

Original Research Article

Analysis of nutritional policies implemented to tackle the double burden of under-five malnutrition in Zambia: a case study of Levy Mwanawasa University Teaching Hospital, Lusaka

Christopher Tuishime^{1*}, Eustarckio Kazonga^{1,2}

¹School of Postgraduate Studies, University of Lusaka, Zambia

²Department of Public Health, School of Medicine and Health Sciences, University of Lusaka, Zambia

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*Correspondence:

Dr. Christopher Tuishime,

E-mail: chriskaze135@gmail.com

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ABSTRACT

Background: This study analyzed the global nutritional policies to tackle the double burden of under-five malnutrition, and this was a case study of Levy Mwanawasa university teaching hospital in Lusaka. The main objective was to analyse the nutritional policies implemented to tackle the double burden of malnutrition at Levy Mwanawasa university teaching hospital.

Methods: Qualitative phenomenological study methodology was used to identify the key elements of the nutritional policies implemented. The qualitative data gathered was analyzed using thematic analysis using Nvivo 14 software for data analysis. One-on-one interviews using a structured interview guide were conducted on 12 purposively selected participants that were enrolled in the study.

Results: The results from the thematic data analysis produced three themes with regard to effectiveness of the adopted policies which are low level effectiveness, medium level effectiveness and high-level effectiveness. The major theme being medium effectiveness. With regard to challenges the themes that emerged were lack of knowledge among individuals on nutritious foods, healthy foods are expensive, lack of policy for regulate food market pricing and lack of information of nutritious foods which was the major theme. The main themes emerging from the suggestions were government regulation of food pricing, government help of orphans and vulnerable children with food handouts and government regulation of food market prices.

Conclusions: The level of implementation of the adopted policies to address the double burden of malnutrition was medium. The study also suggested that the major challenge in the implementation was that individuals lack information on nutritious foods.

Keywords: Malnutrition burden, Under-five nutrition, Nutrition, Policy, Zambia

INTRODUCTION

Malnutrition is defined as the intake of insufficient, surplus or disproportionate amount of nutrients.¹ Malnutrition in its various forms continues to be a significant public health, economic, and equity problem in every country in the world: child stunting affects 150 million children (though falling); hunger affects almost 1 billion people (rising again after falling in recent

decades); and overweight and obesity affect 2 billion adults and underpin more deaths in low-income countries than any other factor.²

Zambia is currently facing new nutritional reality in which stunting and wasting remain significant public health issues while overweight and obesity rates are accelerating.³ The Zambia demographic and health survey (ZDHS) reports that stunting, underweight, wasting and

over-nutrition among children under the age of 5 decreased considerably between 2007-2022 from 35-45%, 15-12%, 6-5%, 6-4% respectively.²¹ Malnutrition in Zambia is a public health concern and priority that must be addressed by network of different stakeholders through intervention focused on both treatment and prevention. In this study, the aim was to analyze the nutritional policies implemented to tackle the double burden of malnutrition at Levy Mwanawasa university teaching hospital and explore the so as to contribute towards refining existing policies targeting the double burden of malnutrition.

Statement of the problem

Considering the double burden of malnutrition, under-nutrition has been estimated to be an underlying cause for around 46% of all children's death worldwide and is more common in developing countries.⁴ The 2024 ZDHS report estimates that stunting affects 32% of children under five while 3% suffer from wasting. The Zambia global nutritional report (GNR) reports that 5.2% of over-nutrition is amongst under-five children. Ideally, there should not be any children that are supposed to be malnourished because good health is the right of every child. Therefore, this overarching reality calls for concerted efforts towards addressing this problem particularly focusing on analyzing the implemented global policies to tackle double burden of nutrition among under-five children at Levy Mwanawasa university teaching hospital in Lusaka.

Justification of the study

The motivation of this study lies in the urgent need to analyze the malnutrition policies being implemented at Levy Mwanawasa university teaching hospital and the challenges faced when implementing the policies. There is currently paucity of published studies on the magnitude of implemented nutritional policies to tackle the double burden of malnutrition in lower income countries. Findings from this study therefore will provide a valuable reference to scientific community, organization and body of knowledge at large as far as the epidemiology of malnutrition is concerned. Findings from this study will provide a critical appraisal of current protocols for management and monitoring malnutrition in under-five and will generate recommendations to improve the nutritional policies.

Main objective

Main objective was to analyse the nutritional policies implemented to tackle the double burden of malnutrition at Levy Mwanawasa university teaching hospital.

Specific objectives

Specific objectives were to explore the effectiveness of the strategies that have been adopted by Zambia to address the double burden of malnutrition, to establish the

challenges in implementing the nutritional policies to tackle the double burden of malnutrition and to determine the best practices that could be used for the swift implementation of strategies that have been adopted by Zambia to address the double burden of malnutrition.

Scope of the study

The main purpose of the study is to analyze the nutritional policies implemented to tackle the double burden of malnutrition. The study was conducted at a tertiary hospital (Levy Mwanawasa university teaching hospital). The target population was healthcare workers (medical doctors, nutritionist, dieticians and nurses) and mothers whose children were affected with malnutrition.

METHODS

Study approach

The qualitative study approach and phenomenological study design were used. This explored and provided deeper insight into world problems and in this study referring to malnutrition policies.⁵

Study design

The phenomenological study was used to provide tools to study complex phenomena within their contexts. This was ideal for discovering the underlying structure of shared essence of some social phenomenon.

Study setting

The study was conducted from Levy Mwanawasa university teaching hospital. The hospital is situated along great east road with bed capacity of 1100 and has about 396 nurses and 146 medical doctors and over 50 health allied staff.

Study population

The targeted population comprised 2 medical doctors, 3 nutritionists, 2 dieticians and 3 Nurses managing under five malnutrition. These study participants were chosen because of the specificity of the study.

Sampling method

The study used a purposive sampling, purposive sampling is a non-probability sampling method that involves selection of participants on convenience or based on certain characteristics.⁶

Sample size determination

The sample size in qualitative studies varies and the recommendations as to what constitutes the correct sample size is dependent on various factors. The sample

size can range from 3-10 participants.⁷ Others state that various factors such as the design of the research can influence sample size such as qualitative methods like grounded theory can have a sample size of 5-35 participants while phenomenological designs may have 3-10 participants as sample size.⁸ Based on these recommendations the sample size of 30 was conveniently selected based on the inclusion criteria.

Inclusion criteria

Medical doctors, nutritionists, dieticians and nurses managing under-five malnutrition with more than 1-year experience, health workers at Levy Mwanawasa teaching hospital, mothers whose children are affected with malnutrition were included.

Exclusion criteria

Health workers not working under the management of under 5 malnutrition and those below 1-year experience. Health workers who do not work at Levy Mwanawasa teaching hospital were excluded.

Data collection tool

A structured questionnaire was used in this study.

Data collection procedure

The researcher was the interviewer for this study. Data collection commenced after getting ethical clearance, making formal appointments including the venue for the interviews. The interviews were conducted at Levy Mwanawasa hospital on the time that was convenient with the participants and that did not cause disruption of services.

The pilot study was conducted at Kanyama level 1 hospital. This centre had been chosen because according to research it is a facility recording high levels of

malnutrition in Lusaka due to its geographic location and nature of the population.

Data analysis

Nvivo14 software was used to do the qualitative data analysis and included the following steps: Data familiarization, generating initial codes, searching for themes, reviewing themes, defining and naming themes.

Ethical considerations

Applying fundamental ethical concepts to a range of research-related problems, including scientific study, is what research ethics entails. Ethical approval was obtained from the university of Lusaka Research ethics committee (UNILUS-REC) FWA00033228-4004/24 and the national health research authority (NHRA), NHRA-1363/21/05/2024. Permission was also obtained from Lusaka district health office to undertake the research at the Levy Mwanawasa university teaching hospital. Researchers have ethical obligation to take into account when conducting interviews (one-on-one or face-to-face), case studies (individual, group, or event), and focus group discussions.¹² Ethics approval was sought from university of Lusaka research ethics committee and national health research authority and lastly the district health office before commencing data collection as well. Further, only the participants that signed an informed consent voluntarily after a clear explanation on the purpose of the study, its benefits and risks participated in the study.

Conceptual framework

The conceptual framework depicts that if already existing policies in the health system that are aimed at addressing malnutrition are strengthened through implementation, more community sensitization by facilities is undertaken for rural and hard to reach areas as well as facility health education on malnutrition are emphasized and actioned then this will reduce the double burden of malnutrition.

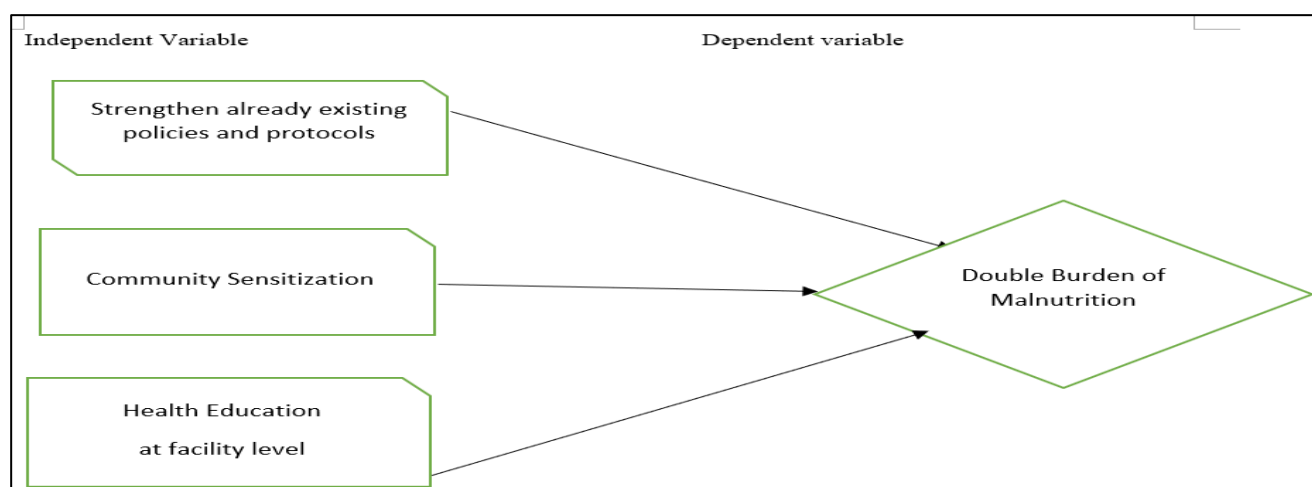


Figure 1: Conceptual framework.

RESULTS

Demographic characteristics

The demographic characteristics of the study sample were that the age group was comprised of 30 participants aged 25 years and above. The study was made up of eighteen (18) females and twelve (12) males. The respondents were of the mixed ethnicity from all provinces of the Zambia.

The respondents were all from a middle to upper class social status who have formal employment in the health sector.

Effectiveness of the Strategies that have been Adopted by Zambia

All the participants responded to this question by highlighting the strategies used in their respective faculty to eliminate and treat this problem.

Some of the responses from the raw data gathered included statements outlined below from which codes were derived as follows:

“As CBNs we try to pass through door to door to talk about the dangers of irresponsible and unhealthy diets, they always say most of the times that they do not know what the best foods are and so we teach them.” (Community based nutritionist).

“The policies adopted are not fully implemented this is because they are intermittent and not consistent, scales are not readily available and so its difficult to ascertain whether individuals are malnourished or not” (Medical doctor).

Challenges in implementing the nutritional policies

Foods are readily available in the communities but lack of funds and knowledge on which are the healthy foods, healthy foods are not affordable hence it is difficult mother to have a balanced diet, no regulation on marketing of unhealthy foods and no access to

information on the health foods for under-five (5) children.

Below are some of the raw data gathered and included in the creation of the themes:

“The vegetables are becoming expensive each day especially here in Lusaka you will find once bought five tomatoes for K5 are now selling for K20 which exorbitant for an average pregnant woman who lives on less than a dollar a day this shows that prices are not being regulated by any policy” (Nutritionist).

“The information on healthy foods is not sold to the public enough, it was better if the information is put on billboards and disseminated on television and radio, that is why the knowledge levels for healthy foods is scarce among most individuals” (Nutritionist).

Best practices that could be used for the swift implementation of strategies

Government should exercise more control over food market pricing, advocate for and provide sensitization for the adopted policies, enhance knowledge dissemination on nutrition and foods, more child health week campaigns, more community sensitization and also government intervention to strengthen policy and giving orphans and vulnerable children food handouts.

Some of the raw data responses were:

“More community outreach programs need to be implemented because health education is only given to individuals that visit the health facility and so community outreach is important” (Medical Doctor).

“There is need for government intervention as most of the people cannot afford healthy foods with the rising state of living conditions and the higher prices that are currently at hand” (Nurse).

This codebook shows the themes generated pertaining to the objectives as well as the responses from the participants.

Table 1: Codebook from Nvivo 14.

Name	Description
Objective one	
Effectiveness of the strategies that have been adopted by Zambia	This theme emanated from the first research objective, and it wanted to explore the effectiveness of the strategies that have been adopted by Zambia to address the double burden of malnutrition
High level of effectiveness	This theme suggested that there was inadequate implementation of the adopted policies to address
Medium level of effectiveness	The compounds have engaged CBEs and comply with so that they can dispose of their waste at council designated places
Low level of effectiveness	Too many illegal collectors in the name of council and then they collect the money for their own profits

Continued.

Name	Description
Objective two	
Challenges in implementing the nutritional policies	This theme wanted to explore the challenges in implementing nutritional policies to tackle the double burden of malnutrition and answered the question as to what the factors influencing nutritional policies are
Lack of knowledge among women on healthy nutritious diets	This entails that the women with under-five children lack knowledge on what healthy foods a, they tend to think when they have junk food it means the food is healthy and as such opt out of breastfeeding the baby mostly
Healthy foods are expensive	Lack of resources by households and in this regard guardians with under five children is a challenge. They have no funds or money to be consistent in buying these foods with nutrients in order for their children to benefit
Lack of policy for food market regulation	The Zambian government has adopted some policies but the price regulation for healthy is not being implemented as healthier foods remain to be more expensive an allowing for less expensive foods being junk and add to the burden of double nutrition among children
Lack of availability of information for foods with nutritious nutrients	Mindsets of individuals are in such a way that they are negligent to options for free health information in the country and would rather not read than hear from health professionals only when they visit hospital they have no access to online portals and as such being a challenge to improve nutrition of children
Objective three	
Best practices that could be used for the swift implementation of strategies	This theme was developed to answer the research question that emanated from the third objective which was to explore the best practices that could be used for the swift implementation of strategies that have been adopted by Zambia to address the double burden of malnutrition
Health education on healthy foods	The individual residents are able to explain the consequences of lack of nutrition but mostly refer to it as under nutrition. Health education is the best way to inform parents and guardians and as such the use of media and more community outreach will help attain healthy nutritious practices
Government regulation of food market pricing	Government should be able to implement policy by ensuring food market price regulation for healthy an unhealthy food and as such will reduce the double burden of malnutrition once they more healthy foods are affordable
Enhance policy for strengthening already adopted Policy	Government should through collaboration with the ministry of health, justice, local government and ministry of commerce strengthen the already existing and adopted policies towards reducing the burden of double malnutrition
Government to help OVCs through food handouts	This is because these individuals who are OVCs tend to be malnourished as the households they came from are not stable with regard to income and as such government should enhance food handouts in hospitals and clinics in order to address the double burden of malnutrition
More community outreach sensitization	Despite the facility services by healthcare workers such as health talks being implemented in clinics, the desire for community outreach, child health week campaigns need to be emphasized so that the broader community is aware about the best practices to deal with malnutrition.

DISCUSSION

The study was undertaken in order to determine answers to the specific objectives of the study as follows:

Effectiveness of the strategies that have been adopted by Zambia to address the double burden of malnutrition

High level of implementation was least theme when asked about the level of effectiveness of the policies. This is as supported by article whose study findings suggested that Zambia's nutrition policies need to change more rapidly to address development of new challenges associated with nutrition transition, this because they don't address constant change in foods and environment.¹³

Most of the participants highlighted that there is medium level of effectiveness of the strategies adopted towards the implementation of the nutrition strategy they said that policy is on paper but not being implemented.

Challenges in implementing the nutritional policies to tackle the double burden of malnutrition

Lack of knowledge among women on healthy nutritious diets

Due to a shortage of time and resources for nutrition counselling, health practitioners say that there is a certain disregard of parental nutritional health in prenatal and postnatal care. The study participants also reviewed that an average woman does not know what kind of nutrients

are healthy for them in pregnancy and childbirth. This is also supported by an article whose findings suggested that the biggest health and environmental problems of the twenty-first century, such as obesity, non-communicable diseases, and environmental degradation, are mostly caused by unhealthy eating habits.¹⁴ This is also exacerbated by lack of knowledge among women. The countries with lower as well as moderate-income levels have had the greatest impact on the transnational food firms'.¹⁵

Healthy foods are expensive

From the study findings the common theme from the participants was that fruits are becoming more expensive as the years go on and thus putting the less privileged mothers at a disadvantage with regard to healthy diets and meals and that is also evident as vegetables and tomatoes are also becoming expensive in correlation to the cost of living. This is supported by one of the Warwick study's authors who mentioned in an article that the data "very clearly says there is this fixed high cost for fresh fruit as well as the vegetables, which is not there for other products." "This market is not efficient at the determining fair prices."¹⁶

Lack of policy for food market regulation

Junk food is inexpensive since it keeps indefinitely, you can create it in large quantities, acquire it in bulk, and deliver it when delivery costs are low.¹⁶ Supermarkets and large-scale manufacturers catalyze a secular reduction in food prices within those outlets, with lower prices paid per calorie, particularly on processed foods, though no studies have reported prices per nutrient. In more globalized markets, food prices tend to be higher and more volatile where food markets are weak, as is the case in many low-income country contexts.¹⁷

Lack of availability of information for foods with nutritious content

There is no access to information. Information is not being sold to individuals as we rarely see any adverts on television or radio talking about healthy diets.

Best practices that could be used for the swift implementation of strategies that have been adopted by Zambia to address the double burden of malnutrition

Health education on healthy foods

This should be done through health talk dissemination using media platforms including television, radio and also banners and flyers. The food agriculture organization states that nutritional issues can be broadly classified into two groups: those that arise from inadequate intake in relation to required nutrients, and those that emerge from excessive and imbalanced consumption of food or specific food components.¹⁸

Government regulation of food market pricing

Another theme that emanated from the findings shows that the solution to the challenge of having less expensive junk foods compared to expensive healthier. The solution to this challenge as suggested is to have government interfere with the pricing of the processed foods and the vegetable foods that are being imported by moderating the prices to be inclusive of the current state of the economy. This will help improve the state of the double burden of nutrition.

Enhance policy for strengthening already adopted policy

The food pricing challenge as alluded to from the findings can further be addressed and sorted when the already adopted policy on food pricing is implemented in a policy study for food pricing in Zambia.¹⁹ The concerns raised by the global food price crisis of 2007-2008 about the effects of higher and more volatile food prices for the poor in Zambia were echoed by the delay in implementing strategies to deal with the rising food prices, particularly for the staple crop maize. All of these factors contributed to the protracted discussions, inaction among key agriculture stakeholders, and ineffective response policies.

Government to help OVCs through food handouts

The government needs to be able to put a structure that was consistent by ensuring that the malnourished OVCs are identified in health facilities and helped with food supplements and the program should be on-going.

More community outreach sensitization

Health facilities need not only conduct health education at the health facilities but should develop a routine outreach program embarked to educate the individuals in the community on the best food practices and importance of knowing their nutrition status. Contrary to this suggestion the ministry of community development mother and child health report as stated in the national social protection policy (NSPP), the government has been executing a number of social assistance initiatives with the help of various partners, aimed at particular beneficiary categories.²⁰

CONCLUSION

Regarding the study findings analysis of global nutritional policies to tackle the double burden of under-five malnutrition, it is been found that the policies are not being fully or adequately implemented, most of the participants suggested to the policies adopted being medium effective, and also with regard to challenges several where given which included lack of knowledge, no price market regulation by government, no government intervention with regard to implementation, as well the price of the healthier foods being are

expensive. One other aspect with regard to the study was the suggestions which included government intervention, price regulation of food market, health education, OVC handouts and enhancing policies for already adopted nutrition policy.

Recommendations

Health education on healthy foods

Since we seldom ever see advertisements on television or the radio discussing healthy diets, information is not being sold to specific people, this should be done through the ministry of health ensuring that technical support is trickled down to each health facility to ensure that every individual at the health facility is educated on importance on good dietary health.

More community outreach sensitization

Health facilities need not only conduct health education at the health facilities but should develop a routine outreach program embarked on educating the individuals in the community on the best food practices and importance of knowing their nutrition status.

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REFERENCES

- World Health Organization (WHO). Global nutrition policy review 2016–2017: Country progress in creating enabling policy environments for promoting healthy diets and nutrition. Geneva: World Health Organization. 2018.
- Development Initiatives. Global nutrition report: Shining a light to spur action on nutrition. 2018. Available at: <https://globalnutritionreport.org/reports/global-nutrition-report-2018>. Accessed on 16 July 2025.
- Haisma H, Gretel P, Venkatapuram S, Yousefzadeh S, Kramer L, Anand P, et al. Towards a multi-dimensional index of child growth to combat the double burden of malnutrition. *Ann Nutr Metab*. 2019;75(2):123-6.
- World Health Organization (WHO). Guideline update: Technical aspects of the management of severe acute malnutrition in infants and children. Geneva: World Health Organization. 2013.
- Onyango AW, Jean-Baptiste J, Samburu B, Moeng MTL. Regional overview on the double burden of malnutrition and examples of program and policy responses: African Region. *Ann Nutr Metab*. 2019;75(2):127-30.
- Supino PG, Borer JS. Principles of research in behavioral science. 2nd ed. New York: Springer. 2012.
- Shaw JG, Friedman JF. Iron deficiency anemia: Focus on infectious diseases in lesser developed countries. *Anemia*. 2011;2011:260380.
- Creswell JW. Research design: Qualitative, quantitative, and mixed methods approaches. 4th ed. Los Angeles: Sage Publications. 2013.
- Sim J, Saunders B, Waterfield J, Kingstone T, Baker S, Burroughs H, et al. Can sample size in qualitative research be determined a priori? *Int J Social Res Methodol*. 2018;21(5):619-34.
- Rose J, Johnson M. Research methods in social sciences: An introduction. 3rd ed. London: Routledge. 2020.
- Korstjens I, Moser A. Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *Europ J General Pract*. 2017;23(1):120-4.
- National Research Council. Protecting participants and facilitating social and behavioral sciences research. Washington, DC: National Academies Press. 2003.
- Mulenga MM, Mchiza ZJR, Delobelle P, Thow AM. Nutrition policy reforms to address the double burden of malnutrition in Zambia: A prospective policy analysis. *Health Policy Planning*. 2023;38(8):895-906.
- Moura AF, Aschemann-Witzel J. Exploring barriers to healthy eating among women in their role as new mothers with a theory-driven questionnaire. *Maternal Child Health J*. 2023;27(7):1176-90.
- Stuckler D, McKee M, Ebrahim S, Basu S. Manufacturing epidemics: The role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco. *PLoS Med*. 2012;9(6):e1001235.
- Tzioumis E, Adair LS. Childhood dual burden of under- and overnutrition in low- and middle-income countries: A critical review. *Food Nutr Bull*. 2014;35(2):230-43.
- Ruel M, Garrett J, Haddad L. Rapid urbanization and the challenges of obtaining food and nutrition security. In: R. Semba and M. Bloem, eds. *Nutrition and health in developing countries*. 2nd ed. New York: Humana Press. 2008;639-56.
- Food and Agriculture Organization (FAO). The state of food security and nutrition in the world. Rome: FAO. 2023.
- Chapoto A, Banda D, Haggblade S, Hamukwala P. Factors affecting poverty dynamics in rural Zambia. Working Paper No. 55. Lusaka: Food Security Research Project. 2011.
- Ministry of Community Development. Public welfare assistance scheme report. Lusaka: Government of Zambia. 2023.
- Zambia Demographic and Health Survey. Lusaka, Zambia, and Rockville, Maryland, USA: Zambia Statistics Agency, Health, and ICF. 2018.

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