Health Organization
ZDHA	Zambia Demographic Health Survey

**MALNUTRITION AMONG CHILDREN WITH
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FOR ZAMBIA.**



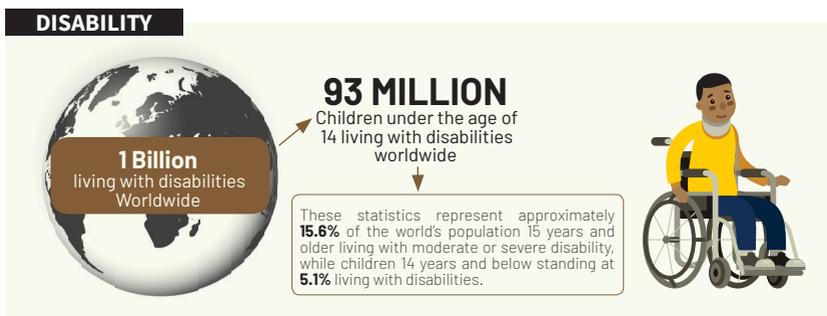


Overview

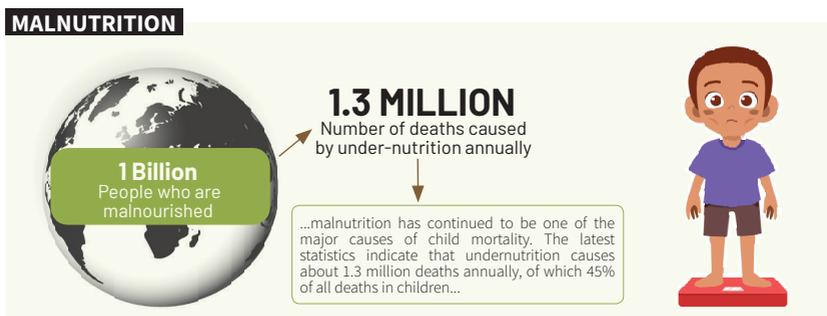
Conventional and traditional medicine, therapy, treatments and surgery are the common methods used to alleviate the physical and mental symptoms of illness, disease and disabilities (Jackie Booth, 2019). **However, nutrition as an important remedy for improved wellbeing especially for persons with disabilities has not fully been utilized in many cases.** There is a dual link between disability and lack of nutrition; both can be a cause of the other. According to Kuper et al. (2014), undernutrition and disability are inherently linked with the former both a cause and consequence of the latter and people with disabilities are at increased risk of being malnourished.



According to the World Health Organization (WHO) and World Bank Report (2011) on disability, an estimated one billion people are living with different forms of disabilities globally of whom 93 million are children under the age of 14 years (UNICEF, 2013). These statistics represent approximately 15.6% of the world's population with 15 years and older living with moderate or severe disability, while children 14 years and below standing at 5.1% living with disabilities. In relation to nutrition, there are



almost one billion people who are malnourished and malnutrition has continued to be one of the major causes of child mortality. The latest statistics indicate that under nutrition causes about 1.3 million deaths annually, of which 45% of all deaths in children (Black RE, Victora CG, Walker SP, et al. 2013).



Globally, disability and malnutrition are not only considered to be health problems; they are also characterized as human rights problems. Article 25 of the Universal Declaration of Human Rights and the General Comments No. 12 on the right to food specifically mentions rights of people with disabilities to have physical access to adequate food (UN (1948) Universal Declaration of Human Rights). The rights to health care, education and social participation are articulated in the 2006 UN Convention on the Rights of Persons with Disabilities. It reinforces the rights of persons with disabilities to enjoy the highest standard of health without discrimination on the basis of disability and it highlights the duty of state parties to prevent discriminatory denial of health services or food on the basis of disability. Moreover, the Convention on the Right of the Child emphasises that all children, including children with disabilities, have a right to adequate nutrition.

WHO recognizes disability as a global public health issue, a human rights issue and a development priority. Disability is a global public health issue because people with such challenges face widespread barriers in accessing health and related services such as rehabilitation and have worse health outcomes than people without disabilities. Disability is also a human rights issue as people with disabilities more often than not experience stigmatization, discrimination and inequalities; they are subject to multiple violations of their rights including their dignity, for instance through acts of violence, abuse, prejudice and disrespect because of their disability, and they are denied autonomy (Quinn and Degener, 2002). Disability is a development issue, because of its bi-directional link to poverty: disability may increase the risk of poverty, and poverty may increase the risk of disability (Sen, 2009).



Poverty increases the likelihood of impairments through malnutrition, poor health care, and dangerous living, working and travelling conditions. Disability may lead to a lower standard of living and poverty through lack of access to education and employment, and through increased expenditure related to disability.

It is against this background that this paper analyses the challenges and opportunities for proper nutrition of children with disabilities with particular focus on undernutrition in Zambia.



DEFINITIONS

DISABILITY: United Nations Convention on the Rights of Persons with Disabilities (CRPD) in promoting a human rights approach to disability defines persons/people with disabilities as: *‘people with long- term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.’* (Article 1, UN 2006).

The concept, according to the Convention, moves away from the traditional, medical based perspective of disability characterized by a focus on physical defects, to one that encompasses the attitude, environment and institutional barriers that limit or exclude persons with impairments from participation.

The Zambia National Policy on Disability defines disability as *“any restriction resulting from impairment or inability to perform any activity in the manner or within the range considered normal for a human being and would or would not entail supportive or therapeutic devices and auxiliary aids, interpreter, white canes, reading assistants, hearing aids, guide dogs or any other animal trained for that purpose”* (National Policy on Disability, 2013). *A similar definition by World Health Organization (WHO) states that disability is an umbrella term covering impairments, activity limitations and participation restrictions* (WHO, 2018).

Impairment in both definitions is defined as a problem in the body structure; an activity limitation or difficulties encountered by an individual in executing tasks or actions; while participation restriction is a problem experienced by an individual in involvement in life situations.

MALNUTRITION: The term malnutrition covers both undernutrition and overnutrition. The term undernutrition includes *stunting (low height for age), wasting (low weight for height), underweight (low weight for age)* and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals). The term overnutrition includes overweight, obesity and diet-related noncommunicable diseases.

LINK BETWEEN NUTRITION AND DISABILITY

As stated in the introduction, malnutrition and disability are closely linked and points of convergence. The relationship can be analysed as a two-way interaction. On the one hand many types of disability can be caused by malnutrition; through lack of micronutrients or macronutrients or exposure to high concentrations of antinutrients (e.g. toxins in poorly processed cassava which can lead to permanent neurological damage). On the other hand, disability can lead to malnutrition due to decreased nutrient intake, increased nutrient loss and the need for increased nutrients which often put children at risk of further complications.

Karec et al. (2013), in a report titled 'the interaction of malnutrition and neurological disability in Africa' offers an illustration of the relationship between malnutrition and disability through the life-cycle of the child, including pregnancy and childhood.

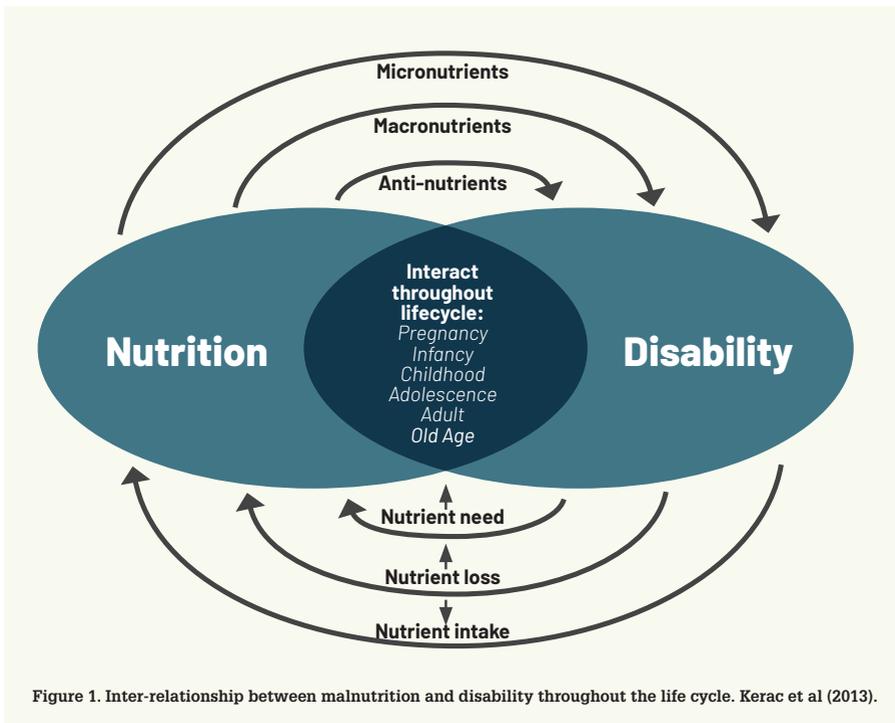


Figure 1. Inter-relationship between malnutrition and disability throughout the life cycle. Kerac et al (2013).

DISABILITY AS A CAUSE OF MALNUTRITION

Disability places children at high risk of nutritional deficiency. Children with disabilities such as cerebral palsy, craniofacial anomalies (cleft lip and/or palate) and many genetic syndromes (Pierre Robin Sequence), which are associated with oral motor feeding and swallowing problems, lead to decreased nutrient intake. According to Khan (2012), **90% of children with cerebral palsy have difficulties in feeding which often results in malnutrition, poor health and at times early death.** Malabsorption of nutrients is also common among children with disability especially those with cystic fibrosis who suffer from micro and macro nutrient malnutrition. Unless the malabsorption is managed through special diets, these children have higher risks of muscle wasting and loss of function which further exacerbate insufficient intake of energy and nutrients.



Olusanya (2010) argues that while underweight is common in children with disability, overweight is also common among children with certain physical problems. For example, children with certain physical disabilities have difficulties in mobility and risk being overweight. Other children with genetic impairments like sotos syndrome or intellectual, mental health disabilities may have eating disorders which place them at risk of becoming overweight.

Rosenbloom (2010) states that social, cultural and negative attitudes of society and family have a negative bearing on the nutrition of children with disabilities. He argues that there is a common assumption among society that children with disabilities do not grow and thrive as a result of their impairment leading to society discouraging mothers of new born babies from breastfeeding them as they believe the child may die sooner or later. Hakime Nogay N (2013), submits that the stigma surrounding disability may result in children with disabilities being given less nutritious or smaller quantities of food, or intentionally not being fed at all, with families rationing

the limited resources to children without disabilities, who they claim have greater chance of survival. This reasoning has denied many children the right to grow and thrive.

MALNUTRITION AS A CAUSE OF DISABILITY

Malnutrition as a cause of disability can occur at any stage in the life of a child. Maternal nutrition and the first 1000 days are critical in a child's life, because if malnutrition occurs during pregnancy and the first 1000 days disability is possible in children. According to Black et al, (2013), evidence shows that up to 70% of stunting in children takes place before a child's second birthday. Maximizing the period between conception and a child's second birthday (1000) helps shape the health of the child. During this period of the first 1,000 days, malnutrition affects the structural and functional development of the brain, directly affecting cognitive development. Malnutrition also has an indirect impact, affecting the ways children learn and their ability to interact and engage with the world (Save the Children, 2013).

These nutritional deficiencies manifest in conditions such as; stunting, wasting, underweight and micronutrient deficiencies, which if not addressed have irreversibly damaging effects on cognitive and intellectual capabilities of children.

Common micronutrient deficiencies in children below the age of five and women of reproductive age include; Vitamin A deficiency, iron deficiency, Iodine Deficiency Disorders (IDD) and low birth weight in babies. In addition to undernutrition, overweight trends have begun to rise among the Zambian population, posing a threat of an increase in non-communicable diseases (ZDHS, 2018).



70%
of stunting in children
occurs in the first 1000 days
from inception.

Maternal malnutrition can affect the development of the foetus, cause intra-uterine growth delay and increase the risk of the infant developing impairments. Micronutrients often play specific roles in such occurrences. For example, low maternal folate is associated with an increased risk of neural tube defects, one of the clearest examples of a micronutrient-specific, often serious and yet largely preventable disability. Therefore, good maternal nutrition is essential: pregnant or breastfeeding mothers who cannot access the right nutrients are more likely to have children with compromised brain development and poor cognitive performance. Once the child is born, nutrition continues to play a key role in ensuring that the brain develops properly.

PROFILE OF DISABILITY AMONG CHILDREN IN ZAMBIA

The prevalence of disability in Zambia varies between the national data and the data by WHO. WHO estimates, 1.3million persons in Zambia are disabled representing an approximate 10% of the population while the 2000 Census of Population and Housing indicates that 2% of the country's population is disabled and 0.4% are children under the age of 14 years (CSO, 2012). The difference in the prevalence is attributed to the difference in indicators used to measure disability by both institutions. The census information measures disability using largely medical definitions with a focus on severe disability. While WHO considers an array of factors which include health of an individual, health system responsiveness, household expenditure and living conditions.

WORLD HEALTH ORGANISATION

**10% OF ZAMBIA'S
POPULATION DISABLED**

(1.3 MILLION PERSONS)

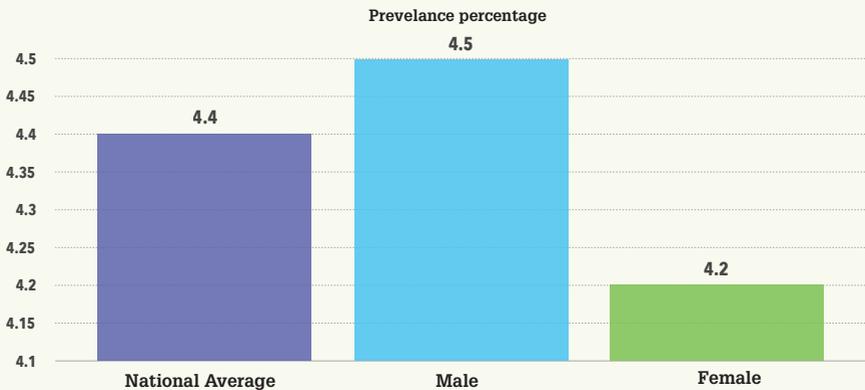
CENSUS OF POPULATION AND HOUSING

**2% OF ZAMBIA'S
POPULATION DISABLED**

(0.4% ARE CHILDREN UNDER 14 YRS OLD)

The 2015 Zambia National Disability Survey estimates that 7.7% of the people in Zambia are disabled, 10.9% are adults 18 years and above and 4.4% are children aged between 2 and 17 years old. The 2015 survey report provides a much comprehensive prevalence profile of child disability in Zambia by sex, rural/urban and provincial statistics. The study shows that disability in children is more than visible or serious impairments but includes a range of functional problems present in the child population. The survey sampled 3,882 children aged between 2 and 17 years, and 954 were identified with different forms of disability. The data on the cause of disability for children as reported in the survey report indicates that 40% were as a result of birth or congenital and 31% due to disease/illness (Zambia National Disability Survey, 2015).

Figure 2. Prevalence of disability among children 2-17 years by Sex

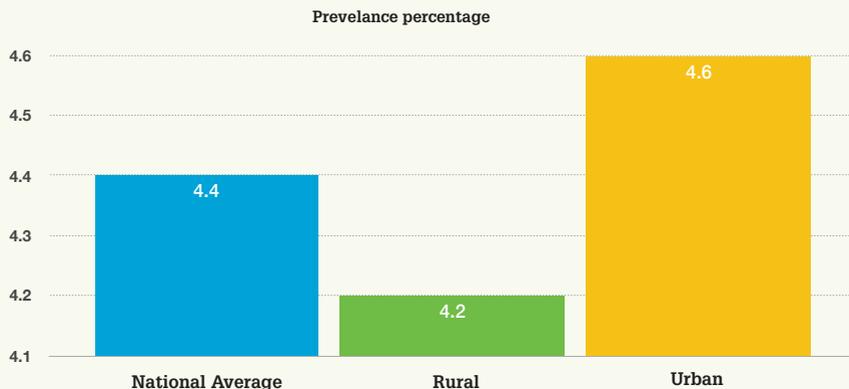


Source: Zambia National Disability Survey Report 2015

The graph above indicates that the prevalence of disability for ages 2 -17 is higher in males than in females and is also higher than the national average.



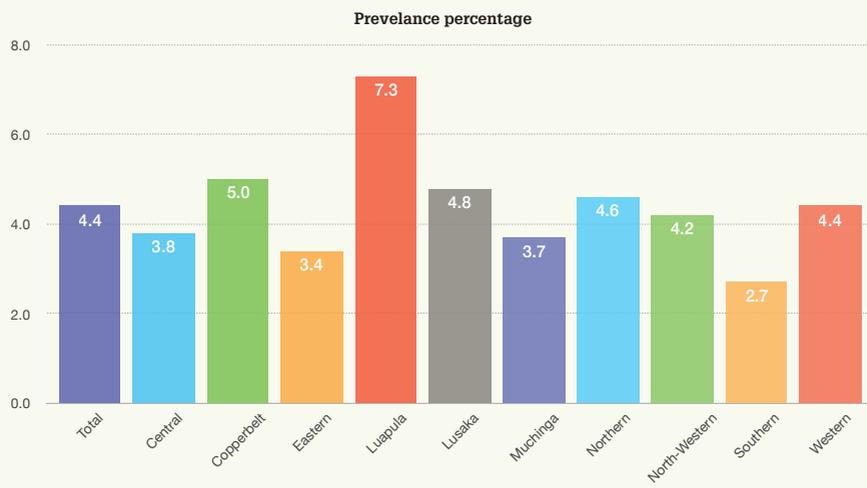
Figure 3. Prevalence of disability among children 2-17 years by Rural/Urban



Source: Zambia National Disability Survey Report 2015

As indicated above, the prevalence for urban disability is higher than that of rural areas and the national prevalence with an average of 4.4%.

Figure 4. Prevalence of disability among children 2-17 years by Province



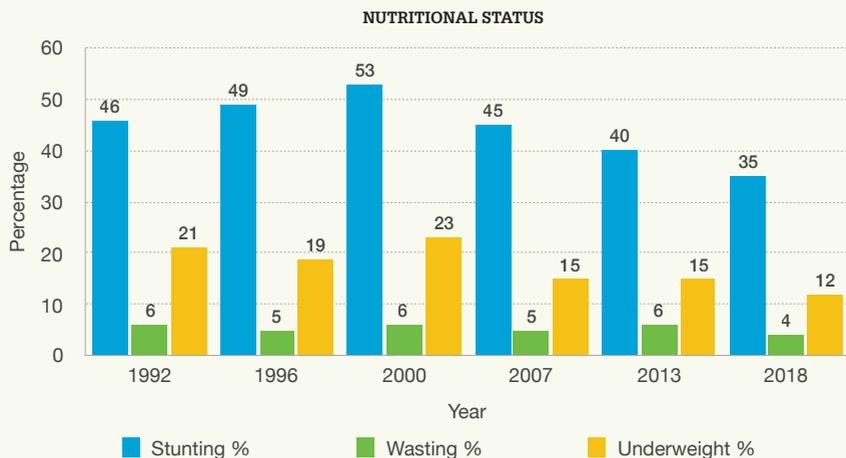
Source: Zambia National Disability Survey Report 2015

Provincial data on child disability indicates that some provinces that have higher prevalence of child disability while others have lower prevalence when compared to the national average of 4.4%. Luapula has the highest prevalence of child disability at 7.3% and Southern at 2.7% has the lowest prevalence when compared to the national average and other provinces.

PROFILE OF MALNUTRITION AMONG CHILDREN IN ZAMBIA

Malnutrition in all its forms continues to be one of the greatest challenges faced in Zambia. Since the early 1990s, it has been characterized by severe undernutrition and growing levels of overnutrition. **In Zambia, stakeholders in the nutrition sector use three WHO recommended indices as a measurement of nutritional status and these are: height – for- age (stunting), weight- for- height (wasting) and weight- for- age (underweight) expressed as standard deviations units from the median for the reference group.** Data comparison for the period 1992 to 2018 shows that there has been an improvement in all the three nutritional status indices as indicated in the Zambia Demographic Health Survey (ZDHS) 2018 for children below age five (5).

Figure 5. Nutritional Status of Children Under the Age of 5



Source: Compiled by Author -ZDHS 1992, 1996, 2000/01, 2013/14 and 2018

The graph above shows that there has been an improvement in the nutritional status indices for the period 1991- 2018. However provincial statistics show that the levels of stunting are still high in Luapula (45%) and Northern (46%) Provinces and way above the national average of 35%. In addition, the rate of reduction in stunting is not significant enough to achieve the SDG 2.2 target of eliminating child stunting by 2030 or the 15% reduction rate prescribed by the Malabo Declaration. The table below shows the recommended WHO public health significant cut-off for the three health nutritional status indices.

Table 1: Stunting, Wasting, and Underweight: Cut-Off Values for Public Health Significance

No	Indicator	Prevalence cut off value for public health
1	Underweight	Less than 10% -low prevalence 10-19%- medium prevalence 20- 29% - high prevalence Great or equal to 30% very high prevalence
2	Stunting	Less than 20% low prevalence 20-29% medium prevalence 30 – 39% high prevalence Greater or equal to 40% very high prevalence
3	Wasting	Less than 5 % acceptable 5 – 9 % poor 10 -14 % serious Greater or equal to 15% critical

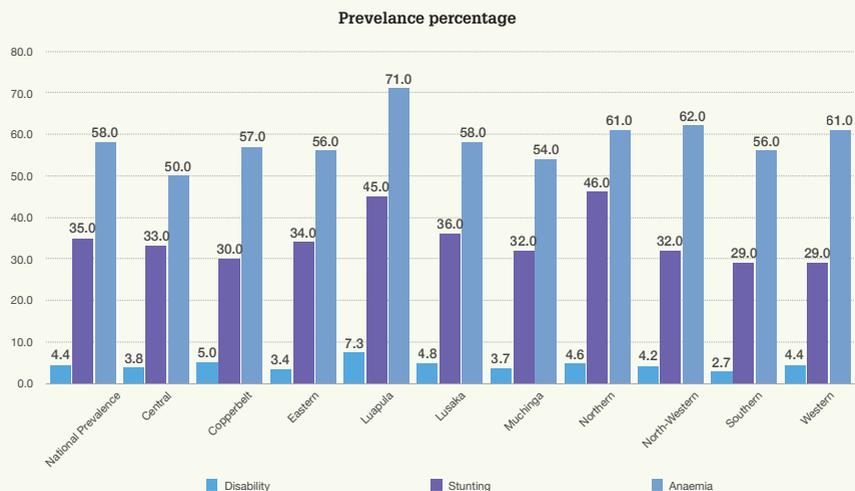
Source: WHO 2010b

From the table, the following observations can be made:

- Zambia has recorded a significant reduction in wasting among children from 6% in 1992 to acceptable levels of 4% in 2018 which is acceptable by WHO standards.
- There has been an improvement in underweight from 21% in 1992 to 12% in 2018. The current prevalence is medium prevalence which offers an opportunity for Zambia to increase efforts towards reduction in underweight among children.
- A comparison between the 2018 statistics and the WHO recommended cut-off values from the table above, shows that Zambia still has high levels of stunting among children below age 5 which calls for more effort towards its reduction.

RELATIONSHIP BETWEEN CHILD DISABILITY AND UNDER-NUTRITION IN ZAMBIA PRESENTED IN FIGURES

Figure 4. Prevalence of disability among children 2-17 years by Province



Source: Zambia National Disability Survey Report 2015 / Zambia Demographic Health Survey, 2018.

Figure 6 shows the relationship between disability and malnutrition in Zambia. The graph shows that there are a number of points of convergence between child disability and malnutrition in Zambia through the levels of stunting and prevalence of anaemia which is a lack of iron in children. From the graph above the following observations can be made:

- Luapula has the highest prevalence of child disability (7.3%) and Anaemia (71%) and second highest prevalence of stunting (45%) in children under the age of five (5). The prevalence of all the three indicators in the province are above the national prevalence rates.
- Northern Province with the highest prevalence of stunting (46%) is one of the provinces with higher levels of both disability (4.6%) and Anaemia (61%) which are above national prevalence of 4.4% and 58% respectively.
- Southern Province has both the lowest prevalence of disability (2.7%) and stunting (29%) all are below the national average and when compared to other provinces. The prevalence of anaemia (56%) in the province is below the national average of 58%.

OBSTACLES IN PROVIDING GOOD NUTRITION TO CHILDREN WITH DISABILITIES

- 1. Poverty:** Access to sufficient nutritious food is often an issue of concern to families who have a member with disabilities because of poverty and unequal distribution of resources within the household. **Poverty is even more severe in female headed households which usually have minimal support from family members leading to most of them being economically inactive or involved in low income generating activities.**
- 2. Community misconception and stigma:** There is widespread misconception and stigma against children with disabilities in most societies. **Most of these children suffer from isolation, abuse and marginalization by communities and relatives in some cases.** Culturally, some parents isolate and hide their children with disabilities from society, subsequently hindering them from receiving the much needed help. **A study conducted by the African Child Policy Forum in 2009 revealed that parents and immediate family members are the biggest perpetrators of violence against children with disabilities.** In situations of limited resources, children with disabilities are excluded based on the incorrect belief that preserving the health and welfare of children with disabilities is lower priority than preserving those of a non-disabled child.
- 3. Insufficient budgetary allocation towards child nutrition:** There has been insufficient budgetary allocation towards child nutrition over the years. **In 2015, Government made a commitment at the National Nutrition Summit to allocate K300 per child annually towards child nutrition but they have allocated at least K20 per child between 2015 and 2017.** In 2018 at the same summit, Government reiterated its commitment to child nutrition by pledging to allocate K400 per capita annually for each child but the 2019 budget allocations show that the Government allocated K19 kwacha per child as opposed to the pledged K400.



Government reiterated its commitment to child nutrition by pledging to allocate K400 per capita annually for each child but the 2019 budget allocations show that the Government allocated K19 kwacha per child as opposed to the pledged K400.

4. Insufficient budgetary allocation to general child health: Over the years, there has been an increase in donor funding towards the fight against malnutrition and general child welfare. While this has proved to be successful in the reduction of malnutrition with programs such as the 1000 Most Critical Days in the child's life, Government budgetary allocation towards the general wellbeing of children has been reducing affecting the implementation of efforts towards child development. For example, the allocation in the Ministry of Health towards nutrition reduced from K19,254,015 in 2018 to K17,395,265 in the 2019 Budget thereby affecting programs meant to improve child nutrition. Another allocation that has been reduced is towards the integrated management of childhood illness which reduced by K900,000 in 2019.



5. Lack of timely and consistent data: Data on disability is a challenge in Zambia. This is mainly attributed to the lack of a uniform definition of disability making it difficult to ascertain the prevalence and types of disabilities in the country.



OPPORTUNITIES FOR IMPROVED NUTRITION AMONG CHILDREN WITH DISABILITIES

- **SOCIAL CASH TRANSFER:** the deliberate move by the Zambian Government to include persons with disabilities and their household as beneficiaries on the Social Cash Transfer scheme offers an opportunity for improved nutrition among children with disabilities. It is well documented that Cash Transfers (CTs) directly affect overall household consumption and specifically household food consumption (Adato & Bassett, 2009). In eight programmes in Sub-Saharan Africa (Ethiopia, Kenya, Lesotho, Malawi, Mozambique, South Africa, Uganda and Zambia), food security improved as a result of receiving CTs because the majority of the transfer income was spent on food.
- **E-VOUCHER PROGRAM:** the e-Voucher program by the Government offers opportunities for improved nutrition for children as one of its objectives is to diversify production. Zambia has over the years been practicing monocropping which leads to mono-diets thus contributes to stunting and malnutrition especially in children. The diversification efforts through the e-Voucher offers an opportunity for households to diversify their diets and their agricultural income through fish farming and rearing of animals thereby having a possible positive impact on diets especially for children.
- **HOME GROWN SCHOOL FEEDING PROGRAM:** the Zambian Government with the help of cooperating partners, has been implementing the home school feeding program which currently has 1 million learners in various schools countrywide. The program presents an opportunity that can be used by Government to enforce school attendance and nutrition for learners. This program on the other hand offers an opportunity for diversification of diets at household level and a source of income for beneficiary households. Poppe at el (2017) argues that when Home Grown School Feeding becomes part of the national school meal programme, it creates a pathway to increased productivity,

food security and income security as it promotes educational and social safety nets outcomes and access for small holder farmers to participate in stable markets arising from the demand for produce from schools.

- **THE FIRST 1000 MOST CRITICAL DAYS PROJECT/PROGRAM (MCDP):** the MCDP is a multi-stakeholder project that was implemented in Zambia between 2015 and 2017 to address child undernutrition especially stunting among children 2 years and below. The first 1000 days are critical in a child's life from conception to 2 years (pregnancy, infancy and toddlerhood). The MCDP aimed to bundle, strengthen, and bring to scale a strategic subset of routine interventions proven to reduce stunting. This includes maternal nutrient supplementation, complementary feeding practices, growth monitoring, integrated management of acute malnutrition, dietary diversity and water and sanitation. Results from the program indicate that it yielded some positive results through reduced malnutrition in the districts where the project was implemented. The project end line evaluation conducted in 2018 revealed that stunting had reduced in treatment districts than in comparison districts though not significantly and there was increased knowledge of nutrition and improved practices related to nutritional intake. The results from the program offer an opportunity for Government with help of cooperating partners to continue rolling out the project country wide.

SOURCE: <https://www.african-bushcampsfoundation.org/project/school-feeding-programme/>





RECOMMENDATIONS

The following are some of the PMRC recommendations:

1. There is need to increase funding towards child nutrition and rehabilitation centres for children with disabilities. The increase in funding could go towards expansion of rehabilitation centres which are usually far especially in rural areas and employment of more nutritionists and nurses that support children with disabilities in communities.
2. There is need to improve access to education for children with disabilities through actualization of the provisions of the education policy. While the education policy is categorical on the need to increase access to education for children with disabilities, these targets have not been actualized as there are no adequate assistive devices necessary for the children to access education.
3. There is need for increased funding towards early childhood education as a means for early identification of different disabilities and potentials. This recommendation is based on the argument that early childhood education increases the probability of identifying children with special needs which may help in starting early interventions. In Zambia where early identification of children with special educational needs has remained a challenge, early childhood education centres can help in early identification of children with special educational needs. Overall, this will help to get the most out of the potential of learners with disabilities.
4. There must be an improvement in the timely collection of data for both disability and nutrition for children. This data, if well managed and coordinated, will help program implementers with problem identification, program planning and execution of efforts aimed at improving nutrition among children with disabilities.

5. Government is urged to consider formulating and implementing a Social Protection Policy for persons living with disabilities. This policy will improve programme targeting for persons with all forms of disabilities..
6. Government is urged to consider using the multi-sectoral approach in funding towards nutrition programs. The individual budgetary allocations to ministries are unlikely to reinforce one another as resources are being spread thinly. The multi-sectoral approach will lead to nutrition-specific budgeting, reporting and tracking thereby realizing value for money of nutrition interventions.
7. There is need for deliberate efforts towards nutrition education for mothers and caregivers of children with disabilities. One such path can be through the Social Cash Transfer Scheme, which deliberately targets households that have children with disabilities. Caregivers can be trained in food preparation and food requirements for children with disabilities in order to improve nutrition among them.



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