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DEPARTMENT OF PUBLIC HEALTH

PREVALENCE AND ASSOCIATED FACTORS OF CLINICAL VITAMIN A DEFICIENCY AMONG PRESCHOOL AGED CHILDREN IN CHEHA DISTRICT, GURAGE ZONE SOUTHERN ETHIOPIA

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By

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A thesis to be submitted to wolkite University College of medicine and health science, department of public health in partial fulfillment of the requirements for the master degree of public health in nutrition

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Title: Prevalence and associated factors of clinical vitamin A deficiency among preschool aged children in cheha district Gurage zone, southern Ethiopia.

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TABLES OF CONTENT

Contents

LISTS OF TABLES

LISTS OF FIGURES

LISTS OF ABBREVIATIONS /ACRONYMS

ANC	Antenatal care
FAO	Food and Agricultural Organization
HAZ	Height for Age Z score
IDDS	Individual Dietary Diversity Score
IECW	Integrated Eye Care Worker
UNICEF	United Nations Children's Fund
VAD	Vitamin A Deficiency
WAZ	Wight for Age z score
WHO	World Health Organization

ABSTRACT

Background: The clinical manifestation of vitamin A deficiency involves night blindness, bitot spot conjunctiva and corneal xerosis, corneal ulcer and scar. It is the most important causes of preventable childhood blindness, especially in children and pregnant women. Even though, Ethiopia has periodically delivered a high-potency vitamin A supplementation program clinical vitamin A deficiency is still remains as a major public health problem

Objective: To assess the prevalence of clinical vitamin A deficiency and associated factors among preschool children in Cheha district Southern Ethiopia, 2023

Method: A community based cross sectional study was conducted from March 15 to April 15, 2023 G.C. The desired preschool children of age 36-59 months were selected using systematic random sampling. A structured and pretested questionnaire along with clinical observation for signs of Vitamin A deficiency traced by trained clinicians was used to collect the data. In addition, WHO Anthro plus software was used to calculate Z-scores of the height for age, weight for height and weight for age indices. The data was exported to SPSS version 22 and descriptive statistics was done. A bi-variable logistic analysis was done and variables which have statistical significant association with the outcome variable were selec ted for multivariable analysis. Finally, the result was presented by texts, tables and figures.

Result; A total of 411 children were screened for clinical vitamin A deficiency where the overall prevalence in the study area was 2.2%. The odd of clinical VAD was 81% lower among children who were received vitamin A supplementation, AOR =0.19, 95% CI (0.038-0.918). In other hand the Preschool children with mother who had attended ANC visits had 89 % less likely to develop clinical VAD. (AOR=0.11, 95%CI: (0.022-0.529). In addition the study revealed that the odds of developing clinical VAD is 82 % lower among preschool children aged from 36 to 47 months (AOR = 0.18, 95% CI: (0.033-0.974).

Conclusion and recommendation; the overall prevalence of clinical vitamin A deficiency in this study area was 2.2 %. ANC visit of the mother, vitamin A supplementation status, and age of the child were factors that determine clinical vitamin A deficiency. Vitamin A supplementation for the preschool children and ANC visit of the pregnant mother should be strengthened.

1. INTRODUCTION

1.1Background

Vitamin A plays a fundamental role in various body functions, such as vision, growth, immunity, reproduction, integrity of epithelial cells and survival.(1) Dietary sources of vitamin A include dark leafy greens, orange-colored vegetables, fish liver oils, liver, egg yolks, butter, vitamin A-fortified dairy products, green leafy and yellow vegetables, carrots, and deep- or bright-colored fruits.(2) This essential nutrient cannot be synthesized by the body and it should be obtained through diet.(3)

Vitamin A deficiency can be defined clinically or sub clinically. Xerophthalmia is the spectrum of ocular manifestations of clinical vitamin A deficiency; these range from the milder stages of night blindness and Bitot spots to the potentially blinding stages of corneal xerosis, ulceration and necrosis(4) The clinical vitamin A deficiency manifestations are occurred when your body lacks the amount of vitamin A it needs to function properly which can cause vision loss and blindness and complications with your skin, heart, lungs, tissues and immune system.(5)

The 2009 World Health Organization (WHO) report stated that about one-third of pre-school children worldwide has clinical manifestation of vitamin A deficiency.(6) The WHO grading stages for the eye signs of clinical vitamin A deficiency in children are: night blindness (XN), conjunctival xerosis (X1A), Bitot's spots (X1B), Corneal xerosis (X2), Corneal ulcer covering less than 1/3 of the cornea (X3A), Corneal ulcer covering at least 1/3 of the cornea, defined as keratomalacia (X3B) and Corneal scarring (XS) (7)

VAD usually develops in an environment of social and economic deprivation, in which a chronically deficient dietary intake of vitamin A coexists with severe infections, such as measles, and frequent infections causing diarrhea and respiratory diseases that can lower intake through depressed appetite and absorption, and deplete body stores of vitamin A through excessive metabolism and excretion.(8)

According to WHO, in pre-school children, the prevalence of Bitot’s Spot (>0.5%), corneal xerosis (>0.01%), and corneal scar (>0.05%) and night blindness >1% are used as the most

important clinical cut-off points to declare that VAD is public health importance in the community. Bitot's spots are typically dry-appearing triangular patches of xerosed conjunctiva with a layer of foam on the surface, usually located temporal to the cornea and night blindness is an early symptom which is an inability to see in dim light (9)

Night blindness and Bitot's spots are most common indicators for the assessment of the severity of Clinical vitamin A deficiency among children. Night blindness is obtainable by history and Bitot's spots observable by hand light examination of the conjunctiva surface.(4) Night blindness is a condition, in which a person cannot see in dim light, is generally the earliest clinical manifestation of vitamin A deficiency it is both a sensitive and a specific indicator for low serum retinol levels. Bitot spots are collections of desquamated, keratinized epithelial cells mixed with the gas-forming bacteria Corynebacterium xerosis. They appear as triangular patches of foamy, whitish, opaque deposits, typically located on the bulbar conjunctiva near the limbus at the 3 and 9 o'clock positions.(7)

1.2 STATEMENTS OF THE PROBLEM

Vitamin A deficiency is a major nutritional concern in lower-income countries. Both sub clinical and clinical Vitamin A deficiency are the most important causes of preventable childhood blindness, especially in children and pregnant women.(6) Low vitamin A intake during nutritionally critical periods in life, such as infancy, childhood, pregnancy and lactation, greatly increases the risk of developing clinical vitamin A deficiency .(10)

Globally, it was estimated 250, 000–500, 000 children who are vitamin A-deficient become blind every year, and half of them die within 12 months of losing their sight. Vitamin A deficiency has severe public health significance in more than 120 countries in the world. (11) About 350 thousand children become blind every year as a result of xerophthalmia in worldwide.(12)

Africa is a continent where 2% of preschool-age children are affected by CVAD .(6) It is also responsible for almost 6% of child deaths under the age of 5 years in Africa and 8% in South-East Asia.(2) WHO estimates that the prevalence of night blindness in preschool children in Ethiopia from 1995 to 2005 was 4.9%. Ethiopia is among the Sub-Saharan African countries with the highest rates of macro and micronutrient deficiencies, due to the interaction of poor or inadequate diets and infectious diseases.(6)

In Ethiopia, vitamin A deficiency leads to 80,000 deaths in a year and affects 61 % of preschool children.(13)The national prevalence rate of Bitot's spots and night-blindness in Ethiopia is 1.7% and 0.8% respectively which are public health significant according to WHO standard.(14) The main underlying cause of CVAD as a public health problem is a diet that is poor in vitamin A that can affect skin health vision and growth.(2) Improving the vitamin A status of vitamin A deficient children, significantly reduces the risk of mortality from measles by 50 %, from diarrhea by 40 %, and overall mortality by 25–35%.(6)

Clinical assessments of vitamin A deficiency reduces the costs associated with laboratory testing and the results are available much more quicker than laboratory analyses.(15) Several evidences showed that maternal education, family size, droughts, respiratory or diarrheal illness, dietary diversity status, availability of latrine, income status, sex of the child, being stunted child, are some of the predictors of clinical vitamin A deficiency. (16–18)

In order to tackle the problem Ethiopia has periodically delivered a high-potency vitamin A supplementation program for children aged 6-59 months however, bitot spot , night blindness and other clinical vitamin A deficiency manifestation are still remains a major public health problem among preschoolers.(16) Moreover, to address the problem effectively an up-to-date-information on the prevalence of clinical vitamin A deficiency is needed. Therefore, a community-based cross-sectional study was conducted on pre-school children of Cheha district to determine the prevalence of clinical VAD and associated factors in the study area.

1.3 Significant of the study

This study is designed to measure the prevalence of clinical vitamin A deficiency and associated factors among preschool children. The findings may help to improve the vitamin A status of the children by different intervention programs. The results will have an input for, Wolkite University, Gurage Zone health Department and, Cheha district health office which will be very helpful in planning and implementing on clinical vitamin A deficiency and go through it. Moreover, the community will be benefited, as the responsible stakeholders are working against on factors that enhance the clinical vitamin A deficiency prevalence. In addition, findings of this study will used as a baseline to conduct further studies on related issue for the researchers.

2. Literature review

2.1 prevalence of clinical vitamin A deficiency

WHO reports on global prevalence of vitamin A deficiency in 2009 showed that the proportion of preschool-age children is 54%. For night blindness in preschool age children, data coverage was highest in South-East Asia (82.4%) and the Western Pacific (87.3%) and very low in Europe (1%) and nil in the Americas (0%).WHO regional estimates indicate that the highest proportion of preschool-age children affected by night blindness, 2.0%, is in Africa, a value that is four times higher than estimated in South-East Asia (0.5%). (6)

A study conducted in India among preschool childrenin 2011 revealed that the prevalence of night blindness and Bitot's spot was 0.8% and 1.4%, respectively.(19) In a national-based study in Kenya, South Africa, Nigeria, Senegal, and Morocco, the prevalence of night blindness children under five (1–5 years) was 2.0%, 1.6%, 1.0%, 0.36%, and 0.16%, respectively. (20) A study in 2020 among children aged 1–5 years in Yemen showed that night blindness was found in 0.5% of the children, Bitot's spots in 1.7%, corneal ulceration in 0.04% and corneal scars in 0.04%. (21)

The findings of a research done in Ethiopia in 2001 also have revealed that prevalence of clinical vitamin A deficiency is 4.3–7.3 % from night blindness, and 2.2 % from Bitot's Spots.(22) Another study conducted in Ethiopia showed that the prevalence compared to WHO criteria in is 7.2-fold for night blindness, 4-fold for Bitot's spots, 25- fold for corneal xerosis, 50-fold for corneal ulceration and 10-fold for corneal scar. (23)

Based on a study conducted in 2005 in Ethiopia, the national prevalence of night blindness among children was 0.8% and the national prevalence of Bitot's spot among children was 1.7%, while the magnitude and distribution of child night blindness were highest in Harari (1.1%), followed by Beneshangul-Gumuz (1.0%) and Amhara (1.0%). (14)

A Mixed method study conducted in 2020 among preschool children in Northern Ethiopia showed 0.8% has Bitot's spot, 1.2% of them have night-blindness, and cumulatively 2% of children have clinical vitamin A deficiency. (24) Another study conducted in the same year in

Asgede-tsimbla rural district, north Ethiopia on prevalence of clinical vitamin A deficiency preschool children with night blindness were 1.2 % and Bitot's spot were 1.5 %. Out of 18 subjects with Bitot's spot 7(0.6 %) subjects had night blindness while the remaining 11(0.9 %) subjects with Bitot's spot hadn't night blindness. (25)

A Systematic Review and Meta-Analysis in Ethiopia showed that the prevalence of night blindness significantly decreased from moderate public health problem 4.2% (95% CI: 2.8%-5.7%) in a period from 1990 to 2004 to mild public health problem 0.8% (95% CI: 0.6%-1.0%) in a period from 2005 to 2019. Furthermore, statistically insignificant reduction was observed in the prevalence of Bitot's spot in a period from 1990 to 2004, 2.2% (95% CI: 1.3%-3.2%) to 1.8% (95% CI: 1.2%-2.3%) in a period from 2005 to 2019. (16)

2.2 Factor associated with clinical vitamin A deficiency

A study conducted on effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries reveled that improving the vitamin A status of young children reduced mortality rates by about 23% and vitamin A deficiency was sufficiently prevalent and sufficiently severe to give rise to at least a low prevalence of clinical signs of vitamin A deficiency. (26)

A study done in Buenos Aires provenance of Argentina showed that VAD is significantly associated with male sex.(27) A study carried out in Aligarh district, Uttar Pradesh showed that the overall prevalence of xerophthalmia was 9.1% and the prevalence was increased with age. Rural dwelling,(COR=2.2, 95%CI: (1.7-2.8), lower social class, (COR=0.3, 95%CI: (0.2-4.8), maternal illiteracy(COR=0.05, 95%CI: (0.01-0.2), and occupation outside home(COR=3.9, 95%CI: (3.2-4.8), were significant determinant factors on bi-variable analysis, and low intake of proteins (COR=0.6, 95%CI: (0.5-0.8), vitamins A containing foods (COR=0.4, 95%CI: (0.3-0.6), as well as predominant maize diet(COR=3.3, 95%CI: (2.6-4.3), were significant dietary factors on multivariable analysis. (28)

Clinical vitamin A deficiency is occurred due to poor intake of vitamin A rich foods; it is also associated with poverty, ignorance, faulty feeding habits among the entire population but young children in particular. The main underlying cause of VAD as a public health problem is poor

dietary diversity that is chronically insufficient in vitamin A that can lead to lower body stores and fail to meet physiologic needs(6)

Based on the study conducted in asgede-tsimbla rural district, north Ethiopia the odds of night blindness was 4 times higher among children belonging to family size greater or equal to four and 6 times higher among children of illiterate mothers .The odds of Bitot‘s spots was 5.35 times higher among children belonging to family size of four or greater, 4.75 times higher among children of illiterate mothers and 6 times higher in males than females.(25)

A study carried out among preschool children of Dembia district showed that in both the bi-variable and multivariable analyses, sex and age of the child and the ANC follow up were significantly associated with clinical VAD. The study showed being a male child increases the odds of developing VAD 1.81 times and, increased odds of VAD were noted among children aged 49-59 months and whose mothers had no ANC visit. In addition children aged 49–59 months were more likely to suffer from clinical VAD as compared to children who were between 24 and 36 months of age(29)

Age of children , sex of children, birth interval, ANC follow up and PNC follow up are the most important associated factors for vitamin A deficiency(30). Evidence showed that improving the vitamin A status of children with a deficiency can reduce the measles and diarrhea mortality rates by 50% and 33%, respectively, and can reduce the risk of all causes of mortality by 23–34%.(31)The independent predictors of night blindness and bitotspot according to study conducted at northern Ethiopia were mother illiteracy status, large family size, and male sex of child.(25) The current study was tried to consider some of the variables but it still has limited sample size.

2.2 Conceptual frame work

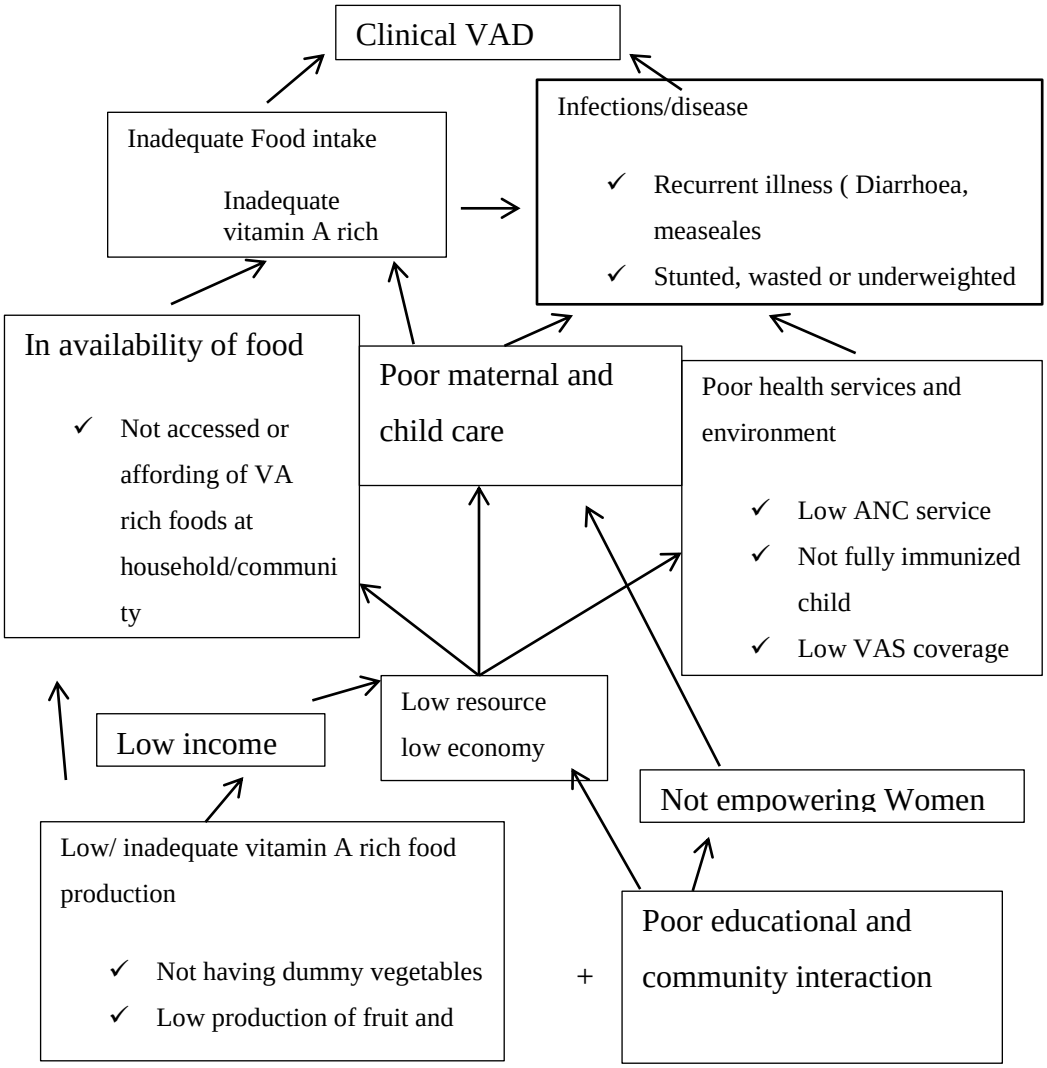

Figure 1 Conceptual frame work developed by reviewing literatures on factors that are associated with clinical vitamin A deficiency among preschool children 2023G.C.

(16,19,24,27)

3. Objectives

3.1General Objectives

To assess the prevalence of clinical VAD and associated factors among preschool children in Cheha District Southern Ethiopia, 2023

3.2 Specific Objectives

- To determine prevalence of clinical VAD among preschool children in Cheha district
- To identify factors associated with clinical vitamin A deficiency among preschool children in Cheha district

4. METHODS AND MATERIALS

4.1Study area

The study was conducted in Cheha district. Cheha is one of the districts found in the Gurage zone, Southern Nations, Nationalities, and Peoples' Region of Ethiopia. Cheha is bordered on the south by Enemorina Eaner, on the west by the Oromia Region, on the north by the Wabe River which separates it from Abeshge and Kebena, on the east by Ezha, and on the southeast by Gumer and Geta. The administrative center for Cheha is Endibir. Elevations in this woreda range from 1900 to 3000 meters. Rivers include the Gotam, Gogeb, and Metrekat. Agriculture is the back bone of their economy. The subsistence agriculture in Cheha is primarily based on enset, together with corn, sorghum and chickpea and important cash crops include teff and Niger seed.(32) Kocho is most commonly food eaten by the community in the district. The district has 38 kebeles, 26405 households, six health centers and 38 health posts. It has total population of 137,574 of which 49.8% are males and 50.2% are females. The numbers of children under 5 years are 21,479 out of which the number of children aged from 3 to 5years is 10042.(33)

4.2 Study design and period

A community based cross sectional study was conducted from March 15 to April 15, 2023.

4.3 Population

4.3.1 Source population

All preschool children aged 36 to 59 months who live in Cheha district

4.3.2 Study population

The study population includes all randomly selected eligible preschool children aged 36 to 59 months and their mothers/caregivers who were living in selected kebeles.

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

A child aged 3 to 5 years (36 to 59 months) old and their mother/ caretaker who has lived at least 6 months in the selected kebele were included.

4.4.2 Exclusion criteria

A child aged 3 to 5 years (36 to 59 months) old and their mother/ caretaker who has mental problem, critically ill in the absence of close care giver were excluded.

4.5 Sample size determination and sampling procedure

4.5.1Sample size determination

For Objective 1; the sample size was determined by using single population proportion formula with the following assumptions: 2% prevalence of clinical VAD from the study done in ,Farta district, south Gondar zone Ethiopia.(24)

95% confidence level and 3% margin of error (d).

$n=\frac{z(\alpha/2)^2 p(1-p)}{d^2}$ Where: n= total sample size

Zα/2= 1.96 at 95% confidence interval.

P= 2% (proportion of clinical vitamin A prevalence among preschool children)

d=3% (margin of error)

$(1.96)^2$ (0 .02) (1-0.02) / $(0.03)^2$ = 84

By taking 10% none response rate the final sample size will be 92

For Objective 2 the sample size was determined by considering various factors that are significantly associated with outcome variable. For each variable two-sided confidence level of 95% and power of 80% using Epi info version 7 stat calc was used.

Table 1: Sample size calculation for the factors associated with clinical vitamin A deficiency among preschool children in cheha district 2023 G.C

Associated factors		Percent of outcomes for exposed and unexposed	Index	Calculated sample size with 10% non-response rate	Reference
Antenatal care (ANC)	Yes	17.5%	Clinical vitamin A Deficiency	418	(29)
	No	7.5 %			
House hold head	Father	14.3%	Clinical vitamin A deficiency	147	(17)
	Mother	0.3%			

Therefore, by taking the larger sample size the total sample size used for this study was 418

4.5.2 Sampling Procedure

The 38 kebeles in cheha district were stratified into seven stratums based on their geographical location. Then a total of twelve kebeles were randomly selected from the stratum. The total required sample size was distributed to each of the twelve selected kebele based on proportional allocation and the study units were selected using systematic random sampling technique. The first household for the study was selected using a simple randomized technique then continued every k^{th} household. Where there was no eligible child within the selected household, the adjacent household was visited and when there was more than one eligible child in a given household, one child was randomly selected. (See figure 2).

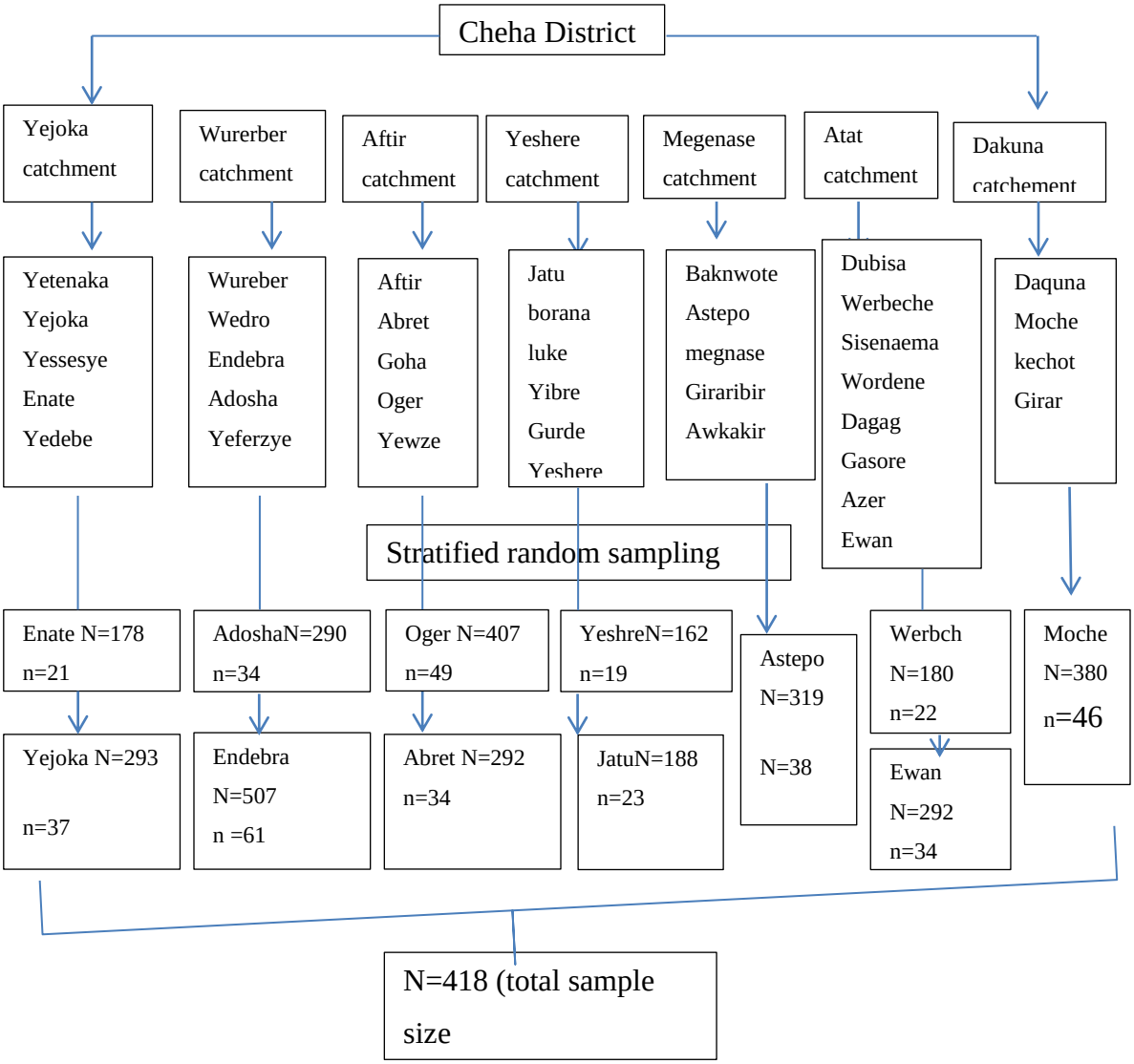

Figure 2 Schematic presentation of sample selection for the study on prevalence of clinical vitamin A deficiency and associated factors among preschool children in cheha district 2023G.C.

4.6 Study Variable

4.6.1 Dependent variable

- ❖ Clinical vitamin A deficiency

4.6.2 Independent Variables

Socio demographic factors

- Age of the child
- Sex of the child
- Educational status
- Occupational status
- Marital status
- Family size
- Religion
- Income

Health and nutritional factors

- stunting
- Wasting
- Underweight
- Dietary diversity
- Dummy vegetables
- Child illness

Vaccination related factors

- Vitamin A supplementation status
- Immunization status of the child

4.7 Data collection tools and techniques

Data was collected by three optometrist nurse and two IECW (Integrated Eye care workers). Two days training was given for data collectors and supervisors on objective of the study, method of facilitating respondents and context of questionnaire by principal investigator. A structured and pretested questionnaire along with clinical observation for signs of Vitamin A deficiency traced by trained clinicians was used to collect the data. The questionnaire was adapted from different relevant studies and WHO (World Health Organization) /FAO (Food and

Agriculture Organization). First it was developed in English and then translated in to Amharic and local language 'Guragegna' and back translation by different persons was done to check its consistency. Weight and height of children were measured to calculate anthropometric measurement for Z- score indices (WAZ, HAZ, and BAZ) using the WHO Anthro plus software.

4.8 Operational definition

Preschool age children**;** are children who are 3 to 5 years (36 to 59 months) of age.

Clinical Vitamin A deficiency (VAD); a child with history of night blindness or during physical examination if the child has Bitot spot, conjunctival xerosis, corneal xerosis, corneal ulceration, or corneal scar

Night-blindness; defined based on reports from mothers regarding the condition of their children in difficulty seeing with decreased light or at night

Conjunctival xerosis; having dull and dry appearance of the bulbar conjunctiva

Bitot spot; triangular patches of foamy, whitish, opaque deposits, typically located on the bulbar conjunctiva

Corneal xerosis; dry and hazy appearance of the cornea

Corneal ulcer: the appearance of small and punched out ulcer on cornea by excluding other causes.

Corneal scar; edematous, thickened and then melt away of the cornea

Inadequate dietary diversity: a child with dietary diversity score (DDS) of less than four out of seven food groups in the last 24 hours of the survey was classified as having poor/inadequate dietary diversity.

Adequate dietary diversity; a child with dietary diversity score (DDS) of four and above in the last 24hours of the survey was classified as having good/adequate dietary diversity.(34)

4.9 Data processing and analysis

The data was edited, coded and entered into Epi data version 3.1 and exported to SPSS version 22 statistical software for analysis. After cleaning data for inconsistencies and missing value in SPSS, descriptive statistical analysis such as mean, median, SD, percent, frequency was done and bi-variable logistic regression was performed for each independent variable with outcome variable. By considering the result of bi-variable analysis, variables were selected for the multivariable analysis to control for confounding. A variable whose bivariate test has a p-value ≤ 0.05 were selected for multivariable model. Variables that have higher co-linearity were excluded from the regression. Once the variables were identified, multivariable logistic regression analysis at P value ≤ 0.05 and AOR with 95% CI was used to measure the degree of association between independent variables and outcome variable. Finally, the result was presented by texts, tables and figures.

4.10 Data quality Control

In order to assure the quality of data, training was given to the data collectors on the objective of the study, data collection process and relevance of the study prior to data collection. A pilot study before the actual data collection among 21 respondents (5% of the total sample size) on non-selected kebeles was done. Using this pilot study the flow of the questions and language usage were modified for the actual data collection. During data collection process different WHO standardized pictures for clinical sign of vitamin A deficiency were used as a golden standard for comparison. Data was checked for completeness, accuracy and clarity on daily basis. Throughout the course of the data collection data collectors were supervised at each site. The calibration of the weight scale and height scale was always checked before measuring every child's weight and height respectively.

4.11 Ethical consideration

Ethical clearance was obtained from Wolkite University Colleges of Medicine and Health science, Research Ethics Committee and letter of permission was obtained from Cheha district health office. The purpose of the study was explained to respondents and verbal informed consent was obtained from the mothers/caretakers. Confidentiality of information was

maintained by omitting any personal identification from the questionnaires. Respondents were informed about the study and the variety of information needed from them. During data collection process, those children having sign of clinical vitamin A deficiency were given therapeutic dose of vitamin A. Chance was given to the respondent to ask anything about the study and the right not to participate in the study was kept at any moment.

4.12 Dissemination Plan

A copy of the paper will be given to Wolkite University, Cheha district and other concerned bodies. Results of this study will disseminate through publication (local or international journals).

5. RESULTS

5.1 Socio demographic characteristics

A total of four hundred eleven (411) children and their mothers/care givers were participated in the study, making the response rate of 98.3%. About 215 (52.3 %) of the children were female and 196 (47.7%) were male. In about 401(97.6%) households the total number of under 5 years children live within the home was only two or less. Majority 400 (97.3%) of the respondents were married. Regarding to the educational status about 166 (40.4%) of the mothers /caregivers did not attend formal education, 182 (44.3%) attended primary education, 44 (10.7%) completed their secondary education and 19 (4.6%) attended collages and above. (Table 2)

Table 2 Socio-demographic characteristics of study participants in Cheha District, southern Ethiopia, 2023

Characteristics of mother/caregiver	Category	N (%)
Mother/ caregiver age	≤35	344 (83.7%)
	>35	67 (16.3%)
Mother/ caregiver marital status	Married	400 (97,3)
	Divorced	6 (1.5%)
	Widowed	5 (1.2%)
Mother/ caregiver occupation	Housewife	294 (71.5%)
	Merchant	69 (16.8%)
	Government employer	22 (5.4%)
	Daily labor	13 (3.2%)
	Private employer	12 (2.9%)
	Farmer	1 (0.2%)
Mother/ caregiver educational status	Not attend formal education	166 (40.4%)
	Primary education	182 (44.3%)
	Secondary education	44 (10.7%)
	Collages and above	19 (4.6%)
Monthly family income	<2000	273 (66.4%)
	≥2000	138 (33.6%)
Family size	≤4	167 (40.6%)
	>4	244 (59.4%)
Age of the child in month	36-47	252 (61.3%)
	48-59	159 (38.7%)
Sex of the child	Male	196(47.7%)
	Female	215(52.3%)
Number of under5 children within home	≤2	401(97.6%)
	>2	10 (2.4%)

5.2 Health and nutrition related characteristics of the participants

Most of the mothers 361 (87.8%) had been attended antenatal care (ANC) visits for their children's. About 350(85.2%) mothers reported that their children has received vitamin A capsule supplementation and out of the 350 children only 188 (53.7 %) of them took the vitamin A capsule supplementation in the last 6 month. Regarding to the nutritional status 18.5%, 16.1 %, and 13.6% of the children were stunted, wasted and underweight respectively. Most of children (84.2%) had inadequate dietary diversity scores. Moreover 94.2% and 78.3% of the children ate wholegrain and legumes, respectively in the last 24 hours preceding the survey.

About three-fourth (304) of the respondent have cultivate dummy vegetable in their garden. (Table 3 and figure 3)

Table 3Health and nutrition related characteristics of study participants in Cheha District, southern Ethiopia, 2023

Characteristics	Frequency (%)
ANC follow up	
Yes	361 (87.8%)
No	50 (12.2%)
Complete immunization	
Yes	355 (86.4%)
No	56 (13.6%)
Taking vitamin A Capsule	
Yes	350 (85.2%)
No	61 (14.8%)
Time of receiving last dose of vitamin A capsule	
≤6 months	188 (53.7%)
>6 months	162 (46.3%)
Child ill 1 week preceding the survey	
Yes	120 (29.2%)
No	291 (70.8%)
Stunting	
Yes	76 (18.5%)
No	335 (81.5%)
Underweight	
Yes	66 (16.1%)
No	345 (83.9%)
Wasting	
Yes	56 (13.6%)
No	355 (86.4%)
Dietary diversity	
Adequate	65 (15.8%)
Inadequate	346 (84.2%)
Cultivate dummy vegetables	
Yes	306 (74.5%)
No	105 (25.5%)

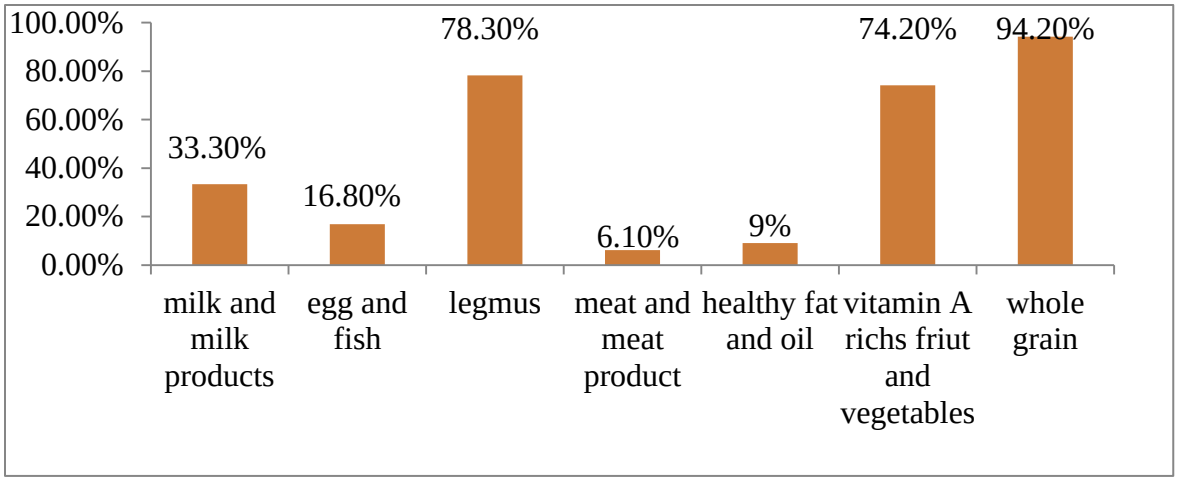

Figure 3 Proportion of children 3-5 years old who consumed the seven food groups in last 24 hours preceding the survey, cheha district, Gurage Zone, Southern Ethiopia, 2023G.C.

5.3 Prevalence of clinical vitamin A deficiency

The overall prevalence of clinical vitamin A deficiency in the study area was 2.2%. Each specific type of clinical vitamin A deficiency will be summarized in the figure below (Figure 4).

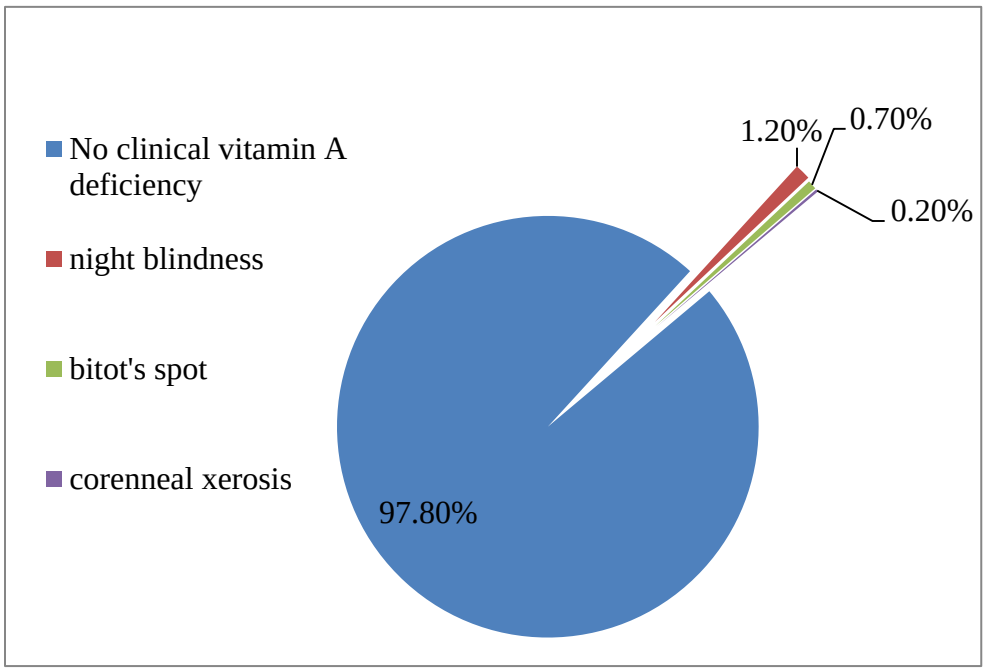

Figure 4 Prevalence of clinical vitamin-A deficiency among preschool children in Cheha district, southern Ethiopia, 2023G.C

5.4 Factors associated with clinical vitamin A deficiency

In the bi-variable analysis; age of the child, vitamin A capsule supplementation, ANC visit, and educational status of the mothers were significantly associated with CVAD. The variables that showed statistically significant association (p value < 0.05) in the bi-variable analysis were further analyzed in multivariable logistic regression to adjust for potential confounders and to identify independent factors that affect the outcome variable. The model fitness was checked by Hosmer and Lemeshow test and it was non-significant with p-value of 0.740 which indicate that the model is fitted. Accordingly, age of the child, VAS and ANC visit of the mother were significantly associated with CVAD. The odds for the occurrence of clinical VAD was 81% lower among children who were received vitamin A supplementation, AOR = 0.19; 95% CI (0.038-0.918). In other hand, the odds of developing CVAD were 89% lower among preschool children with mother who had attended ANC visits (AOR = 0.11, 95% CI: (0.022-0.529). In addition the study revealed the odds of developing clinical VAD is 82 % lower among preschool children aged from 36 to 47 months (AOR = 0.18, 95% CI: (0.033-0.974). (Table 4)

Table 4 Multivariate logistic regression for factors associated with clinical Vitamin A deficiency among children in Cheha district southern Ethiopia 2023.

Variables		Clinical VAD		COR (95% CI)	AOR (95% CI)
		Yes	No		
ANC visit					
	Yes	3	358	0.06 (0.015-0.254)	0.11(0.022-0.529)*
	No	6	44	1	1
Age of the child					
	36-47	2	250	0.17 (0.036-0.847)	0.18(0.033-0.974)*
	48-59	7	152	1	1
Educational status of the mother					
	Illiterate	7	159	5.35(1.097-26.077)	3.20(0.575-17.790)
	literate	2	243	1	1
Vitamin A supplementation					
	Yes	3	347	0.079 (0.019-0.326)	0.19(0.038-0.918)*
	No	6	55	1	1

* Significant at 95% CI, p- value < 0.05

6. DISCUSSION

The study tried to assess the prevalence of clinical vitamin A deficiency and associated factors among preschool children of aged 3 to 5 years .The overall prevalence of clinical VAD in the study area was 2.2% which represent a moderate public health problem according to the criteria adopted by the WHO as a cut-off point for public health significance for preschool children which is ≥ 1.56 %. (6) This might be due to low intake of vitamin A riches food and a low coverage of routine vitamin A supplementation in the study area which should be given every 4 to 6 months as of WHO standard. The prevalence of clinical VAD in the study area was almost similar to that of studies conducted among preschool children in Farta district, south Gondar zone, and Asged tsimbla, north Ethiopia which showed that prevalence was 2% and 2.6% respectively.(24,25) It was also similar to the study done in India (35) and Yemen(19) On the other hand the prevalence was lower than studies done in Dembia District northwest Ethiopia, 8.6%. (29) The difference in prevalence of clinical VAD might be due to socio demographic factors, vitamin A supplementation coverage status and the habit of eating of vitamin A riches fruit and vegetables.

The study showed that the odds of developing CVAD among children aged 36 -47 months was relatively lower. Similar findings were reported in the study done in Ethiopia(29) Sudan(36) and India (37). In fact, children aged from 36-47 months are highly susceptible to vitamin A deficiency since it is a time for cessation of breast feeding. However, they are not become symptomatic as early as possible it take times to become symptomatic, this is why micronutrients deficiency are named as the so called ‘a hidden hunger’.(38) This means in case of subclinical vitamin A deficiency the odds are higher for children who are aged 36-47 months. However, this finding was contradicted with the reports of the studies in Dera district North west Ethiopia.(30) This might be due to the large sample size variation between the studies and the later one was dealing with vitamin A as general whereas this study is considering the clinical aspects only.

The other important factor associated with clinical VAD was ANC follow up of the mother. Regarding to this, the study revealed that preschool children whose mothers had no ANC follow up were more likely to suffer from clinical VAD. This might be due to that having ANC follow up during maternal pregnancy is a base line for providing nutritional care and counseling.

(39)Then this enhance nutritional knowledge and appropriate dietary habit of pregnant mothers. It also encourages the likelihood of receiving the child and maternal postnatal vitamin-A supplementation and ultimately, it reduce the risk of having clinical VAD. (40) This finding was consistent with most of studies conducted in Ethiopia and outside Ethiopia. (18,23,28,29)

The finding of this study in other hand revealed that preschool children who received Vitamin A supplementation has less risk of acquiring clinical VAD than who don't receive. This was supported by studies done in Ethiopia and India. (3,23,29)This might be due to that vitamin A supplementation has been proven effective, in reducing the impacts of both clinical and sub clinical vitamin A deficiency, particularly among children six months to five years of age.(26)

The current study found that there is no gender based difference in developing clinical vitamin-A deficiency among preschool aged children. This was supported by the finding of the study done in Ethiopia.(24) However, it was contradicted with reports from other studies in Ethiopia which shows that male are more susceptible to clinical VAD than female (25,29) Israel (41) and India. (28,35) The difference might be related to the slightly higher nutritional requirement of male children so that they might be highly susceptible to micronutrient deficiency. In addition, sex might be a predictor for sub clinical stages of vitamin A deficiency rather than the clinical one.

Some literature showed that educational status of the mother and family size are important predictors of clinical VAD(25,35,42) but they are not as such significant in this study. This might be due to the number of interviewed mother who were literate were relatively higher in this study (40.4 %) compared to the other studies and about two thirds of the respondents were having family size of >4 which make most of the respondents to fall in that category which will then give a non-significant effects on the outcome variable. In addition those variables might be the predictors of subclinical levels of vitamin A deficiency rather than the clinical VAD since; most of the literatures are dealing with vitamin A deficiency in general by considering both clinical VAD and serum retinol level. Moreover, unlike the other studies, this study revealed that having dummy vegetables has no association with CVAD. This might be clearly due to having small number of sample size and case.

6.1 LIMITATIONS OF THE STUDY

This study tried to assess the prevalence of vitamin A deficiency and associated factor among preschool children of age 36-59months, which has not been investigated before in the study area. However, this study has some limitations. First it might have been a risk of recall bias as dietary assessments were made through 24 hours recall and has a risk of social desirable bias from the respondent side. Moreover, due to the limited sample size of the study, only small numbers of case were found which leads to exclusion of biologically plausible variables.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1Conclusion

The overall prevalence of clinical vitamin A deficiency in this study area was 2.2 %. ANC visit of the mother, vitamin A supplementation status, and age of the child were factors that determine CVAD.

7.2 Recommendations

The results of this study revealed that clinical vitamin A deficiency has public health significance, which requires special measure. Awareness should be given for the community by HEW and other health worker regarding to the significance of scientifically known vitamin A riches food for the preschool children and on the need for focused ANC visit. In addition the zonal health department and woreda health office should strictly check the implementation status of Vitamin A supplementation in the district. Sustainable Vitamin A supplementation for the preschool children should also be strengthened in health institution at static and outreach setting. Moreover, further investigation of vitamin A deficiency at clinical and subclinical level with larger number of sample size is strongly recommended to take an appropriate action.

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Annex

INFORMATION SHEET

Institution Information Sheet and Informed Consent Form

My name is Abdilwahid Nuredin (BSc in Public health) and I am attending my MPH study in public health nutrition in Wolkite University. I am here to conduct a study in your district, for partial fulfillment of Master in public health nutrition. Therefore, I kindly request you to give me your time to explain about the study importance, ethical issues and how the study will be conducted. First, I would like to thank you for your time and help.

Title of the study: Prevalence and determinants of clinical vitamin a deficiency among preschool children in cheha district, Gurage zone southern Ethiopia

Purpose of the study: The finding of this study can be important for the district health office and for local NGOs working on child nutrition to plan and address vitamin A deficiency among preschool children. Beside this, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's Program in public health nutrition for principal investigator.

Procedure and duration: I will be interviewing the parent or care givers of preschool children using questionnaire to provide me pertinent data that is helpful for the study. Height and weight of selected students will be measured.

Risk and benefit: The risk of participating in this study is minimal. The study participants will be informed that participating in this study will not have risks associated with the research except for few minutes of their time. There would not be any direct payment for participating in this study. However, the findings from this research may reveal important information for the local health planners to improve nutritional status of preschool children.

Confidentiality: The information collected will be confidential. There will be no information that will identify the individual in particular. The findings of the study will be general for the study area and will not reflect anything particular of individual persons. No reference will be made in oral or written reports that could link participants to the study.

Rights: Permitting data collection for this study is fully voluntary. Considering the importance of the research, you are free to decide. If any violation of ethical rules and conduct is seen throughout study, your school has full right to withdraw and stop study.

Contact address: If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses.

Principal investigator: Abdilwahid Nuredin

Phone number: +251-936-54-71-18

Email: abdilwahidnuredin@gmail.com

Wolkite University College of Health and Medical Science Institutional Research Ethical review Committee: Office phone: _____

Declaration of informed voluntary consent: I have read the institution information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that the participant has the right to withdraw from the study at any time and not to answer any question that they do not want. I was also informed that the school has the right to stop the study from being conducted if any misdeeds and unethical procedures are observed during data collection process. Therefore, I declare my voluntary consent on behalf of cheha district to allow this study to be conducted in the cheha district with my own name and signature below.

Head of the district health office:_____ signature_____ Date___ /…/2023

Name of principal Investigator: Abdilwahid Nuredin signature_____ Date: -----/-----/2023

Thank you for your cooperation!

Participant Information Sheet and Informed Voluntary Consent Form

English Version Participant Information Sheet and Informed Voluntary Consent Form for Parents/Guardians of Children

My name is_____I am working as a data collector for the study being conducted in this district by Abdilwahid Nuredin who is studying his Master's degree at Wolkite University College of Health and Medical Sciences. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

Title of the study: Prevalence and determinants of clinical vitamin a deficiency among preschool children in cheha district, Gurage zone southern Ethiopia

Purpose of the study: The finding of this study can be important for the district health office and for local NGOs working on child nutrition to plan and address clinical Vitamin A deficiency among preschool children. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's Program in public health nutrition for principal investigator.

Procedure and duration: This study will be conducted from March 1 to April 1. I will be interviewing you using a questionnaire to provide me pertinent data that is helpful for the study. There are 36 questions to answer where I will fill the questionnaire by interviewing you. Then, I will measure your child's height and weight. The interview will take 30 minutes, so I kindly request to spare me this time for the procedure.

Risks and benefits: The risk of being participating in this study is very minimal, but only taking your time. There would not be any direct payment for participating in this study. However, the findings from this research may reveal important information for the local health planners to improve nutritional status of schoolchildren.

Confidentiality: The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the

study subject and will not reflect anything particular of individual persons. No reference will be made in oral or written reports that could link participants to the research directly.

Rights: Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide not to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits, which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

Contact address: If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses.

Principal investigator: Abdilwahid Nuredin

Phone number: +251-936-54-71-18

Email: abdilwahidnuredin@gmail.com

Declaration of informed voluntary consent: I have read/ was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

Name and signature of Parent/Guardian: _____ _____ Date:____ /___ / 2023

Name and signature of data collector:_____ _____ Date: ____ / ___/2023

Questionnaire

Part 1:- Socio-Demographic and Economic Characteristics of Mother or care giver

Q.cod	Questions	Response	Skip
101	Maternal/caregiver age (in years)	_____	
102	Maternal/care giver religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others (specify) ----------	
103	Maternal/care giver marital status?	1. Single 2. Married 3. Divorced 4. Widowed	
104	Maternal/care giver educational status?	1. Didn't attend formal education 2. Primary education 3. Secondary education 4. Collage and above	
105	Maternal/care giver occupation?	1. House wife 2. Government employed 3. Private employed 4. Merchant 5. Farmer 6. Daily laborer 7. Student 8. Other(specify)----------	
106	Head of the house hold?	1. Father 2. Mother 3. Other specify	
107	Total Family size in the house hold?	_____	
108	Average monthly family income?	_____Ethiopian Birr	

109	Do you listen Radio/Television?	1. Yes 2. No	
110	Do you Cultivating dummy vegetables in the garden?	1. Yes 2. No	
111	Does the mother involve in decision making at the household?	1. Yes 2. No	

Part 2: child and illness related factors questions

Qes. code	Question	Response	Skip
201	Age of the child in Month?	-------months	
202	Sex of the child?	1. Male 2. Female	
203	How many under 5 children are there in your home?	_____	If One go to Q 205
204	Did you attend ANC visit during your pregnancy (for this child)?	1. Yes 2. No	
205	Which immunization service did your child receive? (more than one answer is possible) **check the immunization card**	1. BCG 2. PNTA 1 Polio 1 PCV 1 Rota 1 3. PNTA2 + Polio 2 PCV 2 Rota 2 4. PNTA 3 + Polio 3 PCV 3 5. Measles 6. None of the above	
206	Did your child receive Vitamin A supplementation? (show the vitamin A capsule to the mother)	1. Yes 2. No	If no skip to 209

207	When your child has taken the last dose?	1. ≤6 months ago 2. > 6 months ago	
208	Does the child ill preceding the survey within this week?	1. Yes 2. No	If no go to Q 211
209	If yes for question 209, what was the illness?	1. Diarrhea 2. Fever 3. Cough 4. Ear problem 5. Others	
210	Weight of the child (on field measurement)	_____kg	
211	Height of the child (on field measurement)	----------cm	
212	Is there edema during examination?	1. Yes 2. No	

Part 3 Dietary characteristics of the children

Which of the following food groups was your child ate during the last 24hrs before the time of survey? Put 1, if your child eat at least one food from food groups and put 0, if he /she did not eat any foods from food groups.

Q	Name of the food items	Examples of the food included	Put 1 or 0
301	Milk and milk product	Milk(cow/goat), cheese, butter, yoghurt	

302	Egg and fish	Any eggs, fish	
303	Legumes	Any foods made from beans, peas, lentils or nuts.	
304	Meat and meat product	Any locally edible meat beef, goat, sheep, chicken, liver kidney, heart or other organ meat	
305	Healthy fat and oils	fatty meat, butter, coconut oil, vegetable ghee	
306	Vitamin A rich fruit and vegetable	Ripe Mango ,papaya, orange, carrot, juices made from these, pumpkin, dark green vegetables	
307	Whole grains	Foods made from grains(wheat, maize, barely, teff, sorghum, oats, millet, rice, engido, and other local grains),any edible roots and tubers like potato, sugarcane, carrots	

Part 4 assessing clinical vitamin A Deficiency

Direction; part 4 involves 6 questions and the first question will be answered based on asking history from the mother or care giver and the rests will be filled by inspecting the eyes of the child by data collectors

Put '1' if yes and put '2' if no

Q.	Questions	Right Eye	Left Eye
401	Does your child have difficulty in seeing with decreased light or at night		
402	Does the child have conjunctival xerosis examining for both Eye)		

403	Does the child have bitot spot (see eye)		
404	Does the child has corneal xerosis		
405	Does the child has corneal ulcer		
406	Does the child has corneal scar		

ወልቂጤ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የስነ ምግብ ትምህርት ክፍል ከጤና ጋር የተያያዘ ጥናታዊ ፅሁፍ የተሳታፊዎች መረጃ መስጫቅጽ

እንደምን አደሩ /ዋሉ?

ስሜ _____እባላለሁ፡፡ በአሁኑ ሰአት በወልቂጤ ዩኒቨርሲቲ በስነ ምግብ ትምህርት ክፍል የ2ኛ ዲግሪ ተመራቂ ተማሪ ስሆን፤ በቫይታሚን ኤ እጥረት እና ተያያዥ ጉዳዮች ዙሪያ በቸሀ ወረዳ ውስጥ በሚኖሩ እድሜያቸው ከ 3 አመት እስከ 5 አምት (36 ወር ስከ 59 ወር) ህፃናት ላይ ጥናታዊ ጽሁፍ እያደረግኩ እገኛለሁ፡፡

የጥናቱ አላማ: እድሜያቸው ከ 3 አመት እስከ 5 አመት (36ወር እስከ 59 ወር) በሆኑ ህፃናት ላይ ቫይታሚን ኤ እጥረት ያለበት ደረጃ እና ተያያዥ ጉዳዮችን ለመለየት ነዉ

እርሶ በዚህ ጥናት እንዲሳተፉ በአጋጣሚ ከተመረጡ ተሳታፊዎች መካከል አንዱ ሲሆኑ ጥናቱ በተሳታፊዎች ላይ ጉዳት ሊያደርስ የሚችል ምንም አይነት ነገር የለም

ጥቅም: በዚህ ጥናት መሳተፍ ምንም አይነት ገንዘብ አያስገኝም ነገር ግን ከእርሶ የምናገኘዉ መረጃ የ ቫይታሚን ኤ አጥረት እና ተያያዥ ችግሮችን ለመግታት እና የ ቫይታሚን ኤ አመጋገብን ለማሻሻል አስተዋጽኦ ያደርጋል፡፡ በተጨማሪ ም በጥያቄው መጨረሻ የህፃንዎ አይን የምን መለከተ ሲሆን በምርመራው ወቅት ህፃንዎ የ ቫይታሚን ኤ አጥረት ካለበት ቫይታሚነ ኤ አሁኑኑ የምንሰጠው ይሆናል፡፡ ስለዚህ ይህንን አስመልክቶ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እወዳለሁ፡፡ የእርስዎ በእውነት ላይ የተመሰረተ መልስ ለዚህ ጥናት መሳካት አስተዋፅኦ ያደርጋል፡፡ እርስዎም የሚሰጡት መረጃ ከአጥኚውና ቃለመጠይቅ አድራጊው በስተቀር በማንኛውም መልኩ ለሌላ ሶስተኛ ወገን ተላልፎ አይሰጥም፡፡ በሙሉ ፈቃደኝነት እንዲሳተፉ እየጠየቅኩ ያለመሳተፍ ወይም በማንኛውም ጊዜ ራስዎን ከጥናቱ የማግለል

ሙሉ መብት አለዎት፡ ፡ በማንኛውም ጊዜ ጥያቄ ካለዎት በሚከተለው አድራሻዬ ማግኘት ይችላሉ፡ ፡ ጥያቄዎችን ለመመለስ ሀያ ደቂቃ ያህል ጊዜ ያስፈልጋል፡

የስምምነት መግለጫፎርም

ወልቂጤ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የስነ -ምግብ ትምህርት ክፍል ድህረ ምረቃ ፕሮግራም እኔ ስሜ ከዚህ በታች የተገለፀው፤ የዚህ ጥናት ዓላማ በደንብ የተብራራልኝ ሲሆን የጥናቱን ምዓላማ ተረድቻለሁ፡ ፡ በዚሁ ጥናት ላይ መሳተፍ በሙሉ ፈቃደኝነት ላይ የተመሰረተ መሆኑን በሚገባ የተረዳሁ ሲሆን በማንኛውም ጊዜ ከጥናቱ ራሴን የማግለል መብት እንዳለኝ አውቄአለሁ፡ ፡ ስለሆነ ም የምሰጠው መረጃ እስከተጠበቀ ድረስ በዚህ ጥናት ለመሳተፍ ተስማምቻለሁ፡ ፡ በዚህ ጥናት ለመሳተፍ ስምምነቴን ስገልፅ ለምጠየቀው ጥያቄ በእውነት ላይ የተመሰረተ መልስ ለመስጠት የተስማማሁ መሆኔን አረጋግጣለሁ፡ ፡

የመረጃ ሰጪው ፊርማ _____ ቀን _____

የአጥኚው ፊርማ _____ቀን _____

ጥናቱ የሚያካሄደዉ ግለሰብ አድራሻ

ስም፡ አብድልዋሂድ ኑረዲን

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መጠይቆች

የ ተ ሳ ታ ፊ መ ለ ያ ቁ ጥ ር ---------- ቀ በ ሌ ---------- ------- መ ን ደ ር ---------- --------

መ ጠ ይ ቁ የ ተ ሞ ላ በ ት ቀ ን ……/……/……..

ተ .ቁ	ጥ ያ ቄ	አ ማ ራ ጭ መ ል ሶ ች	ይ ዝ ለ ሉ
101	የ እ ና ት ዬ ው/የ ህ ፃ ኑ ተ ን ከ ባ ካ ቢ እ ድ ሜ (በ አ መ ት)	----------	
102	የ እ ና ት ዬ ው/ የ ህ ፃ ኑ ተ ን ከ ባ ካ ቢ ሀ ይ ማ ኖ ት	1. ሙ ሰ ሊ ም 2. አ ር ቶ ዶ ክ ስ 3. ፕ ሮ ቴ ስ ታ ን ት 4. ካ ቶ ሊ ክ 5. ሌ ሎ ች ካ ሉ ይ ዘ ር ዘ ሩ ----------	
103	የ እ ና ት ዬ ው/ የ ህ ፃ ኑ ተ ን ከ ባ ካ ቢ የ ጋ ብ ቻ ሁ ኔ ታ	1. ያ ገ ባ ች 2. ያ ላ ገ ባ ች 3. ባ ል የ ሞ ተ ባ ት 4. .አ ግ ብ ታ የ ፈ ታ ች	
104	የ እ ና ት ዬ ው/ የ ህ ፃ ኑ ተ ን ከ ባ ካ ቢ የ ት ም ህ ር ት ደ ረ ጃ	1. መ ደ በ ኛ ት ም ህ ር ት ያ ል ተ ከ ታ ተ ለ 2. የ መ ጀ መ ሪ ያ ደ ረ ጃ ት ም ህ ር ት 3. ሁ ለ ተ ኛ ደ ረ ጃ ት ም ህ ር ት 4. ኮ ለ ጅ እ ና ከ ዚ ያ በ ላ ይ	
105	የ ስ ራ ሁ ኔ ታ	1. የ ቤ ት እ መ ቤ ት 2. የ መ ን ግ ስ ት ሰ ራ ተ ኛ 3. የ ግ ል ቅ ጥ ረ ኛ 4. ነ ጋ ዴ 5. ገ በ ሬ 6. የ ቀ ን ሰ ራ ተ ኛ 7. ተ ማ ሪ ሌ ላ 8. (ይ ጥ ቀ ሱ)	
106	የ ቤ ቱ ዋ ና ሀ ላ ፊ	1. አ በ ት 2. እ ና ት 3. ሌ ላ	
107	አ ጠ ቃ ላ ይ የ ቤ ተ ሰ ብ አ ባ ላ ት ብ ዛ ት	----------	

	ስ ን ት ነ ው		
108	አ ማካ ኝ ወ ር ሃ ዊ ገ ቢ	----------ብ ር	
109	እ ር ሶ ሬ ድ ዮ /ቴ ሌ ቪ ዥ ን ያ ደ ም ጣ ሉ	1. አ ዎ ን 2. አ ይ	
110	በ እ ር ሻ ቦ ታ ው ስ ጥ የ አ ት ክ ል ት ል ማ ት አ ሎ ት ?	1. አ ዎ ን 2. አ ይ	
111	እ ና ት በ ቤ ት ው ስ ጥ ው ሳ ኔ በ መ ስ ጠ ት ይ ሳ ተ ፋ ሉ ?	1. አ ዎ ን 2. አ ይ	

ክ ፍ ሌ 2: ከ ል ጆ ች ጋ ር ተ ያ ያ ዥ ነ ት ያ ላ ቸ ው ጥ ያ ቄ ዎ ች

ኮ ድ	ጥ ያ ቄ	መ ል ስ	ይ ዝ ለ ሉ
201	የ ህ ጻ ኑ ዕ ዴ ሜ?	..... ወ ራ ት	
202	የ ህ ፃ ኑ ፆ ታ ?	1. ወ ን ድ 2. ሴ ት	
203	እ ቤ ቶ ው ስ ጥ እ ድ ሜ ያ ቸ ው ከ 5 አ መ ት በ ታ ች የ ሆ ኑ ህ ፃ ና ት ብ ዛ ት ስ ን ት ነ ው?		መ ል ሶ አ ን ድ ከ ሆ ነ ወ ደ ጠ ያ ቄ 205
204	ህ ፃ ና ቶ ቹ በ የ ስ ን ት አ መ ት ል ዩ ነ ት ተ ወ ለ ዱ ?	1. በ የ 2 አ መ ት 2. ከ 2 አ መ ት በ ላ ይ	
205	ለ ዚ ህ /ለ ዚ ች ህ ፃ ን የ ቅ ድ መ ወ ሊ ድ ክ ት ት ል አ ድ ረ ገ ው ነ በ ር ?	1. አ ዎ ን 2. አ ይ	
206	ህ ፃ ን ዎ የ ት ኛ ው ን የ ክ ት ባ ት አ ገ ል ግ ሎ ት	1. ቢ ሲ ጂ 2. ፔ ን ታ 1 ሮ ታ 1	

	ተቀብሏል/ለች?**(የክትባት ካርዱን በመመልከት)** (ከአንድ በላይ መልስ ሊኖር ይችላል)	ፖሊዮ 1ፒሲቪ 1 3. ፔንታ2 ሮታ2 ፖሊዮ 2 ፒሲቪ 2 4. ፔንታ3 ሮታ3 ፖሊዮ 3 ፒሲቪ 3 5. ሚዝል 1ሚዘል 2 6. ምንምአይነትክትባትአልተቀበለ(ም)ችም	
207	ልጅዎ የቫይታሚን ኤ ካፕሱል ወስዶ/ዳ ያውቃል/ታውቃለች? **(የቫይታሚን ኤ ካፕሱል በማሳየት)**	1. አዎን 2. አይ	መልስዎ **2** ከሆነ ወደ 209
208	ቫይታሚን ኤ ካፕሱል ከወሰደ/ች ስንት ጊዜ ሆኖታል/ሆኗታል	1. ከ 6ወር በታች 2. ከ 6ወር በላይ	
209	ልጅዎ በዚህ ሳምንት ውስጥ ታሞ/ማ ያውቃል/ታውቃለች?	1. አዎን 2. አይ	
210	ለጥያቄ 209 መልስ አዎ ከሆነ ምን?	1. ተቅማጥ 2. ትኩሳት 3. ሳል 4. የጆሮ ችግር 5. ሌላ	
211	የህፃኑ/ኗ ክብደት (እዛው በመለካት)	……ኪ.ግ	
212	የህፃኑ/ኗ ቁመት (እዛው በመለካት)	.....ሴ.ሜ	

ክፍሌ 3: የህፃኑ/ኗ የአመጋገብስርዓት ደረጃመጠይቅ.

ባለፉት 24 ሰዓት ውስጥ ከሚከተሉት የምግብ አይነቶች ውስጥ የትኛውን ለልጅ መግበዋል ከተቀመጠው ምግብ ዝረዘር ቢያነስ አንዱን **ከመገቡ (1) ይሙሉ** ከዝረዝሩ ምንም **ካልመገቡት ደግሞ (0) ያሰቀምጡ**

ጥያቄ ኮድ	የ ምግብ ቡድኖች	የ ምግቡ ምሳሌዎች	1 ወይም 0 ያስቀምጡ
301	ወተት እና የ ወተት ተዋጽኦ ዎች	ወተት፤ አይቤ ፤ አጓት እርጎ	
302	እንቁላል አሳ	እንቁላል ፣ አሳ	
303	ጥራጥሬ ዎች	ባቄላ ፣ አተር ፣ ምስር ወይም ከነዚ የተሰሩ ምግቦች	
304	ሰጋ እና የ ስጋ ውጤቶች	በ አካባቢው የ ሚበሉ ማንኛውም የ ፍየል ፣ ፣ የ በግ ፣ የ ዶሮ ወይም ሌሎች	
305	ጤና ማ ቅባት እና ዘይት	ቅቤ ፣ ጫማ ስጋ ፣ ቅባታማ አትክልቶች	
306	በ ቪታሚን ኤ የ በለጸጉ ፍራፍሬ ዎች እና አትክልቶች	ማንጎ ፣ ፓፓያ ፣ ብርቱካን ፣ ካሮት ፣ ጥቁር አረንጓዴ አትክልቶች	
307	ሙሉ እህሎች	ገብስ ፣ ዳጉሳ ፣ ሩዝ ፣ ስንዴ ፣ ጤፍ ፣ ማሽላ ፣ አና ሌሎች የ አካባቢው ሰብሎች	

ከ ፍል 4 ቫይታሚን ኤ ያለ በት ደረጃ መለ ከያ (የ መጀመር ያ ው ጥያቄ እና ትዬ ዋን በ መጠየ ቅ የ ሚሞላ ሲሆን ከ ዛ ቀጥሎ ያሉት መረጃ ውን የ ሚሰ በስ በው አካል የ ህፃ ኑ /ኗ አይን አይቶ በ መረ መር የ ሚሞላ ነ ው)

አዎን ከሆነ ‘1’ አይ ከሆነ ‘2’ ያስቀ ምጡ

ኮድ	ጥያቄ ዎች	ቀኝ አይን	ግራ አይን
401	ልጅዎ በ ማታ ወይም ብርሀን አነስተኛ በ ሆነ በት ቦታ		

	ለ ማ የ ት ይ ቸ ገ ራ ል		
402	ኮ ነ ጀ ክ ቲ ቫ ል ዜ ሮ ሲ ስ		
403	ቢ ቶ ት ሰ ፖ ት		
404	ኮ ር ኒ የ ል ዜ ሮ ሲ ስ		
405	ኮ ረ ኒ ያ ል አ ል ሰ ር		
406	ኮ ር ኒ ያ ል ስ ካ ር		

Guragegna version questionnaire

ወ ል ቾ ጤ ይ ን ቨ ር ሲ ቲ የ ጤ ና ሳ ይ ን ስ ኮ ሌ ጅ የ ስ ነ -ሸ ረ ት ት ም ር ት ክ ፍ ል ተ አ ፍ ያ ን ዳ ጋ ዝ ም ድ ና ያ ነ ኖ ዘ ን ጋ የ ም ር ቃ ት ጡ ፍ

በ ጥ ና ት ሁ ታ ይ ት ሳ ተ ፍ ሰ ብ የ መ ረ ጃ ወ ረ ኧ ት

መ ም ር አ ተ ሪ ም /መ ም ር ዋ ሪ ም እ ያ ሸ መ ና .....ይ ው ን አ ኳ የ ቸ ነ ሁ ያ ነ ሸ መ ታ አ ብ ድ ል ዋ ሂ ድ ኑ ረ ዲ ን ይ ው ሪ በ ወ ል ቾ ጤ ይ ን በ ር ስ ቲ በ ስ ነ ሸ ረ ት

ትምርት ክፍል የኃተነ ድግሪ ተመራቂ ቲኽር ። ይትመረቅወ ጡፍ በ ቪታሚን ኤ ኧረሶትም ተሁት ጋ ተያያዠበ ኽሮ ዘንጋው ጥናትሁታ ይቾቺ ያነ በቸሀ ወረዳ ደነ ያነዎ እድሜየ ሁና ተ ሶስት አመት በ፷ር ታምስት አመት ቦስጥ በ ኽሮ ትከው

የ ጥ ና ት ሁ ታ አ ላ ማ ፡ እ ድ ሜ የ ሁ ና ተ ሶ ስ ት እ ሰ ከ አ ም ስ ት አ መ ት በ ኽ ሮ ት ከ የ ቪ ታ ሚ ን ኤ ኧ ረ ሶ ት ያ ነ ወ ሁ ኔ ታ ም ተ ኹ ት ይ ት ያ ያ ዞ ዘ ን ጋ ም ቃ ር የ ኽ ሮ ኽ ማ ይ ቄ ት ሪ ዬ ው

የ ጥ ና ት ሁ ት ጥ ዕ ም ፡ በ ዝ ጥ ና ት ተ ሳ ተ ፎ ት አ ት ም ቀ ር ሺ ቤ ያ ተ ረ ኽ ብ ም በ ጥ ና ት ሁ ታ ተ ሳ ቲ ፍ ተ ሁ ቲ በ ዊ ም ላ ሽ የ ቪ ታ ሚ ን ኤ ኧ ረ ሶ ት ም በ ሁ ት ም ክ ን ያ ት ይ ት ፈ ጠ ሮ ጅ ጓ ረ ይ ት ኩ ላ ኩ ሊ ዬ ን ቃ ር ይ ጠ እ ም ። ተ ዝ ድ ፐ ያ ቪ ታ ሚ ን ኤ ያ ነ ቦ ሸ ረ ት ይ ወ ሬ ኽ ማ ኤ ማ ያ ት የ ሸ ። ዝ ህ ጡ ፍ አ ር ባ ም አ ት ጥ ያ ኤ ያ ነ ን ቲ ኽ ር ጥ ያ ቄ ህ ኖ በ ጀ ፕ ወ ሪ ጋ የ ት ከ ይ (ሁ)ታ ኤ ን ን ም ረ ም ር ኔ ታ ነ የ ቪ ታ ሚ ን ኤ ኧ ረ ሶ ት ም ል ክ ት ያ ነ ወ ቃ ር በ ኽ ረ ህ መ ጋ ቪ ታ ሚ ን ባ ን ፏ ታ ኒ ብ ኔ ቴ ። ኧ ኃ ፈ ቃ ዳ ኽ የ ኽ ረ በ ኽ ረ ጥ ያ ቄ ህ ኖ እ ጠ ይ ቅ ኽ ቴ ። ጥ ያ ቄ ህ ኖ አ ት ሁ ያ ደ ቂ ቃ ይ ጀ ብ ሮ ቃ ሎ ። ኽ የ ኽ ሬ ሁ ያ ደ ቂ ቃ ስ ን ታ ት ድ ራ ከ ች ፈ ነ ኽ ይ ታ አ ት ቃ ር ታ ጥ ፈ ጢ ይ ረ ም ቃ ር የ ኽ ረ መ ረ ጃ ቦ ት ኹ ን ን ቃ ር ይ ጠ ዕ ም ን ደ ቴ ። ቲ በ ማ ን ደ መ ረ ጃ የ ኽ ረ በ ኽ ረ ጋ ህ ም የ ባ ር ከ ማ ኧ ር ች (አ ብ ድ ል ዋ ሂ ድ ም) እ ያ ም ባ ን ኽ ሬ አ ት ሰ ብ ኤ ኹ ን ም ኤ ያ ዠ ን ም ። ኽ ም ት ን ብ ር ይ በ ዝ ጥ ና ት ያ ን ት ሳ ተ ፎ ት ም ኽ ረ በ ቀ ነ ሰ ይ ም ጋ ያ ን ት መ ቸ ና ይ ቃ ር በ ኽ ረ የ ታ ዎ ት መ ብ ት ነ ረ ን ኽ ።

ያ ዶ ት ኽ ታ ቄ ም ት ከ ሁ (ኽ)ታ ት ቾ የ ን ም ሽ ት ፊ ር ማ ኽ ታ .....ከ ረ .....በ ነ .....ዘ በ ር .....

መ ረ ጃ ሁ ታ የ ስ በ ሰ በ ሰ ብ ፊ ር ማ .....ከ ረ .....ነ .....ዘ በ ር .....

ም ር የ ም ግ ዝ የ በ ኽ ረ በ ዝ ጥ ና ት የ ት ያ ያ ዘ ጥ ያ ኤ በ ረ ፐ ረ ና ኽ ተ ዝ ቦ ሰ ጥ በ ጣ ፍ ሁ ን አ ድ ራ ሻ ት ረ ኽ ብ ኔ ት ቺ

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የ ተ ሳ ታ ፊ ሁ ታ መ ለ ያ ቁ ጥ ር .....ሀ ያ ጋ ሻ ታ .....የ ቃ ያ ሁ ታ ሽ ም .....

የ ጥ ያ ቄ ሁ ት መ ል ስ ያ ውጥ ከ ረ .....

1ተ ነ ከ ፍ ል ያ ዶ ት ይ ታ ቄ ም ት ከ ሁ ታ ት ቅ የ ን ም ሽ ት ማ ህ በ ራ ዊ ም ኢ ኮ ኖ ሚ ም ሀ ኔ ታ ይ ታ

ሙዝር	ጥ ያ ኤ	የ ጥ ያ ኤ ህ ኖ **እ ማ ራ ጭ** መ ል ስ	ኧ ሌ ፍ
101	ያ ዶ ት ኽ ታ ቄ ም ት ከ ሁ (ኽ)ታ ት ቐ የ ን ም ሽ ት እ ድ ሜ (በ ዘ በ ር)?	.....	
102	ያ ዶ ት ኽ ታ ቄ ም ት ከ ሁ (ኽ)ታ ት ቐ የ ን ም ሽ ት እ ም ነ ተ ኽ ታ ?	1. እ ሰ ላ ም 2. ኦ ር ቶ ዶ ክ ስ 3. ቤ ን ጤ 4. ካ ቶ ሊ ክ 5. ቡ ቸ ር ቃ ር በ ኽ ረ ጣ ፊ ዊ	
103	ያ ዶ ት ኽ ታ ቄ ም ት ከ ሁ (ኽ)ታ	1. ያ ወ ቾ ያ	

	ትቾየን ምሽት ጋብቻ ?	2. ያናወቸያ 3. አበቃጠኽታ የመተባ 4. አወቸያምታ ፈታችም	
104	ያዶትኽታ ቄም ትከሁ(ኽ)ታ ትቾየን ምሽት የትምርት ደረጃኽታ ?	1. መደበኛ ተማሪ ቤት ያንሜዘረች 2. አተነ ጀረጃ የሜዘረች 3. ኈተነ ደረጃ የሜዘረች 4. ኮሌጅም ኸረ ተኽም በፏር የሜዘረች	
105	ያዶትኽታ ቄም ትከሁ(ኽ)ታ ትቾየን ምሽት ሜናዅታ ?	1. የቤት እመወቸ 2. የመንግስት ሜነነ 3. የግል ድርጅት ሜነነ 4. ቄጠነ	

		5. ገ በ ሬ 6. የ ቀ ን ሜ ነ ነ (የ ቀ ን የ) 7. ተ ማ ሪ 8. ቡ ች ር ቃ ር በ ረ ፐ ረ ጣ ፊ ዊ	
106	የ ቤ ት ሁ ታ ቡ ር ሚ ኑ ?	1. አ ብ 2. አ ዶ ት 3. ቡ ች ር ሰ ብ	
107	በ ቤ ት ደ ን ይ ረ ብ ር አ በ ሩ ስ በ ሙ ዝ ር ም ራ ኽ ር ይ ኽ ሮ ?	----------	
108	በ በ ነ ት ረ ህ በ ዊ ቀ ረ ሺ ባ ማ ካ ኝ ?	.....	
109	ሬ ዶ ን ቄ ም ቴ ሌ ቢ ዥ ን ት ሴ መ ?	1. አ 2. ቤ	
110	በ ጎ ነ አ ት ክ ል ት ዘ ን ጋ ት ቀ ብ ሮ ?	1. አ 2. ቤ	
111	በ ቤ ት ደ ን አ ዶ ት ውሳ ኔ ባ ቦ ት ት ሳ ተ ፍ ?	1. አ 2. ቤ	

2ተ ነ ክ ፍ ል ፡ ተ ት ከ ም ተ ቀ ም ና ት ጋ ይ ት ያ ያ ዞ ጥ ያ ኤ

መ ዝ ር	ጥ ያ ኤ	የ ጥ ያ ኤ ሁ ት አ ማ ራ ጭ መ ል ስ	ሽ ሌ ፍ
201	የ ት ከ ሁ (ይ)ታ እ ሙ ር (በ በ ነ ቲ መ ዝ ሪ)?	.....በ ነ	
202	የ ት ከ ሁ (ት)ጾ ታ ?	1. ሽ ር ች 2. ገ ረ ድ	
203	በ ቤ ት እ ሙ ረ ህ ኖ ታ ም ስ ት ዘ በ ር ቦ ስ ጥ የ ኸ ሮ ም ራ ህ ር ት ከ ነ ረ ቦ ?	----------	መ ል ስ ሁ ታ እ ማ ት የ ኸ ረ በ ኸ ረ ወ ደ ጥ ያ ኤ መ ዝ ር 205 ሽ ሌ ፍ
204	ት ከ ህ ኖ በ ም ራ ኽ ር ዘ በ ር ል ዩ ነ ት ጨ ነ ው ዮ ም	1. በ 2 ዘ በ ር 2. ተ ኄ ት ዘ በ ር በ ፍ ወ ር	
205	አ ዶ ት ሹ ታ ኄ ት አ ር ዎ ታ ነ ች (ዝ ህ ት ከ ቶ ት ረ ፈ ሹ ታ ይ ፍ ቱ የ ቅ ድ መ እ ር ግ ዝ ና ም ር መ ራ ባ ነ ና ?	1. አ 2. ቤ	
206	ት ካ ኽ ም ሬ ነ ት የ ት ከ ክ ት ባ ት አ ው ያ ም /አ ዊ ም ? (የ ት ከ ህ ኖ የ ክ ት ባ ት ካ ር ድ አ ዘ ዊ ም ይ መ ረ ዊ ቃ ሩ ፤ ታ ት	1. ቢ ሲ ጂ 2. ፔ ን ታ 1፣ ሮ ታ 1፣ ፒ ሲ ቪ 1፣	

	በ ፍ ወ ር መ ል ስ ይ ረ ብ ሬ ይ ች ል)	ፖ ሊ ዮ 1 3. ፔ ን ታ 2፣ ሮ ታ 2፣ ፒ ሲ ቪ 2፣ ፖ ሊ ዮ 2 4. ፔ ን ታ 3፣ ፒ ሲ ቪ 3፣ ፖ ሊ ዮ 3 5. የ ኩ ፍ ነ 1፣ የ ኩ ፍ ነ 2 6. አ ቸ ም አ ም ቧ ሰ ደ (ች)	
207	ት ካ ሹ ዝ ኽ ታ (ቪ ታ ሚ ን ኤ ካ ፕ ሱ ል) ባ ም ፏ ታ /ባ ም ፏ ይ ታ ወ ሰ ደ ም (ች ም) ይ ኽ ር /ት ሹ ር ?(መ ረ ጃ ሰ ብ ሳ ቢ ው የ ቪ ታ ሚ ን ኤ ክ ፕ ሱ ል በ ማ ሳ የ ት ይ ጠ ይ ቅ)	1. አ 2. ቤ	መ ል ስ ሁ ታ 2 የ ኽ ረ በ ኽ ረ ወ ደ ጠ ያ ኤ ሙ ዝ ር 209 ኧ ሌ ፍ
208	ዛ ታ (ቪ ታ ሚ ን ኤ) ቶ ሰ ደ /ች ም ራ ህ ር ግ ዝ የ ይ ኽ ር ?	1. 6 በ ነ ም ተ ኽ ም ቦ ስ ጥ 2. ተ 6 በ ነ በ ፍ ወ ር	
209	እ ር ቻ ይ /ገ ረ ዳ ይ በ ዝ ሳ ም ት ቀ መ ን ም /ቀ መ ና ም ባ ?	1. አ 2. ቤ	መ ል ስ ሁ ታ 2 የ ኽ ረ በ ኽ ረ ወ ደ ጠ ያ ኤ ሙ ዝ ር 211 ኧ ሌ ፍ

210	አ በ ባ ኽ ቀ ም ና ት ሁ ታ ም ቃ ር ባ ነ ?	1. ደ ን አ ጦ ት 2. ዊ ነ ት 3. ድ ና ጌ 4. ይ ን ዝ ር ባ ሸ 5. ቡ ች ር ባ ሸ	
211	የ ት ከ ኽ (ሁ)ታ ኪ ሎ (በ ሚ ዛ ን አ ኳ ይ መ ዚ ኒ ታ)	_____ኪ .ግ	
212	የ ት ከ ኽ (ሁ)ታ ቁ መ ት (በ ዝ ክ ም ይ ሜ ት ሪ ም ታ)	_____ሴ ሜ	

3ተ ነ ክ ፍ ል ፡ የ ት ካ ኽ የ ሸ ረ ት አ መ ጋ ገ በ ይ ይ ት መ ለ ከ ት ጥ ያ ኤ

ተ ት ራ ማ ኧ ኳ ስ ን ተ ካ ኹ ተ ዝ ቦ ስ ጥ በ ጣ ፋ ዮ ሸ ረ ት እ ማ ቴ ኤ ነ ት የ ኽ ሮ ህ ኖ ብ ማ ት ገ ማ ም ጻ ፏ ዮ ም በ ሸ ረ ት ኽ ኖ ቢ ያ ን ስ አ ተ ሁ ና በ በ ና ሙ ዝ ር '1' ጤ ፊ አ ቸ ም አ በ ና የ ኽ ረ በ ኽ ረ '0 'ጤ ፊ

ሙ ዝ ር	የ ሸ ረ ት ኽ ኖ ም ድ ብ	የ ሸ ረ ት ኽ ኖ ም ሳ ሌ (ዝ ር ዝ ር)	0/1
301	ኤ ብ ም ቴ ብ ይ ረ ህ ው ዮ ሸ ረ ት	ኤ ብ ፣ ቻ ሳ ፣ አ ን ግ ዋ ፣ እ ር ጎ	
302	እ ን ቁ ራ ፣ አ ሳ	እ ን ቁ ራ ፣ አ ሳ	
303	ጥ ራ ጥ ሬ	ባ ኤ ላ ፣ ጌ ተ ረ ፣ ም ስ ር ቄ ም ደ ሞ ተ ዛ ሁ ና የ ቾ ቺ ም ር የ ም	

		ኤ ነ ት ሸ ረ ት	
304	በ ሰ ር	የ ፈ ቅ ፣ የ ጤ ፣ የ ሬ ፣ የ ኩ ታ ራ ም ኸ ረ የ እ ን ጓ ደ ሁ ና በ ሰ ር	
305	ጤ ነ ኛ የ ኸ ሮ ቅ ባ ት ም ዘ ይ ት	ቅ ብ ፣ ጮ ማ በ ሰ ር ፣ ቅ ባ ት ነ ት ያ ነ ኖ አ ት ክ ል ት	
306	ቪ ታ ሚ ን ኤ ያ ነ ቦ ፍ ራ ፍ ሬ ም አ ት ክ ል ት	ማ ን ጎ ፣ ፖ ፖ ዬ ፣ ብ ር ቱ ካ ን ፣ ካ ሮ ት ፣ ጥ ቁ ር አ ረ ን ጓ ዴ አ ት ክ ል ቶ ች	
307	ሙ ሉ ኧ ኸ ር	ኧ ኸ ር ፣ ሩ ዝ ፣ ዳ ጉ ሳ ፣ ስ ኔ ፣ ጤ ፍ ፣ ማ ሽ ላ ም እ ን ጓ ደ ሁ ና	

4ተ ነ ክ ፍ ል ቪ ታ ሚ ን ኤ ያ ነ ወ ደ ረ ጃ ይ መ ዝ ን ብ ወ (የ መ ጀ መ ር ያ ጥ ያ ኤ ሁ ታ ያ ዶ ት ኸ ታ ቄ ም ት ከ ሁ (ኸ)ታ ት ቁ የ ን ም ሸ ት ጠ የ ቂ ም ታ ይ ሞ ሬ ቃ ሩ ። ኻ ሁ ና ደ ሞ መ ረ ጃ ሁ ታ ይ (ት)ሞ ራ ን ባ ለ ሙ ያ የ ት ከ ህ ኖ ኤ ን ያ (ታ)ዝ ም ታ ይ ሞ ሬ ቃ ሩ ። አ ይ በ ኸ ረ "1" ቤ የ ኸ ረ በ ኸ ረ ደ ሞ " 2" በ ሮ ም ጣ ፊ ዊ

ሙ ዝ ር ያ ኤ		ቀ ኝ አ ይ ን	ግ ራ አ ይ ን
401	ት ካ ዥ በ ም ሳ ረ ም ኸ ረ በ ዋ ና አ በ ራ ት ቤ ነ ወ መ ደ ር የ ዘ ቦ ት ጅ ጓ ረ ነ ረ ወ /ባ		

402	ኮ ን ጀ ክ ተ ይ ቫ ል ዜ ሮ ሲ ስ		
403	ቢ ቶ ት ሰ ፖ ት		
404	ኮ ር ኒ ያ ል ዜ ሮ ሲ ስ		
405	ኮ ር ኒ ያ ል አ ል ሰ ር		
406	ኮ ር ኒ ያ ል ስ ካ ር		

Curriculum Vitae (CV)

Personal Details

Full name Abdilwahid Nuredin Hamza

Sex Male

Birth date 28/01/1994 G.C

Place of birth Agena

Marital status Single

Nationality Ethiopian

Contact address Phone number +251-936-54-71-18

Email Address: abdilwahidnuredin@gmail.com

Professional Profile and Qualification

I have been graduated from Medawelabu University College of Medicine and Health Science with BSc. in public health, in 2018. I have taken all courses and trainings prepared for the curriculum; quick learner willing to take initiative community to bring a change, handle a complex and difficult situations as well as committed to take responsibility.

Educational Background

- 2000-2006: Agena 01 elementary school (Grade 1-8th)
- 2007-2008: Agena secondary School (Grade 9-10th)
- 2009-2010: Agena preparatory school (Grade 11-12th)
- 2011-2014: Medawelabu University College of Medicine and Health Science

Work Experience

I have 5 years' work experience in SNNPR as public health officer. In the last four years, I have worked as OPD case team leader, TB clinic coordinator, Emergency case team leader and Under 5 Stabilization center coordinator for malnutrition. I am currently working at Wurerber Health center at outpatient department

SKILLS

- Basic clinical skill
- Basic computer skill
- Very good in writing, reading, speaking and listening Amharic and English languages.

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Training

S.N	Type	Organization	Award
1.	Basic Emergency IP	Wachamo university	Certified
2.	Essential Nutritional Action	Save the Children	Certified
3.	Basic Computer operation system	Private training center	Certified
4.	Basic IECW training	Orbis Ethiopia	Certified

Hobbies

- Reading books
- Watching movies