

## Research Article

# Wash practices assessment on the nutrition status of children under age five in Songwe region: A case study of Ileje District Council

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### ABSTRACT

The study aims to assess the effects of water, sanitation and hygiene practices on the nutrition status of children under five years in the Songwe region of Tanzania since malnutrition is still a big challenge in developing countries, particularly the Southern Highlands Zone which needs integrated measures to be addressed. Cross-sectional studies involving 110 children aged 0-59 months were assessed for Weight-for-Age, Height-for-Age and Weight-for-Height involving a structured questionnaire. Results showed that 47.27% were stunted, 27.27% were underweight while 16.36% were wasted and 53.63% of respondents did not participate in any community program. The study also revealed that 35.45% had pit latrines, 44.54% used communal pit latrines, 13.63% had flush toilet types and 6.36% did not have any kind of toilet. Lack of proper latrine increases the chances of getting infections such as worm infestation. 37.27% of respondents still use unimproved sources (River water, dams, ponds) and 65.45% of respondents use untreated water for drinking, cooking, and food preparation activities which increases disease incidences and infections. The presence of poor nutrition status of children under age five in the study sample was caused by poor childcare practices. These findings alert the Government starting from the local government level to use nutrition stakeholders to effectively influence mothers/caregivers to make healthy dietary practices.

**Keywords:** Sanitation, Hygiene, Water, Under five children, Nutrition Status

### INTRODUCTION

Water, sanitation, and hygiene practices are fundamental human rights and contribute significantly to the nutritional status of under-five children have been reported by Momberg *et al.* (2021). According to UNICEF (2017) Malnutrition Framework, the components of mother and child care, environmental health, sanitation and hygiene are the major causes of undernutrition. Living in unsanitary and unhygienic environments may cause children to be undernourished (Shrestha *et al.*, 2020). It has also been estimated that improved Water Sanitation and Hygiene (WASH) practices may rescue up to 45% of child deaths a year globally that are due to undernutrition (Saxena, 2018). Furthermore, the global efforts to combat child malnutrition are presently focusing on multidisciplinary interventions due to the fact that nutritional interventions with coverage of 90% can only achieve 20% improvement in growth faltering (WHO, 2018). However, most of the people in developing countries still follow poor WASH practices. In the case of Tanzania, 42.7% of its people rely on unsafe water sources for their domestic uses, only 36.8% have access to piped/tap water, 14% still practice open defecation, and 76.4% use traditional pit latrines Mshida *et al.* (2018).

Water treatment measures such as boiling are yet to be implemented because financial and cultural barriers have

been reported by Momberg *et al.* (2021). Furthermore, open defecation is still practiced in most communities and the few with sanitation facilities own traditional pit latrines, which can pose a risk of faecal contamination. At the same time, foods are unhygienically prepared, stored, and consumed in open environments that can be contaminated by various flies. Kitchen wares and clothes are unhygienically handled, and hand washing is rarely practiced have been reported by Otsuka *et al.* (2019).

Infants should be breastfed on demand that is as often as the child wants, day and night as after six months of breastfeeding, a baby also has a 19% lower risk for childhood leukemia (WHO, 2018). However, most of the children in developing countries are introduced to complementary foods before the recommended age which is reported as one of the major contributing factors to diarrhoea-associated diseases and undernutrition (WHO, 2018). Several studies have reported a strong correlation between WASH practices and nutritional status among under-five children has been reported by Momberg *et al.* (2021). Likewise, WASH practices in semi-pastoral communities may be poor but the extent such practices influence the nutritional status of under-five children has not been investigated.

It has also been estimated that improved WASH practices may rescue up to 45% of child deaths a year globally that are due to undernutrition as reported by Momberg *et al.* (2021).

Furthermore, global efforts to combat child malnutrition are presently focusing on multidisciplinary interventions. However, most of the people in developing countries still follow poor WASH practices as reported by Momberg *et al.* (2021).

As a result, the main objective of this study was to assess the effects of water, sanitation and hygiene practices on the nutrition status of children under five years in the Songwe region which will foster efforts to combat undernutrition among under-five children in areas where they do not incorporate WASH interventions into nutrition interventions for instance in semi-pastoral and pastoral communities have been reported by Momberg *et al.* (2021).

Tanzania has implemented a number of national campaigns including Mtu ni Afya (To be Healthy is to be Human), Maji ni Uhai (Water is life), and the national sanitation and hygiene campaigns as a way of improving WASH practices and reducing WASH-associated infections but still problem exist have been reported by Mshida *et al.* (2018). The lack of proper sanitation facilities in Songwe district contributed to the spread of cholera in the region Akpabio and Rowan (2021). According to the report by health experts, it was clear that poor sanitation practices and lack of latrines contributed to the spread of the disease affecting the community in Ileje and Mbala village of Mwambani ward Akpabio and Rowan (2021). Therefore, there is a need to investigate the influence of key WASH practices on the nutritional status of children under the age of five years in Ileje.

## MATERIAL AND METHODS

### Study design

This study was a descriptive cross-sectional survey, which employed a structured questionnaire.

### Study area

This study was conducted in the Ileje district in the Songwe region. Its selection was due to its high prominence in poor nutritional status of under five years children.

### Sample size

Simple random sampling techniques, purposive or strategic sampling and convenience sampling both these methods were involved in picking units most relevant or knowledgeable in the subject matter and studying them and gathering required information.

The minimum sample size was obtained by using the formula by Gray (2004)

$$N = \frac{Z^2 P(1-P)}{e^2}$$

Where;

N= sample size

Z= standard normal deviation of 1.96 corresponding to 95% confidence interval.

P= Proportion of meat vender that corresponding to 50%

e= Degree of maximum error as 10 % or 0.1

From above formula;

Then;

$$N = \frac{1.96^2 \times 0.5(1-0.5)}{0.1^2} = 96.04 \text{ approximately } 100 \text{ then will}$$

be added by 10% of it.

So, the number of respondents interviewed in this study was 110 in order to be able to draw valid conclusions, to give an adequate reflection of the study population.

### Collection of research data

Data collection was achieved by means of the earliest structured researcher-supervised questionnaire. The questionnaire and checklist for observation revised from previous studies were initially made in English and then interpreted into Kiswahili. Kiswahili is the countrywide language and means of communication.

### Analysis of data

The Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the collected data. Descriptive statistics, including frequencies, means, standard deviation, percentages and others were computed.

### Variables of the research

#### The dependent variable

The dependent variable was the nutrition status of children under age five. Indicators were underweight, stunted and wasted.

#### Independent variables

Independent variables were sources of water used by households for drinking and cooking purposes, washing purposes, and sanitation facilities; types of latrines used by households, locations, knowledge, attitudes and awareness of WASH practices, feeding practices, prevalence of diseases and infections.

## RESULTS AND DISCUSSION

### Nutritional status of children

Out of children who were studied, 47.27% were stunted, 27.27% were underweight while 16.36%, were wasted. Stunting is a chronic form of malnutrition that can occur when a child suffers from long-term nutrient deficiencies and/or chronic illness so that not only weight but height is affected.

Poor child's nutritional status is because of poor WASH practices which may cause infections and diseases that influence the health status of a child Dodos *et al.* (2017).

Investigation of WASH practices was done in the study population and revealed a strong association with the child's nutritional status.

### Water, sanitation and hygiene

37.27% of respondents still use unimproved sources (River water, dams, ponds) and 65.45% of respondents use untreated water for drinking, cooking, and food preparation activities which increases disease incidences and infections. Hygiene promotion and supplies a key to safe delivery and breastfeeding. A lack of safe drinking water can be a death sentence for babies who must have infant feeding formula to prevent the transmission of HIV and the lack of safe WASH causes up to 50% of undernutrition worldwide.

55.45% of respondents mothers use more than 30 minutes for collecting water for home use. Collecting and carrying water while pregnant can cause difficulties in pregnancy and other reproductive health consequences, such as uterine prolapse. Lack of proper latrine increases the chances of getting infections such as worm infestation. The study revealed that 35.45% had pit latrines, 44.54% used communal pit latrines and 6.36% did not have any kind of toilet. Only 13.63% had flush toilet type.

### Tradition, customs, attitudes and social influence on water sanitation practices

53.63% of respondents did not participate in any community programme. Only 37.27% of the respondents participated in nutrition intervention programs namely Mwanzo Bora and Malezi na Makuzi which reflects a poor participation of the community in the running programmes targeted at reducing malnutrition. There is a need to promote these interventions and their measures towards having healthy community for development.

### CONCLUSION

The purpose of the study was to assess effects of water and sanitation practices on the nutrition status of children under age five. The presence of poor nutrition status of children under age five seen in this study was caused by poor childcare practices in the community such as poor caregivers/mothers interaction during feeding of the children, poor dietary diversity, lack of safe drinking water (use of unimproved water source for drinking water), inability of mothers/caregivers to read and write as well as poor participation in the nutrition intervention programmes. From these findings, it is high time for the Government to use Nutrition stakeholders starting from the local government level as they can effectively educate mothers/caregivers to influence healthy dietary practices and participation in intervention programs for their betterment.

### RECOMMENDATION

Nutrition intervention programmes should be strengthened and monitored in the community so as to

cover all beneficiaries. These programmes should cover all the aspects of child care practices (hygiene practices, psychosocial care, child feeding practices and health-seeking practices).

Provision of individual and group counselling through these programmes may increase the awareness on childcare practices among mothers/caregivers hence improving the nutritional status of the children.

WASH programmes need to work in collaboration with other initiatives that address discrimination and women's rights violations. Programmes must strengthen the connections between the rights to water and sanitation and other rights, including health, education, food, work, land, freedom from violence, and the right to information. Equipping people with knowledge of their rights and the skills to undertake advocacy for themselves and by themselves.

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### AUTHOR'S CONTRIBUTIONS

Even contribution is made for conducting research and preparations to dissemination of findings.

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