



Program Participation and Activities: their Impact on Beneficiaries' Behaviour of the Nutrition Education Program in Kasama, Samfya and Mumbwa District, Zambia

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Abstract: The study sought to correlate participation, nutrition education activities and beneficiaries behaviour on the nutrition education program delivered under the 1000 MCD by Civil Society Organisation in Kasama and Mumbwa Districts in Zambia. The research employed a quantitative descriptive correlation design. The population comprised program staff: managers, field staff, nutrition promoters and program beneficiaries. Both purposive and convenience sampling techniques were used to choose a sample of 306 respondents. A pilot study was conducted on one organization in Mansa District to establish the reliability of the instrument and a factor analysis and principal component analysis which looked at individual components was explored and the results ranged from .685 to .885. The study revealed that beneficiaries fairly participated in nutrition program with the mean 3.061 and were heterogeneous in their response with the standard deviation (SD)=1.243. Also, the study established that beneficiaries' participation in nutrition education activities was with a mean of 1.223, which was homogeneous with the SD = 0.846. A large percent (42.5%) of beneficiaries followed the nutrition guidelines. Furthermore, the study shows that there exists a weak positive relationship of $r^2 = 0.162$ which is 16.2% between participation and beneficiaries' behaviour. This explained that participation in the nutrition program had a minimal impact on beneficiaries' behaviour. Since participation in program activities clearly is positively related to the resolve by participants to develop nutrition-related behaviours, there was a need to revisit some strategies, outreach schedule of activities and also making the nutrition activities more appealing among the targeted beneficiaries to encourage higher participation.

Keywords: Behaviour, Participation, Nutrition Education Activities, 1000 Most Critical Days

1. INTRODUCTION

Globally, stunting prevalence has been reducing gradually and 165 million children were stunted in 2011 (Black, Victora, & Walker, 2013). Undernutrition causes 3.1 million deaths of children younger than 5 years. According to Liu, Johnson, and Cousens (2012), undernutrition contributes 45% of child deaths. The recent United Nations report estimates that 165 million children under 5 years of age, or 26%, were stunted in 2011. The report further highlights that 90% of the world's stunted children live in Africa and Asia. With the former accounting for 36% and the latter 27% respectively (World Health Organization, 2012).

Zambia has one of the highest burdens of undernutrition in children under the age of five (Masiye, Chama, Chita, & Jonsson, 2010). Many children and women in Zambia suffer from one or more forms of malnutrition. This malnutrition includes low birth weight, wasting, stunting, underweight, and multiple micronutrient deficiencies such as vitamin A, iron, zinc, and iodine deficiencies.

The Central Statistics Office (2009) and Bwalya (2013) agree that the national malnutrition levels as far as stunting is concerned, stand at 45.4%. Other percentages for underweight and wasting are 14.6% and 5.2% respectively. In search for practical solutions to resolve the problem of malnutrition in the country, the government of Zambia through the Ministry of Health under the Food and Nutrition Commission has a strategic plan running from 2011-2015. The priority plans have been directed towards the use of a multisectoral approach in preventing stunting in children of less than two years of age (0-2 years).

The two-year period in a child's life is referred to as the first 1000 Most Critical Days (MCD). The 1000 MCD period starts from the beginning of pregnancy and ends at two years of age. This period in a baby's life is seen as a key window of opportunity (National Food and Nutrition Commission, 2008). Within this period, nutrition interventions, whereby expectant and breastfeeding mothers are taught how to feed their children, are necessary. Failure to educate the mothers on nutrition will often result in child malnutrition.

The 1000 MCD Campaign implemented in Zambia by relevant Government Ministries, Non-Governmental Organization (NGO), and Civil Society Organisation (CSO) is part of the global campaign under the Scaling up Nutrition (SUN). The SUN is an alliance of a global program on nutrition. The Southern Africa Development Community (SADC) participating countries in the SUN include Malawi, Mozambique, Namibia, Swaziland, Zambia, and Zimbabwe (Scaling Up Nutrition, 2012).

The goal of the SUN is to reduce by 40% the numbers of low birth weight, stuntedness, and deficiency in micronutrients, while improving the nutrition of all pregnant women by 2025. From this goal, the Zambian government and CSOs are making strides in preventing stunting in children less than two years of age in the country.

2. STUNTING IN ZAMBIA

In the case of Zambia, it is reported that stuntedness accounts for 45% in children. The country has one of the world's highest rates of child under nutrition. The average child's under nutrition level in Africa is pegged at 42%. Other forms of under nutrition in Zambia include underweight affecting 15% and wasting 5% in children (Central Statistics Office, 2009). In addition, 54% of children have vitamin A deficiency and 53% have iron deficiency while anaemia stands at 9.3% of children (National Food and Nutrition Commission, 2008).

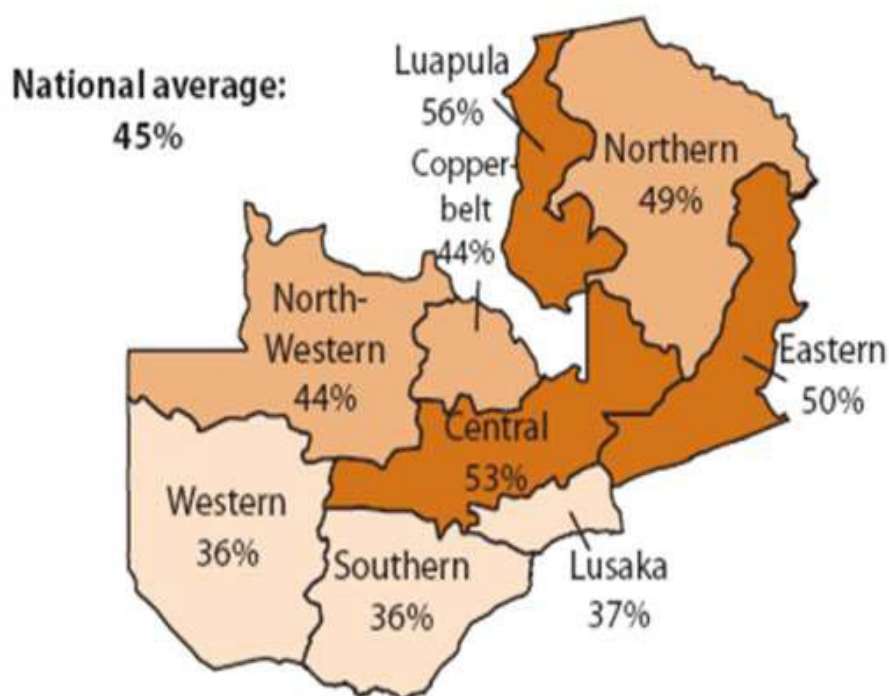


Figure 1. Percentages of stunting in Zambia Province

Source: NFNC, 2012

Though these rates of stunting have shown some improvements over the past five years, they are still alarmingly high and worse off in rural areas where it is estimated that half of the children population are stunted. Stuntedness is one of the most serious and least addressed health problems in the world. In Zambia, studies have shown that its effects on the population have high economic costs which are enormous and fall hardest predominantly on the very poor and on women and children (National Food and Nutrition Commission, 2008).

3. CAUSES OF STUNTEDNESS

Inadequate nutrition is just one of several causes of growth stunting (Eugene & Kerrebrock, 2013). Further contributing factors to stunting comprise of prolonged, persistent infections, chronic food deficits accompanied by infection contribute to stunting and underweight (Jelliffe&Jelliffe, 1989).The manifestation of growth stunting, predominantly among children less than two years of age can reveal the prevalence of low birth weight in a population (Eugene & Kerrebrock, 2013). Growth stunting may reflect life-threatening psychosocial stress devoid of nutritional deficiencies (Skuse, Albanese, & Stanhope, August 10, 1996).

Gayle and others have concluded that 20% to 40% of the prevalence of growth stunting in the first two years of life might be ascribed to low birth weight (Gayle, Dibley, Marks, & Trowbridge, 1987). Conversely (Chomitz, Cheung, & Lieberman, 1995) points out that insufficient nutrition possibly will still be associated since some low weight births could be due to maternal nutritional deficiencies during pregnancy. Studies have shown that Stunting is frequently associated with functional disadvantages even when socioeconomic status and other home and environmental factors are controlled (Martorell, Rivera, Kaplowitz, & Pollitt, 1992).

4. SCALING UP NUTRITION AND THE 1000 MOST CRITICAL DAYS PROGRAM

The SUN is a global movement which unites governments, civil society, businesses and citizens in a worldwide effort to end under nutrition. Scaling up Nutrition was launched in 2010, with the strategy 2012-2015 and accompanying revised road map 2012 which established a three-year plan to significantly reduce under nutrition in participating countries.

The SUN Movement consisted of 30 SUN countries. The number has continued to expand. Zambia, as one of the SUN participating country, has devised ways to significantly reduce numbers of low-birth weight, stunted growth, wasting, and micronutrients deficiency. Like any other SUN country, Zambia has and is still making strides in increasing people's access to affordable nutritious food and other determinants of nutritional status such as clean water, sanitation, healthcare, social protection and initiatives to empower women (National Food and Nutriion Commission,2008).The SUN countries aim at improving nutritional status of the people by improving nutritional practices such as, exclusive breastfeeding, complimentary feeding, food fortification, provision of micronutrients and treatment of acute malnutrition (Scaling up Nutrition, 2012).

One of the SUN programs, the 1000 MCD, focuses on preventing malnutrition among children aged 0-2 years.

To address the malnourishment which might occur during this period, some CSO have come on board in some districts to compliment the government's effort by implementing 1000 MCD campaign programs in Mansa, Samfya, Kasama and Mumbwa districts. In implementing these programs, the CSOs are involved in raising awareness on the importance of eating a balanced diet, making correct food choices, and maintaining hygiene among pregnant and breastfeeding mothers.

The NGOs, CSOs and Community Based Organisations have been recognized by the Zambian government as effective partners in delivering nutrition education programs targeting the various segments of the population. Nutrition education programs empower low income and low literate mothers who often have limited information in nutrition. Studies by Kabahenda (2006) suggest that education program with appropriate nutrition information can lead to improvements in knowledge, beliefs, and feeding behaviours.

The CSOs in Mansa, Samfya,Kasama, and Mumbwa districts have been implementing nutrition education programs. These CSOs focus on communicating nutrition information which ultimately contributes towards improving the quality of children's life. Mansaand Samfya districts are in Luapula province, which are ranked among the poorest provinces in Zambia. Both districts have a population distribution which includes urban,peri-urban and rural.

In case of Samfya district, the main livelihood activities for the population are fishing and agriculture. Fishing thrives because of the presence of Lake Bangweulu and Luapula River. Subsistence farming of maize and cassava are grown as chief crops. Mansa district, on the other hand, has parts which are urban, peri-urban and rural. It has the largest population in the province which stands at22.1% with

the population growth rate of 1.1% (Central Statistics Office, 2013). The major economic activities primarily are trading, mining and agriculture.

Mumbwa and Kasama district both are agriculture areas. The former is associated with maize production while the later is coffee and trading. Kasama district has an annual population growth rate of 3.4% (Central Statistics Office, 2013).

5. STATEMENT OF THE PROBLEM

In spite of having nutrition education programs among the CSOs and government institutions targeting pregnant, breastfeeding mothers and caregivers, cases of stunting, wasting and micronutrient deficiencies have continued to be recorded in the districts. The study sought to assess program participation and activities their impact on beneficiaries' behaviour in the three districts of Zambia.

6. PURPOSE OF STUDY

In this study, the purpose was to correlate participation ,nutrition education activities and beneficiaries behaviour on the nutrition education programdelivered under the 1000 MCD by Civil Society Organisation in Kasamaand Mumbwa Districts in Zambia.

7. RESEARCH QUESTIONS

The following are the research questions which guided the inquiry.

1. What is demographic profile of beneficiarie and program staff?
2. What is the level of participation of the respondents?
3. What is the level of nutrition education activities ?
4. What is the extent of beneficiaries behaviour on the respondents?
5. Is there a significant relationship between nutrition education activities and beneficiaries behaviour.
6. Is there a predicator of beneficiaries behaviour ?
7. To what extent are beneficiaries following the food choice guide?
8. What are the challenges nutrition promoters and CSO experience in implementing of the 1000 MCD program?
9. What are the solutions to the challenges experienced in implementing of the 1000 MCD program?

8. THEORETICAL FRAMEWORK

The study was influenced by four theories namely social psychology, the social learning theory (SCT), the Elaboration likelihood Model (ELM) and the spider gram method. The social cognitive theory (SCT) was first developed in as the theory of social learning. But was later broadened by (Bandura & Walters, 1963). The core assumption of the theory is that it enlightens how people attain and sustain certain behavioural forms, while providing the basis for intermediation strategies (Bandura, 1997). It further goes to evaluate that behavioral change depends on factors on a number of factors such as the environment, people and behavior.

The SCT provides an outline for planning, executing and appraising programs.(Bandura & Walters, 1963).The model is relevant to the study because it centers on the intellectual, emotional and other facets of behavior for understanding behavioral modification as it relates encountered barriers to food choices and eating patterns.

The other theory which guided the study was the Elaboration Likelihood Model (ELM) propounded by Petty & Cacioppo, (1986)they revealed, in contrast to societal judgment-involvement theory, they argued that great levels of involvement do not regularly decrease persuasion.This theory is promising because it incorporates an collection of variables into a distinct account of persuasion. Petty& Cacioppo, (1986) propose that It addresses issues which describe why and when messages and self-motivated energies are more or less likely to lead to attitude formation, which in the context of this study when people are aware about the nutrition education program messages beneficiaries participation and involvement will increase and they will become equipped with information which when applied might lead to changed attitude and consequently result in improved nutrition status at household levels.

This thesis paper also draws from hypothetical insights of social psychology as it applies to participation and inclines towards the ideal of empowerment as promulgated by (Campbell & Jovchelovitch, 2000). The initial outline is that the underprivileged and marginalised habitually lack intellect to control their health and well-being resulting to sense of despair, and a propensity to wait for external actors and organisations to attend to local health problems. Against this outline, it seeks to draw consideration about avenues in which communities can be 'empowered' to implement high impact interventions over their health to alter unhealthy behaviours where possible, and creating ideal use of prevailing health services. Habermas, (1974) ideal notion of the public sphere, explains that the theory promotes that for participation to proposition communal empowerment, it can occur in a social space where all participants (in this circumstance health providers the CSOs and beneficiaries) are legally obligated to participate fully in planning, execution and appraisal of healthiness programmes, with programmes being determined with a fusion of 'local' and 'expert' understanding, with both knowledge systems being bestowed with equal respect.

The Spider-gram methodology developed by (Rifkin, 1990) has been incorporated in this study. The above method helps to measure, and locate levels of community participation in health programmes on a scale. The method acknowledges five indicators central to public participation in nutrition education and health programs these include needs assessment, leadership, resource mobilization, management and organisation.

9. CONCEPTUAL FRAMEWORK

Figure 2 shows the conceptual framework on nutrition education program under the 1000 MCD. The framework shows participation, nutrition education activities and resources as independent variables and beneficiaries' behaviour as a dependent variable. While program staff (program managers, nutrition promoter and field officers) moderating variables.

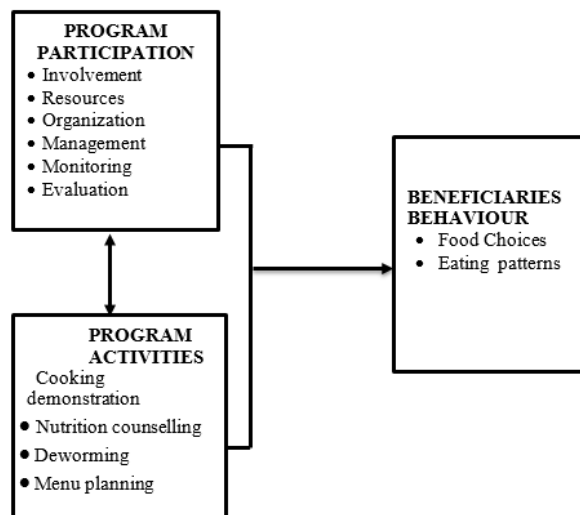


Figure 2. Conceptual framework

10. RESEARCH METHODOLOGY

This chapter is concerned with discussing the research design used, population sample and sampling techniques, instrumentation, procedure for data collection and procedures for data analysis.

10.1. Research Design

The research used the correlation research design. The variables which include participation, nutrition education activities and beneficiaries behaviour were studied to establish their relationship. Cross-sectional approach was employed to collect data predominantly by questionnaires and by structured interview on more than one case and at a single point in time. Bryman, (2008). He further states that the collected body of quantifiable data is in relationship with two or more variables (usually many more than two), which are then observed to identify patterns of association. The research used both quantitative and qualitative designs approach in which gathering, analysis, interpretation and

presentation of information about the trends can be quantified measured and expressed numerically (Teddlie, 2009)..

10.2. Population of the Study

The population consisted of 3 organisations implementing the 1000 MCD related programs. The organisations are chosen because they are among the first local organisations implementing the 1000 MCD programs.

The target population also included 12,000 pregnant and breastfeeding women aged (15-49) with children below the age of five years, 100 Nutrition Promoters, 6 Program Managers, and 6 field staff. Due to the large number of the beneficiaries, only a small sample was included in the study (see Table 1 on page 34) below

11. DATA ANALYSIS AND INTERPRETATION

11.1. Demographic Characteristics of Respondents

Research Question One: *What are the demographic profiles of the beneficiaries and program staff?*

Table 7 shows the demographic characteristics of the respondents. These were gender, age, and education attainment, level of income and length of service. The study reveals that 93% of the beneficiaries in the 1000 MCD program were females and 7% were males. Whereas for the program staff the 62.3% were female staff while 37.7 % were males. The overall the largest percentage for both beneficiaries and program staff who participated in the program were females 93.0% and 62.3% respectively.

The results further shows that 22% of the beneficiaries respondents where in the age range 18-22 years and 3% for program staff respectively. 22.5% of program staff and 20.5% beneficiaries were aged 23-27 years, in addition the study show that 20% of the beneficiaries were in the age group 27-31 years.

Table 7. *Demographic Profile of Respondents*

| Characteristics | Beneficiaries | Program Staff |
|--------------------------|---------------|---------------|
| | % | % |
| Gender | | |
| Male | 7.0 | 37.7 |
| Female | 93.0 | 62.3 |
| Age | | |
| 18-22 years | 22.0 | 3.0 |
| 23-27 years | 20.5 | 22.5 |
| 28-30 years | 20.0 | 00.0 |
| 31-35 years | 17.0 | 41.5 |
| 36-40 years | 15.0 | 00.0 |
| 41-45 years | 5.5 | 26.4 |
| Employment | | |
| Formal | 20.0 | 100.0 |
| Non Informal | 17.0 | 00.0 |
| Unemployed | 63.0 | 00.0 |
| Income | | |
| Below K500 Kwacha | 61.0 | 00.0 |
| Between K500-K1500 | 17.0 | 00.0 |
| K2000- K5000 | 10.0 | 00.0 |
| K5000 and above | 7.5 | 00.0 |
| Education | | |
| Primary | 39.0 | 10.4 |
| Secondary | 43.0 | 60.4 |
| College | 9.0 | 23.6 |
| Higher College | 6.0 | 2.8 |
| University | 1.0 | 2.8 |
| Length of Service | | |
| Less than 1 year | 00.0 | 5.7 |
| 1-5 years | 00.0 | 82.1 |
| Over 5 years | 00.0 | 12.3 |

Furthermore 17% of the beneficiaries 41.5% of program staff were in age range 31-35 years. While 15 % represented those who were in age range 36-40 years. Lastly in the age range 41-45years 26.4% of the program staff and 5.5% of beneficiaries fell in this group.

Further the study in the above table reveal that majority, 63.0% of the respondents were unemployed. 20.0% were engaged in formal business while 17.0% were in informal sector. Table 7 also show that majority of beneficiaries 61.0% of them earned below K5000 Zambian kwacha, followed by 17.0% who earned between K5000-15000. The study further show that 10.0 % earn between K2000- K5000. Only 7.5% of the respondents earned above K5000. According to Hanson & Oliveira, (2012) contends that to a variable degree, economic conditions of beneficiaries impacts on their participation in all the major nutrition programs.

Overall the study shows that majority of the beneficiaries and program staff were in the age 18-45 years group .further more the study show that majority of beneficiaries (61.0 %) were of low income status. On level of education the findings show that majority (43.0%) of beneficiaries attained secondary education, followed by 39.0% who ended school at primary level whereas only 15.1% attended college. In the study by De Vriendt, Matthys, Verbeke, Pynaert, & De Henauw, (2009) established that ,the most important determining factors of the women's nutrition knowledge were educational level, age and their type of occupation they were engaged in.

On the other hand 60.4% of the program staff attained secondary education while 26.4% attended college. The study further revealed that 2.8% of the program staff attended university whereas beneficiaries only 1.0%. Overall the majority of beneficiaries enrolled in the program were semi-literate. In terms of work experience, the study show that majority (82.1%) of the program staff had worked on the program for the period of 1-5 years while only 5.7% accounted for those who worked for less than 1 year.

11.2. Level of Respondents' Participation

Research Question Two: *What is the level of participation of respondents?*

Table 8 shows the extent to which beneficiaries participated in the programs activities, such as, their involvement in identifying nutrition needs, participation in mobilising resources towards the nutrition intervention, participation in decision making

Table9. *Beneficiaries Participation in the Program (n=200)*

| Items | Mean | Std. Deviation | Verbal Interpretation |
|---|---------------|----------------|----------------------------|
| I am involved in the identifying the nutrition needs in my community my area. | 3.0154 | 1.55476 | Fairly participated |
| I participate actively in the program | 2.9330 | 1.45774 | Fairly Participated |
| I mobilise and contribute resources towards a community based nutrition intervention | 3.0777 | 1.42857 | Fairly Participated |
| I was consulted on decisions about the programmers' direction and development | 2.9794 | 1.35799 | Fairly Participated |
| I listened to all series of nutrition radio programs | 3.3206 | 1.36024 | Fairly Participated |
| I listened to all the of radio series which are played by Nutrition Promoters. | 2.89947 | 1.37045 | Fairly Participated |
| The Participation of pregnant and breastfeeding mothers and care givers in the program is excellent | 3.2021 | 1.41259 | Fairly Participated |
| Participation Overall Mean | 3.0611 | 1.2428 | Fairly Participated |

The means obtained were 3.0777, 3.3206, 3.0154, and 3.2021, the study show that respondents were heterogeneous with a standard deviation of 1.42857, 1.55476, and 1.41259 and 1.36024 respectively. Furthermore the table shows that beneficiaries participated in all radio programs.

The study also revealed that respondent who listened to all radio episodes had a mean of 2.89947 and a standard deviation of 1.370452 correspondingly. This implied that beneficiaries fairly participated in listening to radio episodes in the 1000 MCD program. The above findings agrees with another study by Wammes, Breedveld, Kremers, & Brug, (2006) who promulgated that a radio programme consisting of instructive units with accompanying print support material and optional attendance-

based healthy cooking meetings were implemented, it found that at 2 months post intervention there was an increased consumption of nutritious foods. An indication that radio programs had a effect on the beneficiaries.

Overall the study showed that beneficiaries fairly participated in the program as evidenced by the mean score of 3.061 and the response were heterogenous with a standard deviation of 1.2428. the above finding confirms the discoveries by (Savoie et al., (2015) which revealed that participation in nutrition lessons positively related to the intent of participants to change nutrition-related behaviours.

Table 9 show participation of program staff in the nutrition education program under the 100 MCD. The findings reveal that program staff agreed that community leaders were engaged and involved in identifying program needs, design of nutrition education programmes and that the program collaborated with pre-existing community networks.

The means obtained were 3.8105, 3.7075, 3.8846 and 3.9238 respectively. The respondents were heterogeneous with the high standard deviations obtained on six items 1.02412, 1.17892, and 1.05334 correspondingly. However on program collaboration with pre-existing community networks, respondents were homogenous on with a standard deviation of .93796.

Table 9. Participation of Program Staff (n=106)

| Items | Mean | SD | Verbal Interpretation |
|--|---------------|--------------|----------------------------|
| Community leaders are engaged and involved in identifying needs to help in the design of the nutrition programs targeting their communities. | 3.8105 | 1.0241 | Highly participated |
| I am involved in the design of nutrition education programmes for my area? | 3.7075 | 1.1789 | Highly participated |
| Nutrition program interventions integrate and collaborate with pre-existing community structures or networks. | 3.8846 | .93796 | Highly participated |
| I involve field staff in the implementation of nutrition education programmes. | 3.9238 | 1.0533 | Highly participated |
| Am involved in mobilisation of resources for implementation of 1000 MCD nutrition education Campaigns? | 3.8381 | 1.1361 | Highly participated |
| My Organisation has trained nutrition promoters at grassroots. | 3.9905 | 1.0962 | Highly participated |
| Nutrition Promoter's level of activity at the grassroots is active. | 3.7547 | 1.0584 | Highly participated |
| The Organisation nutrition promoters are supervised daily when conducting the 1000 MCD services and activities. | 3.8302 | .9203 | Highly participated |
| The Organisation has a system of monitoring the nutrition education activities at community level? | 4.0472 | .7853 | Highly participated |
| The Participation of pregnant and breastfeeding mothers and care givers was every good. | 4.0472 | .8092 | Highly participated |
| Participation Overall Means | 3.9613 | .6670 | Highly Participated |

Further the study showed that program staff agreed that they were involved in mobilisation of resources, it also show that the organisation had trained nutrition promoters at the grass roots, nutrition promoters services and activities were supervised daily and that the organisation had a system of monitoring the nutrition education activities and that participation of pregnant and breastfeeding mothers and care givers in the program was very good.

The means obtained were 3.8381, 3.9905, 3.7547, and 3.8302, respectively. The scores showed that the respondents were heterogeneous in their responses with high standard deviations of 1.13615, 1.09628 and 1.05840 respectively. On the last three items in the table with means 3.8302 and 4.0472 showed that respondent were homogenous with low standard deviation of 0.92037, 0.78537, 0.80926 were obtained. Overall the study showed the mean 3.9613 on program staff participation their

responses were homogenous with a low standard deviation of 0.66709. The high mean of 3.961 showed that the program staff highly participated in the program.

11.3. Level of Nutrition Education Activities

Research Question Three: *What is the level of nutrition education activities?*

Table 10 below shows the nutrition education activities nutrition promoters engaged beneficiaries in. Results from the study revealed that most beneficiaries did not actively participated in cooking demonstrations and menu as evidenced by the mean score of 1.0196 and 1.3913, with the homogenous response with standard deviations of .019803 and .49162 respectively. Also the results revealed that beneficiaries participated in growth monitoring and promotion activities as shown by the mean 1.7895 and the low standard deviation of .99071 shows that respondents were homogenous in their responses.

Further the study on participation in nutrition counselling activity shows a mean of 1.8571 and respondents were heterogeneous in their response with a standard deviation of 1.36753. While on participation in nutrition sensitization, a mean score 1.6842 was obtained, an indication that respondents participated in this activity and were heterogeneous in their responses with a high standard deviation of 1.47236.

Table 10. *Beneficiaries Participation in Nutrition Activities (n=200)*

| Items | Means | SD | Verbal Interpretation |
|---|---------------|---------------|------------------------|
| Cooking Demonstrations | 1.0196 | .19803 | NotParticipated |
| Menu Planning | 1.3913 | .49162 | NotParticipated |
| Growth Monitoring & Promotion | 1.7895 | .99071 | Participated |
| Nutrition Counselling | 1.8571 | 1.36753 | Participated |
| Nutrition Sensitization | 1.6842 | 1.47236 | Participated |
| Deworming | 1.4769 | 1.40432 | NotParticipated |
| Nutrition Education Activities Means | 1.2227 | 0.8464 | Notparticipated |

The study further show that respondents rated deworming with a mean 1.4769 and were heterogeneous in their responses with the standard deviation of 1.40432. implying that beneficiaries did not participated in this activity. Overall the study shows a mean of 1.2227 with a homogenous standard deviation of 0.8464. meant that beneficiaries were not participating in nutrition education activities. Engesveen and Shrimpton (2007) argue that for nutrition education to be meaningful, it must influence significant audiences and consequently lead to behavioral change. Though Martin and Conklin (1999) contend that nutrition counselling, child growth monitoring, anthropometric testing, cooking demonstrations and meal planning are among the activities provided to the beneficiaries of nutrition education programs. The above low to non participation of beneficiaries in the above nutrition education specific activities can be attributed a number of reasons which includes failure to scheduled activities to suit beneficiaries time, failure by the CSOs to make activities appealing to the targeted beneficiaries. Lastly inadequate capacity by some program staff to develop strategies which effectively influences the beneficiaries to actively participate. Lucas et al. (2014) allude that effective nutrition education approaches to improve nutrition knowledge and dietary behaviours for women should be sought.

Table 10 show that respondents agreed that community leaders were engaged and involved in identifying program needs, design of nutrition education programmes and also that the program collaborated with pre-existing community networks and also that field staff and nutrition promoters were actively involved. The means obtained were 3.8105, 3.7075, 3.8846 and 3.9238 respectively. The respondents were heterogeneous with the high standard deviations obtained on six items 1.02412, 1.17892, and 1.05334 correspondingly. But were homogenous on program collaboration with pre-existing community networks with a standard deviation of 0.94.

11.4. Beneficiary Behaviour

Research Question Four: *What is the extent of beneficiaries behaviour of the respondents?*

The results in Table 11 indicate that majority (42.5%) and (24%) always and oftenly followed the nutrition guides as taught by the nutrition promoters. While a small percentage (8.0%) and (9.0%) represented those who never and rarely followed nutritional guidelines. In addition 16.5% said they

sometimes followed nutrition guidelines when preparing meals. Generally the study show that majority (42.5%).of beneficiaries followed the nutrition guidelines.

Table11. *Beneficiaries who Followed Food Guidelines (n=200)*

| Response | Frequency | Percent | Verbal Interpretation |
|-----------------|------------------|----------------|------------------------------|
| Never | 16 | 8.0 | Never followed |
| Rarely | 18 | 9.0 | Rarely followed |
| Sometimes | 33 | 16.5 | Sometimes followed |
| Usually | 48 | 24.0 | Followed quite often |
| Always | 85 | 42.5 | Always followed |

11.5. Participation and Beneficiary's Behaviour

Research Question Five: *Is there a significant relationship between participation and beneficiary's behaviour?*

Table 12 The data shows that there exists a significant positive relationship between participation and beneficiaries behaviour. The strength of relationship was moderately related with $r = 0.402$ and $P\text{-Value} = 0.000$ (two tailed test). implying that participation in program activities impacted by 40.2% on beneficiaries behaviour.

Table12. *Program Participation (PP) and Beneficiaries Behaviour*

| PP | Behaviour | | |
|-----------------------|------------------|----------------|-----------|
| | R | P-Value | VI |
| Program Participation | .402 | .000** | Sig |

The results agree with the study by Savoie et al., (2015) in which they discovered that Participants who participated in nutrition education program underreported sometimes to engaging in nutrition related behaviors before attending nutrition lessons and their intent to usually engage in these behaviors after attending lessons. From their study they concluded that participation in selected SNAP-Ed lessons was positively related to the intent of participants to improve nutrition-related behaviours. Pati et al., (2014) also discovered that participation was more than twice as common among children whose mothers had adequate health literacy compared with children whose mothers had inadequate health literacy. Therefore participation in nutrition education program does not only increase nutrition knowledge in participants but also is a precursor to behaviour change.

11.6. Nutrient Education Activities and Beneficiaries Behaviour

Research Question Six: *Is there a significant relationship between Nutrition education activities and beneficiaries behaviour?*

The results in Table 13 show that there exists a positive relationship between nutrition education activities and beneficiaries behaviour. However the relationship was not significant. The strength of

relationship was low with the $r = .225$ (22.5%) and P-Value .856 (two tailed test). Therefore nutrition education activities only impacted by 22.5% variance on beneficiaries behaviour.

Table 14. Nutrition Education Activities (NEA) and Beneficiaries Behaviour

| NEA | Behaviour | | |
|--------------------------------|-----------|---------|----|
| | R | P-Value | VI |
| Nutrition Education Activities | .225 | .856 | NS |

The results agree with the study by Rustad & Smith, (2013) who argued that a comprehensive nutrition and health education through empirical and collaborative educations, activities, and demonstrations had the ability to rise nutrition knowledge and favorably change nutrition behaviors in low-income women. Similar studies have shown that a reform in nutrition education knowledge is associated with a change in food choices and nutrition behaviour. Varied studies show that nutrition education is more likely to be effective when it focuses on behaviour/ action (rather than knowledge only) and systematically links theory, research and practice. (Contento, 2008). The above discourse indicates that participation in nutrition education activities contributes to beneficiaries behaviour change.

11.7. Predictor Beneficiary Behaviour

Research Question Seven: *Is there a predictor of beneficiary behaviour?*

Table 14. Predictor of Beneficiary Behaviour

| | R | R ² | Adj.R ² | B | Beta | T |
|-------------------|------|----------------|--------------------|-------------------|------|-------|
| Participation | .402 | .162 | .154 | .055 | .402 | 4.543 |
| F(4.543) = 20.636 | | | | Constant = -2.672 | | |

**Sig at .01 *Sig at .00

Table 14 shows that the predictor of beneficiaries behaviour in program participation with $r^2 = 0.162$ which is 16.2%. The results show that participation in nutrition program activities contributed minimal impact on the beneficiaries behaviour. Therefore, the hypothesis which states that there is no predictor for beneficiaries behaviour is rejected. The result is in conformity with (Rustad & Smith, 2013) also they concluded that participation in a short-term nutrition intervention using comprehensive nutrition and health education had the ability to increase nutrition knowledge and change nutrition behaviours of participants. Another study by Savoie et al. (2015) also demonstrated that participation in a nutrition education had a positive effect related to the intent of improving participants nutrition related behaviours. This study therefore includes that participation in a nutrition education activities predicts beneficiaries behaviour.

11.8. Challenges Faced by Nutrition Promoters

Research Question Eight: *What are the challenges nutrition promoters and CSO experience in implementing of the 1000 MCD program?*

The open ended questions from the interview guide were analysed using percentages and then ranking.

Table 15. Challenges in Implementing 1000 MCD Program

| Rank | Percentage | Challenges |
|--------------|-------------|--|
| 1 | 25% | Delayed disbursement of Funds to implementing civil society organisation by program sponsors. |
| 2 | 21% | Most brochures were printed in English. |
| 3 | 20% | Nutrition promoters spent a lot of time interpreting materials which was published in English into local language for beneficiaries to understand. |
| 4 | 19% | Nutrition promoters were covering large areas on foot during outreach programs |
| 5 | 10% | Pre recorded Radio programs were in English and not everyone understood them clearly. |
| 6 | 5% | High staff turnover. |
| Total | 100% | |

Table 15 show delayed disbursement of funds by the main program sponsors was ranked first (25%) of respondents interviewed from the organisation in Mumbwa ,Samfya and Kasama all indicated having experienced the above challenge and consequently hampered implementation of outlined program activities. the study also showed that 21% of respondents said most brochures were printed in English.

Further 20% of those interviewed said that Nutrition promoters spent a lot of time interpreting materials which was published in English into local language for beneficiaries to understand. The fifth ranked challenge which accounted for 10% was that of airing radio programs pre recorded in English to the targeted beneficiaries.

The least challenge ranked sixth was of high staff turnover in these CSOs a 5% stated that most qualified personnel left the local based civil society organisation to join international organisations which had better conditions of service and remuneration. The above challenges are concomitant with the findings of (Lucas, Charlton, & Yeatman, 2014) who argued that barriers to providing nutrition education to clients encompassed lack of time, lack of resources and lack of relevant training.

11.9. Solutions to Challenges Faced

Question 6(b). *What are the solutions to the challenges experienced in implementing of the 1000 MCD program?*

1. To intensify sensitization of the masses to take part in nutrition education Program under the 1000MCD program.
2. The program sponsor to devise mechanisms that ensures that funds are disbursement to implementing organisation in good time.
3. Civil society organisation to produce pre-recorded radio programs in a language beneficiaries and nutrition promoters can easily relate to and understand.
4. Non-governmental organisation to come up with better conditions of service which will help retain the skilled human resources to halt and minimise the high staff turnover.
5. Print and produce nutrition education materials in local languages.

12. SUMMARY, CONCLUSION AND RECOMMENDATIONS

The chapter also presents the summary to the findings and provides conclusion and recommendations based on the results of the study.

Summary of Findings

The study focused on correlating program participation, nutrition education activities their impact on beneficiaries' behaviour in Kasama, Samfya and Mumbwa districts in Zambia on the 1000 MCD program delivered by the CSO and Community Based Organisations.

The study show that majority (93%) of the beneficiaries were females while 62.3% of program staff were female whereas 37.7 were males. In terms of education 43% of beneficiaries had completed secondary education. The study further show that a very small percent (6.0%) and (1.5%) of beneficiaries attained college or university respectively. The largest percent (61%) consisted of those who earned income below five hundred Zambia kwacha.

With respect to beneficiaries participation in the 1000 MCD nutrition education program activities, the study revealed that an overall mean of 3.061 with the heterogeneous standard deviation of 1.2428. of beneficiaries responses was obtained. The above mean shows that beneficiaries fairly participated in the program. while program staff highly participated in the program as evidenced by the overall mean of 3.9613 and the program staff responses were homogenous with a low standard deviation of 0.6671. The study further revealed that majority (42.5%). of beneficiaries followed the nutrition guidelines, Only a small percent (8%) represented those who never followed .

A relationship was observed between program participation and beneficiaries behaviour .The strength of relationship was moderately related with $r = .402$ and $P\text{-Value} = .000$ (two tailed test). implying that participation in program activities impacted by 40.2% on beneficiaries behaviour.

The study further show that there exists a positive relationship between nutrition education activities and beneficiaries behaviour. However the relationship was not significant. The strength of relationship was low with $r = .225$ (22.5%) and $P\text{-Value} = .856$ (two tailed test). Therefore this implies that the nutrition education activities only impacted by 22.5% variance on beneficiaries behaviour.

On program participation as a predictor of beneficiaries behaviour, the study established $r^2 = 0.162$ which is 16.2%. this implied that participation in nutrition program activities contributed minimal impact on the beneficiaries behaviour. Therefore, the hypothesis which states that there is no predictor for beneficiaries behaviour was rejected.

The among the challenges CSO staff experienced are ranked as follows (25%) of respondents indicated that delayed disbursement of funds by the main program sponsors followed by 21% of respondents who said that most brochures were printed in English and 20% of those interviewed said that Nutrition promoters spent a lot of time interpreting materials which was published in English into local language. While 10% indicated that radio programs which were aired to audience was pre recorded in English a situation which disadvantaged majority of the targeted beneficiaries. The least challenge ranked sixth was high staff turnover in CSOs and this accounted for 5%.

The research results highlighted the following as solutions to the challenges experienced in implementing of the 1000 MCD program, emanating from the study, both the program managers and nutrition promoters felt that there was need for lobbying program sponsor to devise mechanisms that ensures that funds are disbursement to implementing organisation in time. Furthermore nutrition promoters suggested that CSOs should produce pre-recorded radio programs in a language beneficiaries and nutrition promoters can easily understand.

Also respondents suggested that CSOs needed to print and produce adequate nutrition education materials in languages targeted beneficiaries understand better. On high staff turnover, program managers suggested that CSOs needed to come up with improved conditions of service which attracts and retains the skilled human resource.

Conclusion

The study was focused on correlating participation ,nutrition education activities and beneficiaries behaviour on the nutrition education program delivered under the 1000 MCD by Civil Society Organisation in Kasama and Mumbwa Districts in Zambia. The research established that participation by beneficiaries in varied nutrition education activities was not effective. The main conclusion which can be drawn from this study beneficiaries fairly participated program while the program staff highly participated, this was good for the program success of any nutrition program is also dependant on effective and full participation of the targeted beneficiaries.

With respect to the relationship between participation and beneficiaries behaviour it was concluded that participation in the nutrition program moderately effected beneficiaries behaviour. therefore if the beneficiaries nutrition behaviours was to be greatly influenced , there is need to ensure that the targeted beneficiaries participation in the nutrition education activities is increased.

It was also concluded that they existed a positive relationship between nutrition education activities and beneficiaries behaviour, though it was not as significant as the relationship was low. The other conclusion which was established was that participation in the program was the predictor of beneficiaries behaviour as it contributed minimal impact on the beneficiaries behaviour..

Lastly it was established that delayed remittance of program funds by the program sponsors to implementing organisations, hampered the execution of program activities which resulted into delayed accomplishment of program activities

General Recommendations

Based on the findings, recommendations were made:

1. Since the study reviewed that largest percent consisted of those who earned income below five hundred Zambia kwacha. It is therefore recommended that program beneficiaries in low income category are empowered with income generating activities.
2. It is also suggested that since participation in program by beneficiaries was rated as fair, there was need to revisit some strategies, schedule of activities as well as making the nutrition activities more appealing to encourage high participation among the targeted beneficiaries.

3. In planning future interventions emphasis should be placed on the program activities such as cooking demonstration and menu planning games to enhance the newly acquired behaviour and attract greater participation and involvement of targeted beneficiaries.
4. Come up with funded staff development plan to boost human capital in the local CSOs.
5. Implementing organisations to ensure key stakeholders in targeted communities are involved in all aspects of the program from inception to the close as this is critical to effective program management.
6. Strengthen monitoring and evaluation activities of CSOs.
7. Lobby for increased funding and come up with local sustainable funding mechanism to reduce dependence on donor support

Further Researches were Recommended on the Following:

- a) Assess the nutrition status of the children from parents who are benefiting from the 1000 MCD program.
- b) Establish how nutrition education campaigns can be sustained without donor funding

REFERENCES

- Ahmadian, M., Redzuan, M., Emby, Z., & Asnarulkhadi, A. S. (2010). Women's Community Participation Levels in Community-based Health Programs Regarding Breast Cancer Prevention in Metropolitan Tehran, Iran. *Asian Social Science*, Vol. 6, No. 9; September.
- Ajzen, I. (2015, January 9). University of Twente. Retrieved January 9, 2015, from University of twente: http://www.utwente.nl/cw/theorieenoverzicht/theory%20clusters/health%20communication/theory_plan ned_behavior
- Anderson, J. (1994). What should be next for nutrition education. *Journal Nutrition*, 124: 1828S-1832S.
- Aranceta, J. (2003). community Nutrition. *European journal for clinical nutrition*, 79-89.'
- Austin, L. S., & Husted, K. (1998). Cost-effectiveness of television, radio, and print media programs for public mental health education. *Psychiatr Serv.*, 49(6):808-11.
- Awoniyi, S. A., Aderanti, R. A., & Tayo, A. S. (2011). *Introduction to Research Methods*. Sango Ibadan: Ababa.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., & Walters, R. (1963). *Social Learning and Personality Development*. New York: Holt, Rinehart & Winston.
- Best, K. (2001). *Social Research: An Introduction*. Cape town: Juta.
- Black, R., Victora, C., & Walker, S. (2013, June 6). The Maternal and Child Nutrition Study Group. Maternal and child undernutrition and overweight in low-inc. Retrieved from *Lancet*: [http://dx.doi.org/10.1016/S0140-6736\(13\)60937-](http://dx.doi.org/10.1016/S0140-6736(13)60937-)
- Bryman, A. (2008). *Social Research Methods*. New York: Oxford University Press.
- Bwalya, B. B. (2013). The University of Zambia. Retrieved January 4, 2015, from dspace.unza.zm:8080/xmlui/bitstream/handle/123456789/3031/Bwalya.pdf?sequence=1
- Campbell, C., & Jovchelovitch, S. (2000). Community and development: towards a social psychology of participation. *Journal of Community Appl Social Psychology*, 255-270.
- Carlyon, P., W, C., & McCathy, A. R. (1998). *Family and community involvement inschool health*. New York: Teachers college press.
- Castillo, J. J. (2009, January 1). Convenience Sampling Experiment. Retrieved April 13, 2014, from Convenience Sampling Experiment.com: www.Experiment Resources.com/ Convinience.Sampling.html
- Central Statistics Office. (2009). *Zambia Demographic and Health Survey (ZDHS)-2007*. Maryland, USA: Calverton.
- Chomitz, V., Cheung, L., & Lieberman, E. (1995). The role of lifestyle in preventing low birth weight. *The Future of Children*, 5,1:123.
- Cogill, B. (2003). *Anthropometric indicators measurement guide: food and nutrition technical assistance project*. Academy for educational development, 65-69.

- Cohen, L., & Manion, L. (2005). *Research methods in education*. New York: McGraw Hill inc.
- Contento, I. R. (2008). *Nutrition education: Linking research, theory, and practice*. *Asia Pacific Journal of Clinical Nutrition*.
- Coveney, J. (2002). What Does Research tell us? Implication of Nutrition and Dietetics Practice. *Nutrition and Dietetics*, 59 (2):113-9.
- De Almeida, M., Graca, P., & Lappalainen, R. (1997). Sources used and trusted by nationally-representative adults in the European Union for information on healthy eating. *European Journal of Clinical Nutrition*, 51: S8-15.
- Del Rosso, J. (1999). *school feeding programme: improving effectiveness and increasing benefit to education, a guide for programme managers*. *Partnership for development*, 4-8.
- De Vriendt, T., Matthys, C., Verbeke, W., Pynaert, I., & De Henauw, S. (2009). Determinants of nutrition knowledge in young and middle-aged Belgian women and the association with their dietary behaviour. *Appetite*, 52(3), 788–792. <https://doi.org/10.1016/j.appet.2009.02.014>
- Devas, C. (2004). *Designing Social Research* (4th ed.). London: Blackwell Publishing.
- Dibsdall, L., Lambert, N., Bobbin, R., & Frewer, L. (2003). Low income consumers attitudes and behaviours towards access, affordability and motivation to eat fruit and. *Public Health Nutrition*, Vol 6, no 2, 159-168.
- Dooley, D. (2008). *Social research methods 3rd Ed*. New Delhi: Prentice Hall.
- Dowler, E. (2001). 'Inequalities in diet and physical activity in Europe. *Public Health Nutrition*, Vol 4no 2B, 701-9.
- Engesveen, K., & Shrimpton, R. (2007). Nutrition Education in the Context of the United Nations Standing Committee on Nutrition Activities and Publications, 1985-2006. *Journal of Nutrition Education and Behavior*, 39(6), 351–356. <https://doi.org/10.1016/j.jneb.2007.07.012>
- Eugene, M. L., & Kerrebrock, N. (2013, February 11). *CHILD INDICATORS: Population-Based Growth Stunting*. Retrieved January 2, 2015, from *The Future of the children*: http://futureofchildren.org/futureofchildren/publications/docs/07_02_Indicators.pdf
- Favin, M., & Griffiths, M. (1999). *Communications for Behavioral Change in Nutrition Projects : Nutrition Toolkit Module Number 9*. Washington, DC: The World Bank.
- Fichman, R., & Kemerer, C. (1991). The assimilation of Software process innovations: An Organizational Learning Perspective. *Management Science*, 1345-1363.
- Fiegenbaum, R., & Kemerer, C. (1991). Output Flexibility-A Competitive Advantage for Small Firms. *Strategic Management Journal*, 1, 232-241.
- Food and Agriculture Organisation. (2014, December 29). *FAO*. Retrieved December 29, 2014, from *Food and Agriculture Organisation*: http://www.fao.org/docrep/006/y5030e/y5030e07.htm#P29_6959
- Galasso, E., & Umamath, N. (2009, August 14). Improving Nutritional Status through Behavioral Change: Lessons from Madagascar. *Journal of Development Effectiveness*, 1(1), 60.
- Gayle, H., Dibley, M., Marks, J., & Trowbridge, F. (1987). Malnutrition in the first two years of life. *American Journal of Diseases of Children*, 141, 5:531–34.
- Geraldine, L. C., & Hanna, M. (2011). *Maximising Nutritional Impact of food Security and Livelihood Interventions -A manual for field workers*. Paris: Action Contre la Faim.
- Glanz, K., & Rimer, B. K. (2005). *Theory at a Glance: A Guide for Health Promotion Practice*. *Health San Francisco*, 83, 52. <https://doi.org/10.1128/MCB.25.21.9532>
- Glanz, K., Rimer, B., & Viswanath, K. (2008). *Health behavior and health education theory, research, and practice*. John Wiley & Sons, Inc., 4th ed., Chapter 3. Retrieved from <http://books.google.com/books?id=YPVVRPgAACAAJ&printsec=frontcover>
- Gopalakrishnan, S., & Damanpour, F. (1994). Patterns of Generation and Adoption of Innovation in Organizations. *Journal of Engineering and Technology Management*, 1, 95-116.
- Gosling, P. (1999). *Scientist's Guide to Poster Presentations*. New York: Kluwer.
- Guerrero, M., Ramirez, R., Sanchez, C., Villaverde, G., Ruiz, V., & Perez, P. (2009). Dietary Modification in young Muslims engaged in Ramadan Fasting. *Nutricion Hospitalaria*, 24(6)738-43.
- Gussow, J., & Contento, I. (1984). Nutrition Education in changing world. *World review of Nutrition and dietetics*, 1-55.
- Gutierrez, Y. (1999). Cultural factors affecting diet and pregnancy outcome of Mexican American adolescents. *Journal of Adolescent Health*, 25(3):227-37.

- Habermas, J. (1974). The Public Sphere. An Encyclopedia Article. *New German Critique*, 49–55.
- Hanson, K., & Oliveira, V. (2012). How Economic Conditions Affect Participation in USDA Nutrition Assistance Programs. *Economic Information Bulletin*, EIB-100(100), 62. Retrieved from <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib100.aspx>
- Just, D., Heiman, A., & Zilberman, D. (2007). The interaction of religion and family members' influence on food decisions. *Food Quality and Preference*, 18(5):786-94.
- Kabahenda, M. K. (2006). effect of nutrition education on nutritional status and growth of young children in Western Uganda. Athens: The University of Georgia .
- Kearney, J. (2010). Food Consumption Trends and Drivers. *Phil. Trans. Royal Soc.B*, 365:2793-2807.
- King, F., & Burgess, A. (1999). *Nutrition for developing countries*. Oxford: University Press.
- Kombo, D. K., & Tromp, D. L. (2006). *Proposal and thesis writing: an introduction*. Nairobi.
- Kotari, C. (2011). *Research Methodology and techniques* . Delhi: New age.
- Krueger, R. A. (1994). *Focus groups: a practical guide for applied research*. Thousand Oak CA: Sage.
- Lawrence, M., & Worsley, T. (2007). *Public Health Nutrition from Principles to Practice*. Australia: Allen and Unwin.
- Lucas, C., Charlton, K. E., & Yeatman, H. (2014). Nutrition Advice During Pregnancy: Do Women Receive it and Can Health Professionals Provide it? *Maternal and Child Health Journal*. <https://doi.org/10.1007/s10995-014-1485-0>
- Leedy, & Ormond. (2001). *Practical Research*. Addison: Willey.
- Malama, E. (2012). An evaluation of school health and nutrition programs in chipatadistrict zambia. Solusi - Bulawayo: Solusi University Unpublished Masters of Science thesis.
- Martin, J., & Conklin, M. (1999). *Managing child Nutrition programs Leadership forexcellence*. Maryland: Aspen.
- Martorell, R., Rivera, J., Kaplowitz, H., & Pollitt. (1992). Long term consequences of growth retardation during early childhood. In *Human growth*. In E. M.
- Argente, Basic and clinical aspects (pp. 143-149). New York: Elsevier Science Pub.
- Masiye, F., Chama, C., Chita, B., & Jonsson, D. (2010, May 10). Zambia Social Sciences Journal. Retrieved January 4, 2015, from Southern Africa Institute for Policy and Research: <http://scholarship.law.cornell.edu/cgi/viewcontent.cgi?>
- Masiye, F., Chama, C., Chitah, B., & Jonsson. (2010). Determinants of Child Nutritional Status in Zambia: An Analysis of a National Survey. *Zambia Social Science Journal*: , Vol. 1: No. 1, Article 4.
- Middleton, P., Lassi, Z., son Tran, T., Bhutta, Z., Bubner, T., Flenady, V., & Crowther, C. (2013). Nutrition interventions and programs for reducing mortality and morbidity in pregnant and lactating women and women of reproductive age: a systematic review. Peth: Australian Research Centre for Health of Women and Babies (ARCH) Robinson Institute,.
- Mofya, R. (2014). Nutrition and Hunger Situation in Zambia and Luapula Province. Presentation at the Luapula Province Outreach Event, Mansa. Mansa: Indaba Agriculture Policy Research Institute.
- Monsan, E. R. (1992). *Research successful approaches*. New York: The American Dietetic Association.
- Mouton, J. (2001). *How to Succeed in your Masters and Doctorial Studies*. Pretoria: Van Shaick.
- Mucha, N. (2012, March 16). Enabling and Equipping Women to Improve Nutrition. Retrieved December 28, 2014, from Bread for the World Institute: <http://www.bread.org/institute/papers/briefing-paper-16.pdf>
- Murcott, A. (1983). "It's a pleasure to cook for him..." Food, mealtimes and gender in some South Wales households . In *Algee, The Public and the Private*. London: Heinemann.
- Murcott, A. (n.d.). "It's a pleasure to cook for him." Food, mealtimes and gender in South west whale.
- Olson, M., & Hergenhahn, B. R. (2009). Albert Bandura. *An Introduction to Theories of Learning*, (2005), 311–342. <https://doi.org/10.1037/11571-002>
- Orodho, A. (2003). *Essentials of Educationa and Social Sciences Research Method*. Nairobi: Masola Publishers.
- Otu DO. (2008). *Monitoring and Evaluation*. Lagos: Nigeria Open University.
- Pati, S., Siewert, E., Wong, A. T., Bhatt, S. K., Calixte, R. E., & Cnaan, A. (2014). The influence of maternal health literacy and child's age on participation in social welfare programs. *Maternal and Child Health Journal*, 18(5), 1176–1189. <https://doi.org/10.1007/s10995-013-1348-0>
- Pajares, F. (2008). Overview of Social Cognitive Theory and of Self-Efficacy. *Thought A Review Of Culture And Idea*. <https://doi.org/http://www.emory.edu/education/mfp/eff.html> (accessed 27 July 2004).

- Patton, Q. M. (2002). *Qualitative research and evaluation methods* 3rd Ed. London: Sage Publishers.
- Pettinger, R. (2001). *Mastering Management Skills*. Hampshire UK: Palgrave Macmillan.
- Petty, R., & Cacioppo, J. (1986). *The Elaboration Likelihood Model of persuasion*. New York: Academic Press.
- Premkumar, G. (2003). A Meta- Analysis of Research on in Information Technology Implementation in Small Business. *Journal of Organizational Computing and Electronic Commerce*, 1, 91-121.
- Rees, D., & Burnell, D. (2004). National school meals programme not the only meal ticket in Illinois. *child nutrition managemnet*, 2-3.
- Rennie, J., Munachonga, & Sakala, P. (1994). Gender in Zambia: The World Bank Country Programme. In K. Rodgers, *Wife Assault: the Findings of a National Survey Jurist at Serv. Bull Can: Centre Justice Statistics*.
- Rifkin, S. (1990). *Community Participation in MCH/FP Programmes: An analysis based on case study materials*. Geneva: World Health Organisation.
- Rifkin, S., Muller, F., & Bichmann, F. (1988). Primary health care: on measuring participation. *Soc Sci Med*, 26(9):931-40.
- Roos, G., & Prättälä, R. (1999). *Disparities in food habits: review of research in 15 European Countries*. Helsinki: National Public Health Institute.
- Roy, S., Jolly, S., Shafique, S., Fuchs, G., Mahmud, Z., & Chakraborty, B. (2008). Prevention of malnutrition among young children in rural Bangladesh by a food-health-care educational intervention: a randomized, controlled trial. *FoodNutrition Bull*, 28(4):375-83.
- Rustad, C., & Smith, C. (2013). Nutrition knowledge and associated behavior changes in a holistic, short-term nutrition education intervention with low-income women. *Journal of Nutrition Education and Behavior*, 45(6), 490–498. <https://doi.org/10.1016/j.jneb.2013.06.009>
- Sangweni, S. S. (2008). *Report on the evaluation of the national school nutrition programme*. Pretoria: Public service Commissino house.
- Saunders, Lewis, & Thornhill. (2003). *Research for Business People*. New Jersey: MacGrawHill.
- Saunders, M., & Etal. (2001). *Research Methods for Business Students* (5th ed.). London: Prentice Hall.
- Schuler, S., & Hashemi, S. (1994). Credit Programs, Women Empowerment and Contraceptive use in Rular Bangladeshi. *Studies in Family Planning*, 25(2):65-76.
- Scott, D., & Morrison, M. (2006). *Key Ideas in education Research*. New York: Continuum.
- Sherman, J., & Muelhoff, E. (2007). *Developing a nutrition and health education programme for primary schools in Zambia*. Rome: FAO.
- Sience, F. a. (2010). *Nutrition education and promotion. the role of Food andNutrition Sience in helping Low-income families make healthier Eating and Life Style Choices*. Alexandria: USAID.
- Singleton, & Straits. (2003). *Approaches to Social Research*. Oxford: Oxford University Press.
- Skinner, A.-L. (2012, April 20). CLOK. Retrieved December 28, 2014, from University of Lancashire: <http://clock.uclan.ac.uk/6778/4/Skinner%20Anna%20Final%20e-Thesis%20%28Master%20Copy%29.pdf>
- Skuse, D., Albanese, A., & Stanhope, R. (August 10, 1996). A new stress-related syndrome of growth failure and hyperphagia in children, associated with reversibility of growth-hormone insufficiency. *The Lancet*, 348,9024:353–58.
- Swartz, A. (2009). *An evaluation of the school feeding programme as a servicedelivery mechanism to improve academic performance of needy learners inBonteheuwel*. . Capetown.
- Savoie, M. R., Mispireta, M., Rankin, L. L., Neill, K., LeBlanc, H., & Christofferson, D. (2015). Intention to change nutrition-related behaviors in adult participants of a supplemental nutrition assistance program-education. *Journal of Nutrition Education and Behavior*, 47(1), 81–85. <https://doi.org/10.1016/j.jneb.2014.08.009>
- Teddle, C. (2009). *Foundation of mixed methods Research intergrating quantatitand qualitative Approaches in The Social Sciences and Behaviour Sciences*. California : Sage.
- Tuffery, O., & Scriven, A. (2005). Factors influencing antenatal and postnatal dietsprimigravid women. *The Journal of The Royal Society for the Promotion ofHealth.*, 125(5):227-31.
- Wardlaw, G. M., & Smith, A. M. (2006). *Contemporary nutrition* 7th Ed. New York: Mc Graw-Hill Comany.
- Wardlaw, M., & Smith, M. (2006). *Contemporary nutrition*. New York: Mc.Graw-Hill.

- Wammes, B., Breedveld, B., Kremers, S., & Brug, J. (2006). The “balance intervention” for promoting caloric compensatory behaviours in response to overeating: A formative evaluation. *Health Education Research*, 21(4), 527–537. <https://doi.org/10.1093/her/cyl003>
- WFP. (2006). Seminar report: food for education expert seminar. Rome: WFP.
- WHO/FAO. (1998). Health nutrition: an essential Element of a health- promoting school document 4. Geneva: WHO.
- Worthen, B., & Sanders, J. (1987). *Educational Evaluation: Alternative Approaches and Practical Guidelines*. London: Longman.
- Worthington-Robert, B. S., & William, S. R. (2000). *Nutrition in the life cycle* 4th Ed. New York: Mc Graw-Hill.
- Yunsheng, M. (2002). *Eating patterns in relation to body weight and blood lipids*. Massachusetts Amherst: Ann Arbor.

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