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**ASSESSING THE INFLUENCE OF SOCIO DEMOGRAPHIC FACTORS ON
STUNTING IN AMONG THE UNDERFIVE CHILDREN CHABANYAMA
COMPOUND, CHINGOLA; CROSS-SECTIONAL STUDY**

BY

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**A research dissertation submitted to the University of Lusaka in partial fulfillment of
the requirements of a Degree in Bachelor of Science in Public Health**

DECLARATION

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I declare that this proposal is my creative work and to the best of my acquaintance has not been presented for a degree in any other institution.

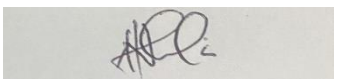
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This dissertation has been submitted with my approval as a University of Lusaka (UNILUS) supervisor.

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Date: 13/11/2025

DEDICATION

This dissertation is dedicated to my beloved *sister*, whose unwavering support and sacrifices have made my academic journey possible. Your financial assistance, encouragement, and constant belief in my potential have been the foundation of my success. I deeply appreciate your perseverance, patience, and unconditional love, even during times when my results did not meet your expectations. This achievement is as much yours as it is mine. Thank you for never giving up on me.

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LIST OF ACRONYMS

ZDHS - Zambian Demographic and Health Survey

NNS - National Nutrition Strategy

SUN - Scaling Up Nutrition

WHO – World Health Organization

UNICEF – United Nations Children’s Fund

MOH - Minister of Health

SDF - Social Demographic Factors

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ABSTRACT

Background: Stunting among under-five children is a persistent public health concern in Sub-Saharan Africa, including Zambia, contributing to impaired growth, cognitive deficits, and poor school performance. Socio-demographic factors such as parental education, household size, employment status, and maternal age have been identified as key determinants of child nutritional status. This study aimed to assess the influence of socio-demographic factors on stunting among under-five children in Chabanyama Compound, Chingola, Zambia.

Methods: A cross-sectional analytical study was conducted among 262 under-five children and their caregivers. Data were collected using structured questionnaires and child health records. Descriptive statistics were used to summarize socio-demographic characteristics, while Pearson's Chi-square tests were applied to examine associations between stunting and socio-demographic variables. Statistical significance was considered at $p < 0.05$.

Results: The study found that 52.3% of the children were female, and the majority of mothers (44.3%) had attained secondary education. Most households (68.3%) had four or more members, and 58.8% had an average monthly income of less than 5000 ZMW. Stunting prevalence in the study population was 20.6%. Chi-square analysis revealed no statistically significant associations between stunting and maternal education ($p = 0.352$), paternal education ($p = 0.315$), maternal age at childbirth ($p = 0.447$), maternal employment status ($p = 0.326$), paternal/guardian employment status ($p = 0.789$), household size ($p = 0.342$), number of children under five ($p = 0.926$), or household income ($p = 0.103$).

Conclusion: Stunting in Chabanyama Compound is moderately prevalent, but socio-demographic factors such as parental education, maternal age, employment status, and household size did not show significant associations with stunting in this study. These findings suggest that other factors, including feeding practices, access to health services, and environmental conditions, may play a more prominent role in influencing child nutritional outcomes. Multi-sectoral interventions targeting nutrition education, health service accessibility, and household food security are recommended.

Keywords: Stunting, Under-five Children, Socio-demographic Factors, Household Size, Parental Education

CHAPTER ONE

1.0 Introduction

Stunting is pervasive public health concern in Zambia, affecting approximately 35% of children under the age of five (ZDHS, 2018). The Zambian government has made efforts to address stunting through initiatives such as the National Nutrition Strategy (NNS) and the scaling up Nutrition (SUN) movement. However, stunting remains a significant challenge, particularly in rural areas. Hence, this study aimed to contribute to the understanding of the social demographic factors influencing stunting among under five children in Zambia, providing valuable insights for policymakers, healthcare professionals and stakeholders working to address this problem.

1.1 Background

Stunting is a complex problem. This issue is more common in low and low middle income countries to which there are households that struggle to provide nutritious food, may be restricted or limited health care service to treat illness and others may have been raised by mothers who have little or no education on how to provide proper care and nutrition for their children because of such circumstances children tend to suffer from stunting hence, stunted children may experience difficulties in learning, reduced earning potentials, social participation which may increase healthcare costs causing to divert resources away from productive activities leading to decreases productivity of the country (Boomer, C et al., 2019) and Zambia is one of them that have such households. Worldwide the stunting in children under five is 22% (WHO, 2022) which translates to approximately 148.1 million and Africa has a much higher stunting rate compared to the global average, Zambia is one of the countries in Africa affected with stunting among the under five children, prevalence of stunting among under aged children in Zambia 35% (UNICEF, 2022). In Zambia stunting is often perpetuated by inadequate nutrition, poor healthcare and unfavorable environmental condition (MoH, 2016). According to the Zambia Demographic and Health survey (ZDHS, 2018), the prevalence of stunting among under five children varies significant across differently regions, with highest prevalence found in rural areas. Numerous studies have identified various social demographic factors associated with stunting in Zambia, including maternal education, household and access to clean water and sanitation facilities (Kalembo et al., 2017; Masiye et al., 2018). However, this factors vary across populations.

1.2 Statement of the problem

Despite the efforts that the Zambian government has implemented, stunting remains a significant challenge, the prevalence of stunting varies significantly across different regions, with rural areas being disproportionately affected. While some studies have investigated the determinants of stunting in Zambia (Nkhoma et al., 2018-2019) and micronutrients deficiencies are widespread among children also compromising the health and development of a child (ZDHS, 2024) there is was another study that showed that stunting is associated with reduced cognitive development, lower education attainment, and decreased economic productivity (Victora et at., 2008) and it was also studied that limited to health care services, including that antenatal care service increases the risk of stunting (WHO, 2020) and children residing in rural areas are more likely to experience stunting compared to their urban counterparts (Central Statistical Office, 2019) Therefore, the need for further research to understand the complex interplay of social demographic factors (parental education, maternal age, employment status and house hold size) influencing stunting among the under five children in Zambia, specifically, there is lack of understanding of how factors such has maternal age, household income, family size and parental education contribute to stunting in this Chabanyama compound. hence this study seeks to address this knowledge gap by assessing the influence of social demographic factor on stunting among the under five children in Chabanyama, Zambia.

1.3 Justification

Stunting remains public health concern in Zambia with the high prevalence of approximately 35% of children under the age of five affected (ZDHS,2018). This study aims to address the knowledge gap of how social demographic factors influence stunting. Hence this study will provide valuable insights for policy makers, healthcare professionals, and stakeholders working to address this problem on how they can integrate nutritional programs, educate mother or caregiver on proper practices and nutrition knowledge to improve health. Stunting has far-reaching consequences, including impaired cognitive development, reduced economic productivity and increased risk of morbidity and mortality. By understanding the social demographic factors contributing to stunting, will help to improve child health outcome and it will contribute to the exiting literature on stunting in Zambia

1.4 Objectives

1.4.1 General Objectives

To assess the influence of social demographic factors on stunting among the under five children.

1.4.2 Specific Objective

- To determine the relationship between household size and stunting among under-five children in Chabanyama Community.
- To assess how employment status of parents or guardians influences stunting among under-five children in Chabanyama.
- To examine the association between maternal age and the nutritional status (stunting) of under-five children in Chabanyama.
- To evaluate the effect of parental education levels on the prevalence of stunting among under-five children in Chabanyama.

1.5 Research Questions

1. What is relationship between household size and stunting among under-five children in Chabanyama?
2. How does employment status of parents or guardians' influences stunting among under-five children in Chabanyama?
3. What is association between maternal age and the nutritional status (stunting) of under-five children in Chabanyama?
4. What is the effect of parental education levels on the prevalence of stunting among under-five children in Chabanyama?

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Stunting, a form of chronic undernutrition characterized by low height-for-age, is a persistent public health concern in many low- and middle-income countries, particularly in sub-Saharan Africa (SSA). It reflects cumulative growth deficits resulting from prolonged periods of inadequate nutrient intake and recurrent infections, often exacerbated by socioeconomic and environmental challenges. Among children under five, stunting is particularly critical, as it has long-term implications for cognitive development, educational attainment, and economic productivity. Understanding the socio-demographic determinants of stunting is crucial for effective interventions, and this review narrows the focus from regional trends in SSA to national patterns in Zambia.

2.2 At region level (sub- Saharan Africa)

Sub-Saharan Africa bears a substantial burden of child stunting. According to the WHO/UNICEF Joint Child Malnutrition Estimates (2023), approximately 30% of under-five children in SSA are stunted. This prevalence represents millions of children who face impaired cognitive development, poor school performance, and reduced economic productivity in adulthood (UNICEF, 2023). Socioeconomic background is a strong predictor of stunting. A comparative analysis across sub-Saharan Africa by Amugsi et al. (2017) revealed that children from the lowest wealth quintile had a significantly higher risk of stunting than those from the wealthiest households. In Zambia, similar trends have been reported; children in rural, impoverished communities face barriers to accessing healthcare and nutrition, contributing to persistent stunting (CSO et al., 2019).

A cross-sectional analysis by (Günther & Fink 2020) covering 33 SSA countries identified maternal education, household income, sanitation access, and urban residence as key socio-demographic predictors of child growth outcomes. Their findings highlight systemic poverty and limited maternal empowerment as barriers to child health improvement. In Ethiopia, Derso et al. (2020) found that stunting was significantly higher among male children, those born to teenage mothers, and children from households with no formal education. The study stressed that maternal age and education were among the strongest determinants.

Furthermore, (Nkomo & Chirwa 2022) in their analysis of ten SSA countries reported that rural residence was consistently associated with higher stunting prevalence. This was attributed to poor access to health services, limited dietary diversity, and traditional childcare practices. another study that was conducted about the prevalence of child stunting in sub Saharan Africa which asserted that Children in SSA are highly affected by stunting, with an average prevalence of 41% and that Maternal education, feeding practices and environmental factors (e.g. climate change) are important risk factors to take note (quamme, S.H. et al 2022). A consistent pattern across SSA is the strong influence of maternal education on child nutrition outcomes.

Maternal education contributes to improved knowledge of nutrition, hygiene practices, and health service utilization. It also influences intra-household decision-making, leading to better allocation of resources for child health. Children from poorer households are at a much greater risk of stunting. A study by (Amugsi et al. 2019) found that children from the lowest wealth were over two times more likely to be stunted compared to those in the highest wealth. According (Wamani et al. 2019) who suggested that biological vulnerability and care preferences could contribute to stunting. Children in rural areas tend to have limited access to health services, safe water, and improved sanitation. (Taffese et al. 2020) found that rural-urban disparities persist even when controlling for income and education, pointing to structural inequalities in infrastructure and access.

2.3 Local Level-Zambia

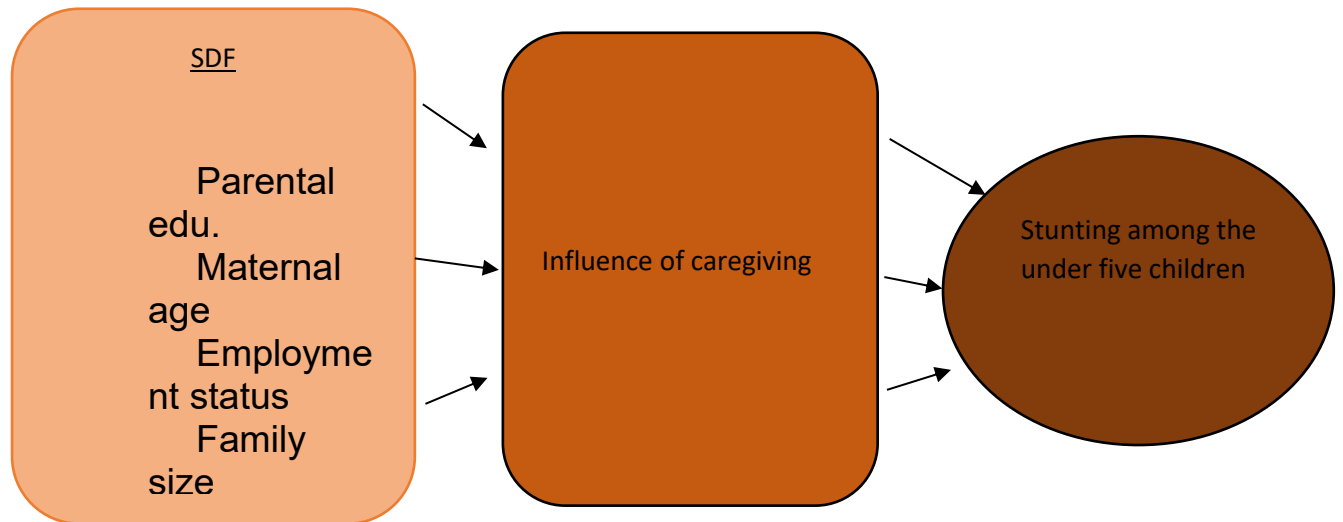
In Zambia, the 2018 Demographic and Health Survey (ZDHS) reported that 35% of under-five children were stunted. Despite a slight decline from previous years, this figure remains among the highest in the region. The stunting burden in Zambia is driven by multiple socio-demographic factors that align with regional patterns but also reflect local cultural and economic conditions. Maternal education remains a key predictor. Children born to mothers with no education had a stunting rate of 41%, compared to 26% among those whose mothers had secondary or higher education (ZDHS, 2018). A study by (Tembo et al. 2021) using Zambia's Living Conditions Monitoring Survey (LCMS) found that maternal literacy significantly reduced the odds of stunting, independent of household income. This suggests that health knowledge plays a protective role even in low-resource settings.

In a case study conducted in Eastern Province, Phiri and Banda (2020) noted that maternal unemployment and household food insecurity were significantly associated with stunting. (Mundia et al. 2019) explored reasons including poor healthcare access, traditional beliefs about feeding, and seasonal food insecurity. Interestingly, urban informal settlements (slums) are emerging as new hotspots for undernutrition due to overcrowding and low dietary diversity. (Kabwe et al. 2022) also reported that inappropriate complementary feeding, early weaning, and cultural food taboos contribute significantly to stunting, especially in Northern and Luapula provinces. It is also known that teenage motherhood is linked to biological immaturity, lack of childcare knowledge, and lower decision-making autonomy. (Mulenga et al. 2021) noted that single or divorced mothers had higher rates of child stunting, often due to reduced economic and social support.

According to the Zambia Demographic and Health survey (ZDHS, 2018), the prevalence of stunting among under-five children varies significantly across different regions, with highest prevalence found in rural areas. Numerous studies have identified various social demographic factors associated with stunting in Zambia, including maternal education, household access to clean water and sanitation facilities (Kalembo et al., 2017; Masiye et al., 2018). The literature underscores the strong influence of sociodemographic and socioeconomic factors on stunting in under-five children. These findings highlight the need for multisectoral interventions addressing education, income generation, and rural development to reduce stunting in Zambia. The literature underscores the strong influence of sociodemographic and socioeconomic factors on stunting in under-five children. These findings highlight the need for multi-sectoral interventions addressing education, income generation, and rural development to reduce stunting in Zambia.

Conceptual framework

It by the use of UNICEF framework that this study aligns with globally recognized model for malnutrition



Source: compelled by the researcher, 2024

Figure 1

CHAPTERS THREE

METHODOLOGY

3.0 Study Approach

This study used a quantitative research approach to assess the relationship between social demographic factors and stunting among under-five children. Quantitative method is chosen to allow for objective measurement and statistical analysis of data related to the prevalence and determinants of stunting.

3.1. Study design

A cross-sectional study design was utilized. This design is appropriate for examining the association between various social demographic factors and the nutritional status (stunting) of children at a single point in time.

3.2. Target population

The target population comprised of all children under the age of five residing in chabanyama community chingola Zambia, as well as their primary caregivers. The study specifically focuses on households with children aged 0–59 months.

3.3. Sampling procedure

A simple random sampling procedure was utilized. Because this study was based on a specified community which is chabanyama in chingola Zambia. It's a relatively small and manageable population and each and every hold where there at least one child under the age of five stands a chance of being randomly chosen to participate in the study, along with their caregiver.

3.4. Sample size

The sample size was calculated using Cochran's formula for cross-sectional studies:

$$n = \frac{Z^2 \cdot p(1 - p)}{d^2}$$

Where:

N = required sample size

Z = Z-score for 95% confidence level = 1.96

p = estimated prevalence of stunting (35%)

d = margin of error (usually 0.05 or 5%)

substitution:

$$n = \frac{(1.96)^2 \cdot 0.35(1 - 0.35)}{(0.05)^2}$$

$$n = \frac{3.8416 \cdot 0.2275}{0.0025}$$

$$n = 350$$

3.5. Data collection method

Used a structured questionnaire that was administered to caregivers (mostly mothers or guardians) to collect social demographic data, such as:

- Age, sex, and education level of the caregiver
- Household income and employment status
- Marital status
- Number of children in the household
- Access to clean water and sanitation
- Feeding practice and health care access

Health Record Review

Reviewing of children's health cards to verify:

- Immunization status
- Growth monitoring records
- Birthweight

3.6. Data analysis

Both descriptive statistics and inferential statistics were used in this study. Data was entered and be cleaned using Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 13

3.7. Ethical consideration

Ethics was considered in this research, especially that children (a vulnerable population) were involved (Chandwe, K. et al,2021) and collecting personal and health-related data from families. Below are the key ethical considerations that were considered.

Informed Consent; Getting a written or verbal informed consent from the child's parent or legal guardian is important, this is to ensure that participants understand the purpose of the study, what's involved, and that their participation is voluntary. This is also to protect the researcher legally and ethically.

Confidentiality and Anonymity; no collection names or identifiable data unless necessary. Use of codes instead of names were used instead. Data shall be secure (password-protected files) this is to protect the privacy of participants and prevent misuse of sensitive information.

Minimizing Harm and Discomfort: Make participants feel comfortable. This is to protect the physical and emotional well-being of children and caregivers.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the results of the study on assessing the influence of socio-demographic factors on stunting among children in Chabanyama Compound, Chingola. The findings provide an understanding of the prevalence of stunting among children and how selected demographic characteristics of caregivers and households relate to the nutritional status of the children.

A total of 350 questionnaires were distributed to caregivers of children in Chabanyama Compound. Out of these, 262 were correctly completed and returned, representing a response rate of 74.9%. The results are presented in accordance with the study objectives and are organized into sections that include the socio-demographic characteristics of caregivers and children, prevalence of stunting, and the relationship between socio-demographic factors and stunting. Statistical analysis, including cross-tabulation and Chi-square tests, was performed to determine significant associations between variables.

4.2 Demographic characteristics

Table 4.1: Demographic characteristics

Variables	Category	Frequency (n)	Percentage (%)
Child's age (in months)	0-5	44	16.8%
	6-11	38	14.5%
	12-23	41	15.6%
	24-35	54	20.6%
	36-47	38	14.5%
	48-59	47	17.9%
	Total	262	100.0%
Child's sex	Male	125	47.7%
	Female	137	52.3%
	Total	262	100.0%
Mother's age range	Below 20	54	20.6%
	20-24	54	20.6%
	25-29	49	18.7%
	30-34	51	19.5%
	35 and above	54	20.6%
	Total	262	100.0%
Marital status of caregiver	Single	54	20.6%
	Married	166	63.4%
	Divorced	34	13.0%
	Widowed	8	3.1%
	Total	262	100.0%
Mother's highest education level	No formal education	28	10.7%
	Primary	71	27.1%

	Secondary	116	44.3%
	Tertiary	47	17.9%
	Total	262	100.0%
Father's highest education level	No formal education	28	10.7%
	Primary	77	29.4%
	Secondary	119	45.4%
	Tertiary	38	14.5%
	Total	262	100.0%
At what age did you give birth to this child (years)	Below 18	51	19.5%
	18-19	53	20.2%
	20-24	51	19.5%
	25-29	56	21.4%
	30 and above	51	19.5%
	Total	262	100.0%

Table 4.1 shows that the children were fairly distributed across age groups, with the largest proportion (20.6%) being those aged 24–35 months, followed by 48–59 months (17.9%). Slightly more than half of the children were female (52.3%) compared to males (47.7%).

Regarding caregivers, the results show that mothers were mostly within the age groups below 20 years, 20–24 years, and 35 years and above (each 20.6%). Most caregivers were married (63.4%), while 20.6% were single and smaller proportions were divorced (13.0%) or widowed (3.1%).

In terms of education, the highest proportion of mothers (44.3%) had secondary education, followed by 27.1% with primary education, while 17.9% had tertiary education and 10.7% had no formal education. Fathers showed a similar trend, with most (45.4%) having secondary education.

The findings also indicate that a considerable number of mothers gave birth during adolescence, as 19.5% gave birth below the age of 18 and 20.2% between 18–19 years, while 21.4% gave birth at 25–29 years.

4.3 Employment status

Table 4.2 Employment status

Variables	Category	Frequency (n)	Percentage (%)
What is your current employment status?	Employed (full-time)	71	27.1%
	Employed (part-time)	57	21.8%
	Self-employed	63	24.0%
	Unemployed	71	27.1%
	Total	262	100.0%
What is the father/guardian's current employment status?	Employed (full-time)	70	26.7%
	Employed (part-time)	64	24.4%
	Self-employed	71	27.1%
	Unemployed	57	21.8%
	Total	262	100.0%
Average monthly household income (ZMW)	Less than 5000	154	58.8%
	Above 5000	108	41.2%
	Total	262	100.0%

Table 4.2 shows the employment status of the caregivers and fathers/guardians, as well as the average monthly household income. The results indicate that among the caregivers, 27.1% were employed full-time and an equal proportion (27.1%) were unemployed. Additionally, 24.0% were self-employed, while 21.8% were employed part-time. This shows that close to half of the caregivers were either unemployed or engaged in informal/self-employment, indicating limited stable income sources in many households.

For fathers/guardians, the majority (27.1%) were self-employed, followed by 26.7% who were employed full-time. A further 24.4% were employed part-time, while 21.8% were unemployed. This suggests that although more fathers/guardians were engaged in work compared to mothers, a significant portion were still in informal or unstable employment. Regarding household income, more than half of the households (58.8%) reported earning less than ZMW 5,000 per month, while 41.2% earned above ZMW 5,000.

4.4 Household size

Table 4.3: Household size

Variables	Category	Frequency (n)	Percentage (%)
Total number of people living in your household	1-3	83	31.7%
	4 and above	179	68.3%
	Total	262	100.0%
Number of children under five years in your household	Less than 3	205	78.2%
	3 or more	57	21.8%
	Total	262	100.0%

Table 4.3 shows the household composition of the study participants. The results indicate that most households (68.3%) had four or more members living in the same home, while 31.7% had between one and three members. With regard to the number of under-five children per household, the majority of households (78.2%) had less than three under-five children, whereas 21.8% had three or more.

4.5 Child health

Table 4.4: Child health

Variables	Category	Frequency (n)	Percentage (%)
Has the child attended growth monitoring or weighing at the clinic?	Yes	210	80.2%
	No	52	19.8%
	Total	262	100.0%
Has the child received all immunizations appropriate for their age?	Yes	228	87.0%
	No	34	13.0%
	Total	262	100.0%
Was the child exclusively breastfed for the first 6 months?	Yes	195	74.4%
	No	67	25.6%
	Total	262	100.0%
At what age was complementary feeding introduced (months)	Less than 4 months	57	21.8%
	4-6 months	148	56.5%
	After 6 months	57	21.8%
	Total	262	100.0%
Number of meals the child eats per day	Less than 3	108	41.2%
	3 or more	154	58.8%
	Total	262	100.0%
Does your household have access to clean drinking water?	Yes	192	73.3%
	No	70	26.7%
	Total	262	100.0%
Does your household have a toilet facility?	Yes	191	72.9%
	No	71	27.1%
	Total	262	100.0%

Table 4.4 presents information related to child health practices and household sanitation. The results show that most children (80.2%) had attended growth monitoring or weighing sessions at the clinic. Additionally, a large proportion (87.0%) had received all age-appropriate immunizations. Exclusive breastfeeding for the first six months was reported among 74.4% of the children, while 25.6% were not exclusively breastfed. Complementary feeding was most commonly introduced between 4–6 months (56.5%), although 21.8% were introduced earlier than recommended and another 21.8% after six months.

In terms of diet, 58.8% of the children ate three or more meals per day, while 41.2% received fewer than three meals daily. Access to clean water and sanitation was relatively high, with 73.3% of households having access to clean drinking water and 72.9% having a toilet facility. However, about one-quarter of households lacked safe water (26.7%) and toilet facilities (27.1%).

4.6 Stunting

Table 4.5 Stunting

Variables	Category	Frequency (n)	Percentage (%)
Child's birth weight (kg)	Less than 2.5 (low birth weight)	37	14.1%
	2.5-3.9	197	75.2%
	More or equal to 4.0	28	10.7%
	Total	262	100.0%
Current weight (kg)	Less than 7	34	13.0%
	7-9.9	132	50.4%
	10-12.9	66	25.2%
	More or equal to 13	30	11.5%
	Total	262	100.0%
Current height/length (cm)	Less than 65	54	20.6%
	65-74	65	24.8%
	75-84	82	31.3%
	85-94	54	20.6%
	95 and above	7	2.7%
	Total	262	100.0%
Date of last clinic measurement:	Within last 1 month	133	50.8%
	1-3 months ago,	83	31.7%
	More than 3 months ago	46	17.6%
	Total	262	100.0%

Table 4.5 presents the anthropometric characteristics of the children. A total of 14.1% had a low birth weight (<2.5 kg), while 75.2% weighed 2.5–3.9 kg at birth, and 10.7% weighed ≥4.0 kg. Current weight distribution shows that 50.4% of children weighed 7–9.9 kg, 25.2%

weighed 10–12.9 kg, 13.0% weighed less than 7 kg, and 11.5% weighed ≥ 13 kg. Height/length measurements indicated that 31.3% of children were 75–84 cm, 24.8% were 65–74 cm, 20.6% were less than 65 cm, 20.6% were 85–94 cm, and 2.7% were 95 cm or more. About half (50.8%) of the children were measured at the clinic within the last month, 31.7% within 1–3 months, and 17.6% more than three months ago. Based on question three in table 4.5, figure 4.1 shows that (20.6%) of the children were stunted.

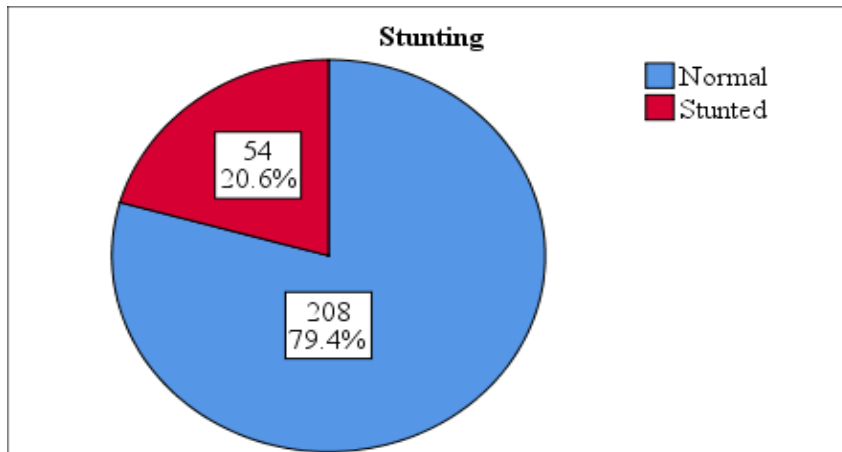


Figure 4.1: Stunting

4.7 Association between dependent variable and independent variables: Chi-square Test

Table 4.6: Chi-square Results

Variable	Category	Stunting		P-value
		Normal n (%)	Stunted n (%)	
Mother's highest education level	No formal education	22 (78.6)	6 (21.4)	0.352
	Primary	57 (80.3)	14 (19.7)	
	Secondary	96 (82.8)	20 (17.2)	
	Tertiary	33 (70.2)	14 (29.8)	
Father's highest education level	No formal education	22 (78.6)	6 (21.4)	0.315
	Primary	66 (85.7)	11 (14.3)	
	Secondary	89 (74.8)	30 (25.2)	
	Tertiary	31 (81.6)	7 (18.4)	
Age of mother at childbirth (years)	Below 18	44 (86.3)	7 (13.7)	0.447
	18–19	40 (75.5)	13 (24.5)	
	20–24	43 (84.3)	8 (15.7)	
	25–29	43 (76.8)	13 (23.2)	
	30 and above	38 (74.5)	13 (25.5)	
Mother's employment status	Employed (full-time)	58 (81.7)	13 (18.3)	0.326
	Employed (part-time)	49 (86.0)	8 (14.0)	
	Self-employed	46 (73.0)	17 (27.0)	
	Unemployed	55 (77.5)	16 (22.5)	
Father/guardian employment status	Employed (full-time)	53 (75.7)	17 (24.3)	0.789
	Employed (part-time)	52 (81.3)	12 (18.8)	
	Self-employed	56 (78.9)	15 (21.1)	
	Unemployed	47 (82.5)	10 (17.5)	
Average household monthly income (ZMW)	Less than 5000	117 (76.0)	37 (24.0)	0.103
	Above 5000	91 (84.3)	17 (15.7)	
Total number of people in the household	1–3	63 (75.9)	20 (24.1)	0.342
	4 and above	145 (81.0)	34 (19.0)	
Number of children under 5	<3	163 (79.5)	42 (20.5)	0.926
	3 or more	45 (78.9)	12 (21.1)	

Table 4.6 presents the chi-square analysis of the association between socio-demographic factors and stunting. The results show that mother's highest education level ($p = 0.352$), father's highest education level ($p = 0.315$), and maternal age at childbirth ($p = 0.447$) were not significantly associated with stunting. Similarly, mother's employment status ($p = 0.326$), father/guardian's employment status ($p = 0.789$), average household monthly income ($p = 0.103$), total number of people in the household ($p = 0.342$), and number of children under five years in the household ($p = 0.926$) showed no statistically significant association with stunting.

CHAPTER FIVE

DISCUSSION

This chapter presents the discussion of the study findings on the influence of socio-demographic factors on stunting among under-five children in Chabanyama Compound, Chingola. The discussion integrates the study results with existing literature, highlighting consistencies and deviations. The findings are interpreted in relation to each specific objective.

5.1 Discussion of key findings

5.1.1 Household Size and Stunting

The study found no statistically significant association between household size and stunting ($p = 0.342$). Although children from smaller households (1–3 members) had a slightly higher prevalence of stunting (24.1%) compared to those from larger households (19.0%), this difference was not significant. This finding contrasts with some studies in Sub-Saharan Africa where larger household sizes were often associated with higher stunting due to resource dilution and reduced care per child (Amugsi et al., 2017; Derso et al., 2020). The lack of significance in Chabanyama Compound may be explained by household resource allocation patterns or the presence of extended family support systems mitigating the effects of household crowding.

5.1.2 Employment Status of Parents/Guardians

The analysis indicated no significant association between mother's employment status ($p = 0.326$) or father/guardian's employment status ($p = 0.789$) and stunting. Children of self-employed mothers showed slightly higher stunting (27.0%) than children of part-time employed mothers (14.0%), but differences were not statistically significant. These findings partially align with local studies in Zambia (Phiri & Banda, 2020; Mundia et al., 2019), which reported that maternal employment can influence child nutrition outcomes depending on income stability and availability for childcare. It suggests that in Chabanyama, employment status alone may not be a strong determinant of child stunting, possibly due to complementary family support or informal childcare arrangements.

5.1.3 Maternal Age at Childbirth

No statistically significant association was observed between maternal age at childbirth and stunting ($p = 0.447$). Children born to mothers aged 30 years and above had slightly higher stunting (25.5%) than those born to mothers below 18 years (13.7%). Previous studies in Sub-

Saharan Africa have linked teenage motherhood to increased risk of stunting due to biological immaturity and limited childcare knowledge (Derso et al., 2020; Mulenga et al., 2021). The non-significant result in this study may reflect the influence of other mitigating socio-economic or cultural factors in Chabanyama, such as family support and breastfeeding practices.

5.1.4 Parental Education Levels

Parental education showed no statistically significant association with stunting in this study: mother's education ($p = 0.352$) and father's education ($p = 0.315$). Children of mothers with tertiary education had the highest stunting prevalence (29.8%), while those with secondary education had the lowest (17.2%). Similarly, children of fathers with secondary education had slightly higher stunting (25.2%). These findings contrast with regional and Zambian evidence that highlights maternal education as a protective factor against stunting due to improved knowledge of nutrition, hygiene, and health service utilization (Quamme et al., 2022; ZDHS, 2018; Amugsi et al., 2019). The lack of significance may be influenced by small sample sizes in certain educational categories or other unmeasured household and environmental factors.

5.1.5 Household Income and Number of Children

Although children from households earning less than ZMW 5,000 had a higher prevalence of stunting (24.0%) compared to higher-income households (15.7%), the association was not statistically significant ($p = 0.103$). Similarly, the number of children under five in the household did not show a significant relationship with stunting ($p = 0.926$). These results suggest that, in Chabanyama, household income and number of young children may interact with other socio-cultural factors such as food sharing practices, parental care, and access to community health services, influencing stunting outcomes (Taffese et al., 2020; Kalembo et al., 2017).

Overall, the study findings indicate that while socio-demographic factors such as parental education, maternal age, employment status, household size, and income have been reported as significant determinants of stunting in Sub-Saharan Africa (WHO/UNICEF, 2023; Amugsi et al., 2017; Günther & Fink, 2020), in Chabanyama Compound, none of these variables showed statistically significant associations with stunting. This may suggest the presence of other overriding factors such as cultural practices, dietary habits, health service utilization, and environmental conditions, that were not captured in this study.

5.2 Limitations of the study

1. **Cross-sectional design** – The study design limits the ability to establish causal relationships between socio-demographic factors and stunting. Associations observed cannot confirm temporality.
2. **Unmeasured variables** – Important factors such as dietary diversity, maternal nutrition during pregnancy, infectious diseases, and environmental factors (sanitation, water quality) were not included, which may influence stunting outcomes.
3. **Generalizability** – The study was conducted in Chabanyama Compound, an urban informal settlement in Chingola; findings may not be generalizable to rural or other urban settings in Zambia.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Conclusion

This study investigated the influence of socio-demographic factors on stunting among under-five children in Chabanyama Compound, Chingola. The study specifically examined household size, parental employment status, maternal age, and parental education levels as potential determinants of stunting. A total of 262 children and their caregivers participated in the study.

The findings revealed that:

Household size did not show a statistically significant association with stunting, indicating that child nutritional status in Chabanyama may not be strongly influenced by the number of household members. Parental employment status, for both mothers and fathers/guardians, was not significantly associated with stunting, suggesting that income or employment alone may not fully determine child nutrition outcomes in this setting.

Maternal age at childbirth was not significantly related to stunting, although slightly higher stunting rates were observed among children born to older mothers. Parental education levels showed no statistically significant association with stunting in this population, although trends suggested lower stunting among children of parents with secondary education. Household income and the number of children under five also did not show significant relationships with stunting.

Overall, the study indicates that while socio-demographic factors are recognized determinants of stunting in Sub-Saharan Africa and Zambia, their influence in Chabanyama Compound appears to be less pronounced, possibly due to the effects of other factors such as feeding practices, access to health services, sanitation, and cultural influences.

6.1 Recommendations

Based on the study findings, the following recommendations are proposed:

1. Local health authorities should implement community-based nutrition education programs focusing on proper infant and young child feeding practices, complementary feeding, and growth monitoring.

2. Interventions aimed at improving child nutrition should target both mothers and fathers, emphasizing caregiving practices, nutrition knowledge, and household resource allocation.
3. Efforts should be made to enhance accessibility of growth monitoring, immunization, and health education services in Chabanyama Compound to support early identification and management of stunting.
4. Future studies should include larger sample sizes and incorporate additional factors such as dietary diversity, maternal nutrition, infections, and environmental conditions to better understand the complex determinants of stunting in urban informal settlements.

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Appendix 1: Questionnaire

Section A: Demographic Information

1. Child's age (in months): ☐ 0–5 ☐ 6–11 ☐ 12–23 ☐ 24–35 ☐ 36–47 ☐ 48–59
2. Child's sex: ☐ Male ☐ Female
3. Mother's age (years): ☐ Below 20 ☐ 20–24 ☐ 25–29 ☐ 30–34 ☐ 35 and above
4. Marital status of caregiver: ☐ Single ☐ Married ☐ Divorced ☐ Widowed

Section B: Parental Education

5. Mother's highest education level: ☐ No formal education ☐ Primary ☐ Secondary ☐ Tertiary
6. Father's highest education level: ☐ No formal education ☐ Primary ☐ Secondary ☐ Tertiary

Section C: Maternal Age

8. At what age did you give birth to this child? (years): ☐ Below 18 ☐ 18–19 ☐ 20–24 ☐ 25–29 ☐ 30 and above

Section D: Employment Status

9. What is your current employment status? ☐ Employed (full-time) ☐ Employed (part-time) ☐ Self-employed ☐ Unemployed
10. What is the father/guardian's current employment status? ☐ Employed (full-time) ☐ Employed (part-time) ☐ Self-employed ☐ Unemployed
11. Average monthly household income (ZMW): ☐ Less than 5,000 ☐ above 5,000

Section E: Household Size

12. Total number of people living in your household: ☐ 1–3 ☐ 4 and above
13. Number of children under five years in your household: ☐ less than 3 ☐ 3 or more

Section F: Child Health & Nutrition

14. Has the child attended growth monitoring or weighing at the clinic? ☐ Yes ☐ No

15. Has the child received all immunizations appropriate for their age? ☐ Yes ☐ No
16. Was the child exclusively breastfed for the first 6 months? ☐ Yes ☐ No
17. At what age was complementary feeding introduced (months): ☐ < 4 months ☐ 4–6 months ☐ After 6 months
18. Number of meals the child eats per day: ☐ less than 3 ☐ 3 or more
19. Does your household have access to clean drinking water? ☐ Yes ☐ No
20. Does your household have a toilet facility? ☐ Yes ☐ No

Section G: Anthropometric Verification (From Child Health Card)

21. Child's birth weight: (kg): ☐ < 2.5 (Low birth weight) ☐ 2.5–3.9 ☐ ≥ 4.0
22. Current weight: (kg): ☐ < 7 ☐ 7–9.9 ☐ 10–12.9 ☐ ≥ 13
23. Current height/length: (cm): ☐ < 65 ☐ 65–74 ☐ 75–84 ☐ 85–94 ☐ ≥ 95
24. Date of last clinic measurement: ☐ Within last 1 month ☐ 1–3 months ago ☐ More than 3 months ago

WORK PLAN

Activities	3 rd Week Of June	July	August	September - November
Literature review				
Data collection				
Data analysis				
Report rewriting				
Review of report				

Budget

Items	Estimated cost (zmw)
Transport	500
Printing and stationary	600
Internet (bundles)	200
Total	1300

INFORMED CONSENT FORM FOR PARTICIPANTS

Study Title: Assessing the Influence of Socio-Demographic Factors on Stunting Among Under-Five Children in Chabanyama Compound, Chingola; cross-sectional study

Principal Investigator: Agness Muwowo

Bachelor of Science in Public Health

You are being invited to participate in a research study about the socio-demographic factors influencing stunting among children under five years in Chabanyama Compound, Chingola; cross-sectional study.

Before you decide whether to participate, it is important that you understand the purpose of the study, what it involves, and your rights as a participant. This study aims to understand how factors such as parental education, maternal age, employment status, and household size influence stunting in under-five children. If you agree to participate, you will be asked to:

- Answer questions from a structured questionnaire.
- Allow the researcher to review your child's health card for immunization and growth data. Participation is entirely voluntary. You can refuse to participate or withdraw from the study at any time without any consequences. Risks and benefits
- Risks: There are no expected physical risks, but you may feel uncomfortable answering some questions. You may skip any questions you do not wish to answer.
- Benefits: Although you may not benefit directly, the findings will help in creating better child health programs in your community. All the information collected will be kept strictly confidential. Your name will not appear in any report. Data will be coded and stored securely. There will be no monetary compensation, but your participation is highly appreciated.

Contacts for further information,

you may contact: Agness Muwowo – on 0960609444]

Dr. Muyawa Naanda – Supervisor: 0978368645

Consent Statement I have read/been read to and understood the information above. I agree voluntarily to participate in this study.

Participant's Name: _____

Signature/Thumbprint: _____

Date: _____



NATIONAL HEALTH RESEARCH AUTHORITY

Lot No. 18961/M, off Kasama Road, Chalala, P.O. Box 30075, LUSAKA
Tell: +260211 250309 | Email: znhrasec@nhra.org.zm | www.nhra.org.zm

NHRA10467/30/09/2025

30th September 2025

The Principal Investigator,
Agness Muwowo,
University of Lusaka,
Lusaka

Dear Agness Muwowo,

Re: Request for Authority to Conduct Research

The National Health Research Authority Is in Receipt of Your Request for Authority to Conduct Research Titled **“Assessing the influence of social demographic factors on stunting among the under five children in Chabanyama, Chingola; Cross-sectional study”**

I wish to inform you that following submission of your request to the Authority, our review of the same and in view of the ethical clearance, this study has been **approved** on condition that:

1. The relevant Provincial and District Medical Officers where the study is being conducted are fully appraised.
2. Progress updates are provided to NHRA bi-annually from the date of commencement of the study.
3. The final study report is cleared by the NHRA before any publication or dissemination within or outside the country.
4. After clearance for publication or dissemination by the NHRA, the final study report is shared with all relevant Provincial and District Directors of Health where the study was being conducted, University leadership, and all key respondents.

Yours sincerely,

National Health Research Authority

Prof Victor Chalwe,
Director and Chief Executive Officer

All correspondences should be addressed to the Director/CEO National Health Research Authority



UNIVERSITY of LUSAKA
Passion for Quality Education: Our Driving Force

**UNIVERSITY OF LUSAKA RESEARCH ETHICS COMMITTEE
(UNILUS-REC)**

Plot No. 37413, Off Alick Nkhata Mass Media. P. O Box 36711, Lusaka.
Phone: +260211258505, 258409 Fax +260211233409; Cell +260976075850,961917862,
E-mail: unilus@zamnet.zm, ictar@zamnet.zm

UNILUS-RESEARCH ETHICS COMMITTEE

Ref no: FWA00033228-946(08)/(08)/{2024}

Date: 05 September 2025

STUDENT NAME: **Ms. Agness Muwowo**

Assessing the influence of social demographic factors on stunting among the under five children in chabanyama Chingola, Zambia; Cross-sectional

The above research was submitted to the research ethics committee for review. The study has no major ethical problems and is approved subject to the following:

1. The study cannot be changed without express permission of the UNILUS research ethics committee.
2. Approval from the necessary authority should be sought.

1 of 2

Professor Kasonde Bowa

MSc(Glasgow), M.Med(UNZA), FRCS(Glasgow), FACS, FCS, DPH(LSTMH), MPH(UCL)

Chairman- UNILUS REC

Professor of Urology and Consultant Urologist

Deputy Vice-Chancellor – Research and Innovation

Executive Dean - School of Medicine and Health Sciences

Agness Muwowo,
Undergraduate Student – Bachelor of Science in Public Health,
University of Lusaka,
Phone: 096060944,
Email: muwowoagness@gmail.com.
1st November, 2025.

The District Health Director,
Chingola District Health Office,
P.O. Box 10121,
Chingola, Zambia.



Dear sir/madam

Ref: Request for Permission to Conduct a Research Study in Chabanyama Community, Chingola District.

My name is Agness Muwowo, a fourth-year undergraduate student at the University of Lusaka, pursuing a Bachelor's Degree in Public Health. I am requesting for permission to conduct my research study in Chabanyama Community, within Chingola District.

The title of my study is:

"Assessing the Influence of Social Demographic Factors on Stunting Among Under-Five Children in Chabanyama, Chingola: A Cross-Sectional Study."

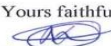
1

The purpose of this study is to assess how social demographic factors such as parental education, income levels, and household characteristics influence stunting among children under the age of five. The findings will help provide useful insights for interventions aimed at reducing stunting and improving child health outcomes in the district.

All information collected will be kept strictly confidential and used solely for academic purposes. The study will adhere to ethical research standards, and participation will be voluntary.

I therefore seek your permission to conduct this research within Chabanyama Community.

Your quick and favorable response will be highly appreciated.

Yours faithfully,

A muwowo