

FACTORS CONTRIBUTING TO THE DEVELOPMENT OF UNDERNUTRITION IN CHILDREN UNDER THE AGE OF 5 YEARS IN OSHIKOTO REGION, NAMIBIA

Ester Mulenga¹, Hans Justus Amukugo², Sabina Aisheoiwa David³

¹Department of Midwifery Science, Faculty of Health Science, School of Nursing, University of Namibia, Oshakati campus, Namibia, ²Department of Community Health, Faculty of Health Science, School of Nursing, University of Namibia, Windhoek Campus, Namibia, ³Department of Midwifery Science, Faculty of Health Science, School of Nursing, University of Namibia, Oshakati campus, Namibia

Corresponding Author: Dr. Ester Mulenga, E-mail: emulenga@unam.na

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ABSTRACT

Lack of proper childhood nutrition can lead to hunger and undernutrition in children under the age of 5 years. Some factors can fuel improper nutrition resulting in stunting, underweight, and wasted among such age group. This article aims at explaining factors that contributed to undernutrition in children <5 years. A qualitative, exploratory, descriptive, and contextual design was used. The study consisted of mothers and caregivers of children under the age of 5 years diagnosed with severe or moderate acute undernutrition, admitted in pediatric unit, or registered with nutritional, assessment, counseling, and support program. Purposive sampling was used and 15 mothers and caregivers were interviewed using unstructured individual in-depth interview. Tesch's method was used to analyze the data after transcription. The study showed that unsuitable feeding practices, household food insecurity, financial challenges, and other factors contributed to the development of undernutrition in children <5 years. The identified factors need to be tackled by different sectors to ensure that they are either prevented or controlled.

Key words: Children under 5 years, Contribute, Development, Factors, Undernutrition.

INTRODUCTION

Nutritional status of children under the age of 5 years can be affected by many factors. Poor nutrition and unsuitable feeding practice are some of the challenges that contribute to the development of undernutrition in children <5 years. In Namibia, only 49% of children <6 months were exclusively breastfed and 28% were breastfed up to the age of 2 years.⁽¹⁰⁾

Bottle feeding started as early as 2–3 months and about 26% of infants were bottle-fed. Mothers and caregivers introduce complementary feeding early, before 6 months and about 13% of children were given food before the targeted age.⁽¹¹⁾ Some researchers have identified that there are certain factors which can influence nutrition and contribute to undernutrition in children under the age of 5 years.⁽²⁾ These factors include poverty, culture, and social status of the mother and lack of social and professional support.^(2,3)

Undernutrition is one of the health problems, especially in developing countries. In Namibia, 24% of children <5 years are stunted and 8% are severely stunted.⁽¹⁾ About 13% of Namibian children are underweight and 6% are wasted.⁽¹⁾ One of the regions ranked among top five in Namibia is Oshikoto region with 26% stunted, 21% underweight, and 9% wasted

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children. However, many people in that region rely on their own food production as most of them are farmers. Many studies related to nutrition described the prevalence of undernutrition, but little is known about the factors which contribute to undernutrition in children under the age of 5 years in above-mentioned region. Poor feeding practices, household food insecurity, financial problem, and other factors have contributed to undernutrition in children under the age of 5 years. These resulted in children to develop moderate and severe acute undernutrition. This article will be structured as follow, first the factors that contributed to the development of undernutrition in children under the age of 5 years will be reviewed; subsequently, the methodology used to identify and describe those factors will be explained, followed by the results and discussion. The article will conclude with conclusions and recommendations.

Poor feeding practices

Optimal feeding practices play a key role in the growth and development of children under the age of 5 years.⁽⁴⁾ Poor feeding practices result in the development of undernutrition. Poor feeding practices include lack of exclusive breastfeeding, early or late introduction of complementary feeding, limited food diversity, and less quantity feeding.^(5,6) Some authors have indicated that only about 34, 8% of the young infants were exclusively breastfed globally and many children were given unsafe and insufficient food which lacked adequate nutrients.^(7,8)

According to some researchers, some young children in Southern Asia were not given complementary food on time, it was delayed till 9 months–1 year and this contributed to the development of undernutrition.⁽⁹⁾ Literature has also indicated that despite incorrect introduction of complementary food, some mothers and caregivers feed their children <2 times a day and this does not meet the dietary requirement of a young child.⁽¹⁰⁾ Some authors have revealed that in developing countries, children are being fed with available food, mothers and caregivers do not consider different nutrients; hence, young children develop micronutrient deficiencies.⁽¹¹⁾ Unsuitable feeding practices contributed to stunting and underweight in children under 5 years in China.⁽¹²⁾

Household food insecurity and financial challenges

Household food security and financial resources play a major role in nutrition and feeding of children under the age of 5 years. If the house is not food secure or experiencing financial challenge, then the nutritional status of children will be negatively affected. One of the authors stated that poverty is the primary cause of lack of access to affordable and nutritious food.⁽¹³⁾

High level of household food insecurity can cause undernutrition in children.⁽¹⁴⁾ Similarly, some researchers have indicated that household food insecurity contributes to

poor nutrition which impacts the growth and development of children negatively.⁽¹⁵⁾ In some cases, children do not get important nutrients which lead to micronutrient deficiency caused by household food insecurity.⁽¹⁶⁾ Micronutrient deficiency has a negative impact on the child's biological, behavioral, and intellectual development, especially in the first 3 years of life, resulting in a long-term effect.⁽¹⁶⁾

A study conducted in Kenya found that some caregivers feed their children with tea or milk only due to severe household food insecurity, resulted in the development of stunting.⁽¹⁷⁾ Some authors indicated that families with little or no income are at risk of household food insecurity as they cannot afford to buy nutritious food.⁽¹⁸⁾ People's food choices are limited by their financial situation, even if they want to buy fruits and vegetables they are not able to afford it.⁽¹⁸⁾ Similarly, other researchers reported that people from low-income families diet usually lack vitamins, protein, and minerals as they cannot afford to buy food with those nutrients.⁽¹⁹⁾ Families with limited income consume foods which fill up the stomach, so people do not consider nutrients.⁽²⁰⁾ Financial difficulties cause people to go to bed on empty stomach including children as reported by some authors.⁽¹⁸⁾

Other factors influencing nutrition status of children under the age of 5 years

Eating behavior of children, alcohol abuse by mothers and caregivers, child abandonment and neglect, as well as unhygienic food practices can also contribute to undernutrition in children under the age of 5 years. Some children refuse to eat and other children accept some food while rejecting others which is referred to picky eating behaviors.⁽²¹⁾

Picky eating contributes to lack of some nutrients. Picky eaters refuse fruit and vegetable mostly, while accepting drinks over food.⁽²²⁾ Food refusal in most cases commences with the changing from breastfeeding to spoon or self-feeding.⁽²³⁾ Some researchers indicated that feeding techniques which include threat or punishment may worsen the child's refusal to eat; hence, they must be avoided.⁽²⁴⁾ On the other hand, food refusal in some children is a way of seeking attention from parents which is influenced by family situations and child's personality.⁽²²⁾ Food refusal and pick eating behavior can cause poor weight gain and stunted growth, and this has a negative impact on the mental development of the child.⁽²¹⁾

Child neglect and abandonment can also influence nutrition and feeding of children under the age of 5 years. Some mothers entrust their children to grandmothers and other female caregivers due to employment, but other parents leave the total responsibility of their children to grandmothers and neglect them totally.⁽²⁾ Children who are neglected do not gain weight and height as expected which is an indication of nutritional neglect.⁽²⁵⁾ Similar to these findings, other authors stated that

children, who are nutritionally neglected fail to thrive, develop stunted brain which, in turn, results in cognitive, social, and behavioral deficits.^[26] If the children are neglected, especially the nutrition part, it results in deficiency of some nutrients and this increases morbidity and mortality.⁽²⁷⁾ Some researchers found that the number of adult relative raising children was on increase, but eating a balance diet in those household is a challenge, due to limited resources ⁽²⁸⁾ Many children who are neglected eat poor quality foods which contribute to the development of undernutrition.⁽²⁹⁾

Alcohol abuse increases the risk of child abandonment and neglect. Children brought up by mothers and primary caregivers abusing alcohol do not receive adequate care, including food.⁽³⁰⁾ One author indicated that some children are affected by parental alcohol problem and most of those children are neglected.⁽³¹⁾ Alcohol misuse lessens the amount of time and money necessary to take care of children, and this result in neglecting even the basic needs of the child.⁽³²⁾ Alcohol abuse by the parent or primary caregiver has a negative effect on the future of the child, as a result, children develop undernutrition and they do not reach their full potential when they grow up.⁽³¹⁾

The child can grow and develop well in a healthy environment, eating healthy food which is prepared in a hygienic manner. Poor food hygiene can impact the child's nutritional status negatively. Good hygiene and proper handling of food need to be practiced before and during preparation of children's meals.⁽³³⁾ These include proper hand washing, cleaning of utensils and kitchen surfaces, as well as protecting food from insects and flies.⁽³⁴⁾ Some researchers indicated that poor food hygiene is one of the main contributing factors to infection since dirty utensils are the major source of contamination.⁽³⁵⁾ Children who eat contaminated food usually develop diarrhea; hence, unhygienic food practices can affect early childhood growth negatively.⁽³⁶⁾

METHODOLOGY

Research design

The approach and design utilized in this study were qualitative, exploratory, descriptive, and contextual in nature which assisted the researcher to understand the factors contributed to undernutrition in children under the age of 5 years.^[37]

Data collection

Target population and study setting

Mothers and caregivers of children under the age of 5 years diagnosed with severe or moderate acute undernutrition admitted in Onandjokwe Intermediate, Omuthiya, and Tsumeb district hospitals or registered with Nutrition Assessment Counseling Support program (NACS) were targeted.

Sample size and sampling strategy

Purposive sampling was used and inclusion criteria were as follows: Mothers or caregivers should be for child under 5 years, residing in Oshikoto region; child must be diagnosed with severe acute undernutrition, admitted in pediatric unit or moderate acute undernutrition registered with NACS and mother or caregiver must be able to make decision (18 years or above) and able to speak Oshiwambo (common language spoken in Oshikoto region) or English. Participants who met criteria were identified in collaboration with unit or program supervisors. A total number of 15 mothers and caregivers participated in the study after obtaining an informed written consent and data became saturated. Data were collected in a period of 2 months Ethical Clearance was granted by the University of Namibia (Reference number SONPH/14/2015), and the study was approved by the Ministry of Health and Social services (Ref 17/3/3).

Data collection method

Data were collected using unstructured individual in-depth interview. This assisted the researcher to gain in-depth information on factors contributed to the development of undernutrition in children under the age of 5 years. The interviews were conducted either in Oshiwambo or English, depending on the language preference of the participant. Oshiwambo interviews were translated in English by the researcher. Audio recorder was used during interviews with the permission of the participants. Field notes were also taken to write important information which cannot be audio recorded.

Measuring instrument

The researcher used an interview guide to collect the data. The question asked was "What are the factors that contributed to your child to develop undernutrition." Probing questions were determined by responses of participants.

Data analysis

Data were analyzed using Tesch's method of open coding.^[37] The following steps were adopted:

- Read all the transcripts and a get sense of their content and write down emerging ideas.
- Organizing the emerging ideas into major and distinctive topics.
- Allocate each topic a code and write it next to the appropriate segment of text.
- Group the topics and turn them into themes.
- Categorize the data which belongs to one group in one place and refine where necessary.

RESULTS

The results report the factors that contributed to the development of undernutrition in children under the age of 5 years.

Poor feeding practices

Participants in this study utilized unsuitable feeding practices, because they stopped breastfeeding early and they did not practice exclusive breastfeeding since they started complementary feeding early. Participants in this study also feed their children less in quantity, they tried to force their children to eat and they give foods mainly from one food group. These have contributed to the children to develop undernutrition. This was evident per following quotations:

"I have been breastfeeding my baby till he turned 6 months, then from 6 months I stopped breastfeeding" (P#1)

I use the bottle to feed him, I use to put soft porridge in the bottle and add milk called "omaye" (P#4).

He started drinking water soon after birth, so I started giving him water just after few days after operation, water and formula milk, then he continues breastfeeding (P# 12).

"We have to force him to eat, that is him, basically that is him you have to force him to eat" (P#8).

In a day, in a day I give him.... (Silence) I give him when we are having our lunch or dinner. (Child has stopped breastfeeding already at 9 months) (P#5).

I started giving him "mahangu" soft porridge till he turns 7 months and I also feed him with pap made with mahangu flour and give him "Oshikundu"(traditional drink made from mahangu) to drink (P#1).

Limited resources

Participants in this study have experienced household food insecurity, and this has contributed to their children to develop undernutrition. This was indicated as follows:

"If the bag of maize flour get finished we have to struggle, there will be no food even small children will not have anything to eat, even a month can pass without food" (P#7).

"Mmh, the food we have is not enough, especially now that the rain is not adequate, we do not have enough food; I have a challenges with getting food (P#14).

Some participants in this study encountered financial challenges, and this also resulted in the development of undernutrition in their children:

"I am the only one taking care of the children and I do not have an income and it is difficult to buy food, the father is also not working, but once he gets some cents he gives me to buy food" (P#6).

"I do not have job, I don't have an income where will I get food, I only get few cents once I made a basket and sell, but if I did not sell, then I will not have any cent to buy food" (P#3).

Other factors which contributed to undernutrition in children under the age of 5 years

Other factors which also resulted in undernutrition include children's eating behavior, children neglect and abandonment, alcohol abuse, and unhygienic food practices. Participants in this study experienced problems related to children's eating behavior which contributed to the development of undernutrition as some children refuse to eat while some are picky eaters. They explained it as follows:

Oh "but sometimes when I am giving her food she does not want, she will not eat some food if you put the food in her mouth she will not swallow she will spit it out, maybe she does not like" (P#11).

They said the child started refusing to eat, even if they give him food he will not eat the food (P#4).

The child does not want to eat some foods, but what he likes to eat is only porridge and "ontaku" (fermented traditional drink made from pearl millet flour), but he does not like milk (P#10).

Some participants also alluded that some mothers have abandoned and neglected their children; therefore, these children developed undernutrition:

"This child is not mine she is staying with my mother, his mother abandoned her; I do not know where her mother went, she just went away and none of us know where she is, she abandoned the child" (P#6).

"When the child stopped breastfeeding her mother went to start working, then she gave the child to someone who is not even related to the child to take care of him I did not know where the child was dropped first" (P#15).

Some mothers and caregivers are also abusing alcohol and this contributed to child neglect and undernutrition:

I took this child from his mother, because his mother is just a drunkard person, so I saw that if I leave this child to stay with his mother the child will die because of hunger (P#10).

"I think that one of the old lady who was taking care of the child she just carry the child on her back and then she goes to shebeens, because she is one of those people who drink much alcohol and she spend the whole day at shebeens and the child does not have anything to eat" (P#15).

Findings from this study also revealed that some mothers and caregivers do not practice food hygiene when they are preparing food for children. This was explained as follows:

“Oh, sometimes you will find the cup just lying on the floor and the people will just pick it from the floor and put in ‘ontaku’ for the child without cleaning it” (P#3).

“You find the child’s food, you can see this is a child’s food, but you will find it in a dirty container and the food for the child was also cooked in a dirty pot” (P#9).

DISCUSSION

In discussing these findings, it is evident that nutrition status of children is affected by many factors. Poor feeding practices are some of these factors, because some children stopped breastfeeding at the age of 6 months when the required duration for breastfeeding is 2 years or beyond. Exclusive breastfeeding was not practiced as findings from this study indicated that some infants were given water or formula milk before 6 months as it was also reported in the literature.⁽⁸⁾ It was also revealed in this study that mothers or caregivers use bottle to feed their infant which is not recommended by the WHO since they are difficult to clean and without proper cleaning it results in children to develop diarrhea.^[36] The study again revealed that mothers and caregivers feed their children less in quantity as some of them give food 2–3 times a day when the children have already stopped breastfeeding as reported by some researchers.⁽¹⁰⁾ This resulted in children dietary requirements not to be met; hence, these children developed undernutrition. Some mothers and caregivers in this study also revealed that they mostly give food from one group, mainly grain and they do not feed their children in a responsive manner since they force them to eat. Feeding a child with food from one group deprive him/her from other nutrients which are needed for growth and survival.

Household food insecurity is another factor that contributed to the development of undernutrition, because in some houses there was no food available, while others did not have sufficient and nutritious food to meet the dietary needs of the children. Hence, some children go to bed on an empty stomach as reported in the literature.^[18] Findings from this study also revealed that financial challenges have impacted nutrition of children negatively, as some participants do not have income to buy food; therefore, their children developed undernutrition.

This was also reported by other authors that family with financial problem cannot afford to buy nutritious food which resulted in their children to eat diet which lacks important nutrients or not to eat at all.^(19,18) It also became evident that children eating behavior has also hindered their nutritional status. Some children refuse to eat any food, while some are

picky eaters who prefer to eat certain food. This resulted in nutrient deprivation and development of undernutrition as it was also reported in the literature.⁽²¹⁾

One of the major concerns identified in the literature and confirmed by this study is the abandonment and neglect of children which also resulted in nutritional neglect. Caregivers revealed that some children were neglected by their mothers, and they were not appropriately fed since they were left under the care of grandparents who do not also have sufficient resources to feed them. The result of the study showed that some mothers and caregivers are abusing alcohol which contributed to further child neglect and improper feeding. Mothers and caregivers who misuse alcohol do not have time to take care of their children, and they spend money on alcohol instead of buying food. It also became evident that mothers and caregivers do not practice food hygiene as some children food were cooked in dirty pot and put in dirty utensils. As a result, some children developed diarrhea which put the children at risk of undernutrition as it was also reported in the literature.⁽³⁶⁾

CONCLUSIONS AND RECOMMENDATIONS

Childhood nutrition is vital to a healthy nation and productive society in future. Undernutrition in children under the age of 5 years can contribute to poor cognitive and social behavior, resulting in non-productive society. The results of this study showed that poor feeding practices, household food insecurity, and financial difficulties have greatly impacted the nutritional status of children under the age of 5 years. While alcohol abuse, child neglect and abandonment also affected children nutritional status at the medium level, followed by children eating behavior and unhygienic food practices, mothers and caregivers of children under the age of 5 years need to be empowered to be able to address those factors. If such factors are controlled, this will result in reduction of undernutrition and the achievement of sustainable development goals number two and three.

This research has contributed to the understanding of multidimensional factors which can negatively impact childhood nutrition. Hence, there is a need to tackle such factors at a multisectoral level, because they cannot be addressed by one sector.

RECOMMENDATIONS

- Health workers need to educate mothers and caregivers on appropriate feeding practices of children under the age of 5 years.
- Health ministry to work in collaboration with other sectors such as poverty eradication, social welfare departments, and regional councils to prevent and address factors which have a negative impact on childhood nutrition.

- Communities need to be educated about healthy lifestyle and building family and social support to be able to tackle factors which hinder childhood nutrition so that undernutrition can be prevented.

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