



Project Title :

Assessment of accessibility, coverage, and utilization of Community Based Nutrition by newly-wed women and adolescent girls in selected woredas of Amhara region, North West Ethiopia.

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Presentation outline

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Introduction

- ✓ Malnutrition is a major health issue affecting children and women in Ethiopia.
- ✓ The country has the second highest rate of malnutrition in sub-saharan Africa.
- ✓ An estimated 27% of women have chronic energy deficiency (BMI<18.5) 17% of women are anemic (rising to 30% among pregnant and lactating women), and 6% of rural women experienced night-blindness in their most recent pregnancy .



Introduction...

- ✓ Adolescence is a pivotal stage of the life cycle, and in turn, provides a unique opportunity to foster a healthy transition from childhood to adulthood.
- ✓ Poor nutritional status of adolescent girls do have effect that pass through generations, malnourished adolescent girl enter pregnancy with poor nutrient store and give birth to low birth weight baby that is more vulnerable to chronic disease in late life due to early fetal programming.



Introduction...

- The intergenerational cycle of malnutrition has to be broken by strategies to improve nutrition of adolescents by ensuring the nutritional needs of adolescents are met is essential to this transition, but assessing its implementation is critically needed .



Introduction...

- ✓ The Community-Based Nutrition (CBN) program, which is a sub-component of the National Nutrition Program (NPP), is being implemented through the GOE-UNICEF Country Program Action Plan 2007-2011 in selected Woredas of Amhara, Oromia, SNNP and Tigray Regions.
- ✓ Program implementation commenced in three phases. Phase one was initiated in 2008 (in 40 Woredas -Group 1) , phase two was initiated in 2009 (in 77 Woredas-Group 2) and phase three already kicked off in 2011 (in 54 Woredas-Group 3).



Introduction...

- The CBN program aims to build up communities and families' capacity and ownership to make informed decisions on maternal and child care practices at family and community levels.
- The government of Ethiopia Officially launched the National Nutrition Program (NNP) in 2009, which aims to reduce malnutrition in Ethiopia by integrating nutrition into community-based health and development programs.



Justification

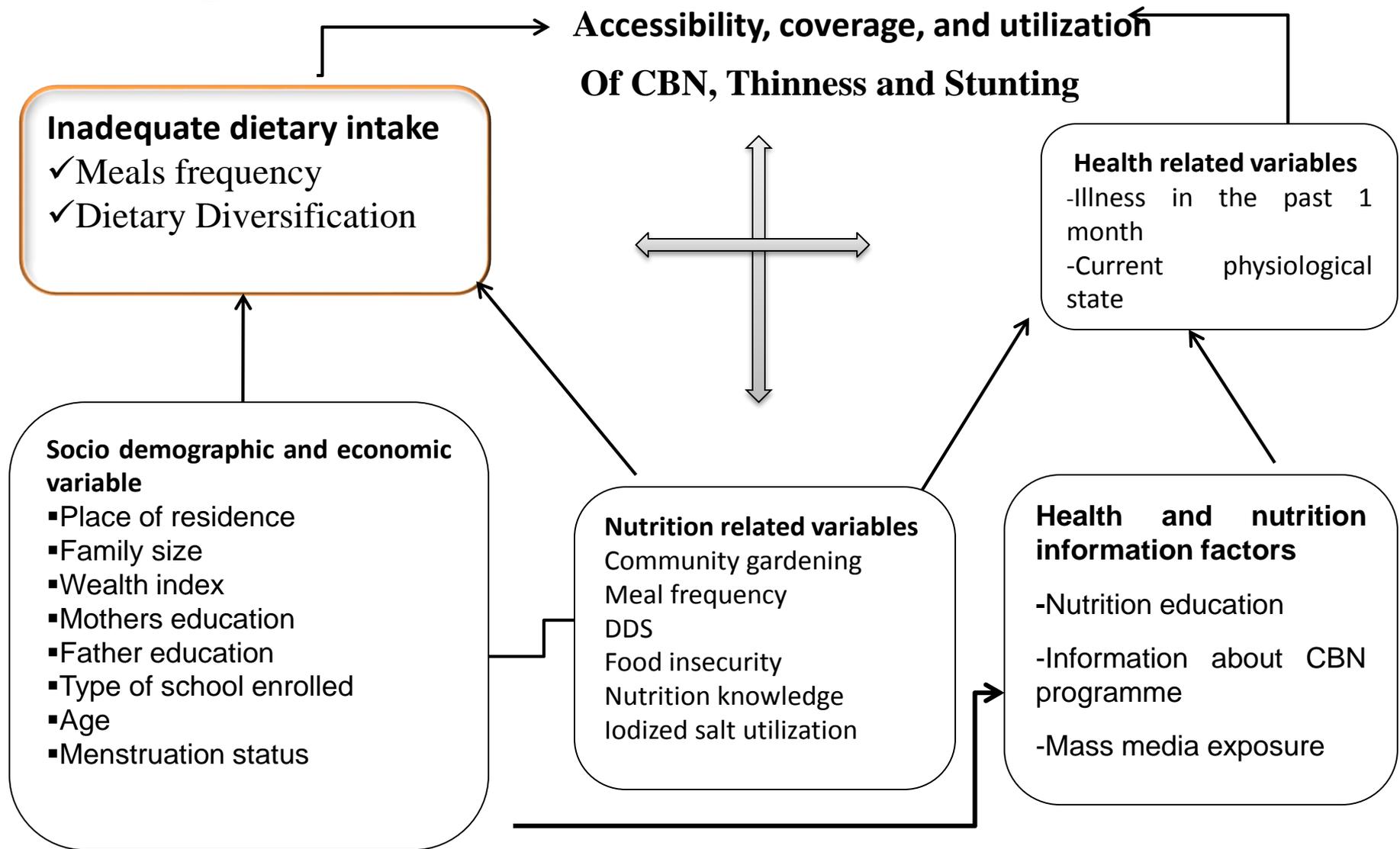
- Nutritional deficiencies among adolescent girls and newly-wed women do have devastating effects.
- Undernourished adolescent girls are more likely to give birth to undernourished infants, thus transmitting under nutrition to the future generation.
- Hence the adolescence period is the last intervention point to break the intergenerational cycle of malnutrition by improving the nutrition of adolescent girls prior to conception



Justification...

- CBN will address this problem by providing special attention to newly-wed women and adolescent girls since it is one component of the Government of Ethiopia's National Nutrition Program.
- In this regard, examining the community based nutrition services aimed at improving the nutritional status of newly-wed women and adolescent girls is fundamental to strengthen the established program.
- Besides, policy makers and program managers can use this study to strengthen the program and to fill the gap.

Conceptual frame work





Objectives

General objective:

- To assess the accessibility, coverage, and utilization of Community Based Nutrition by newly-wed women and adolescent girls.

Specific objectives

- To assess the accessibility, coverage, and utilization of Community Based Nutrition by newly-wed women and adolescent girls.
 - To investigate access to community based nutrition services.
 - To find out coverage of community based nutrition services.
 - To examine utilization of community based nutrition services.
 - To identify factors affecting CBN access, coverage and utilization.



Methods

Study design

- ✓ Community based cross sectional study triangulated with qualitative study

Study area and period

- ✓ Amhara Regional state: 5 CBN implementing woredas' (Ebnat, Wadla, Dembecha, Chilga, Dabat)
- ✓ July, 2013 to January, 2014



Methods cont'd

Source population

- All newlywed women and adolescent girls in Community Based Nutrition services, in all CBN sites in Amhara region.

Study population

- All newlywed women and adolescent girls in Community Based Nutrition services, in each selected CBN sites in Amhara region.

Inclusion Criteria

- Newlywed women and adolescent girls in Community Based Nutrition services in selected CBN woredas of Amhara region.

Exclusion criteria

- Those newly-wed women and adolescent girls who are too sick to be involved in CBN



Methods cont'd

Sample size & sampling procedure

❖ Single population proportion formula was used.

$$n = \frac{(Z_{\alpha/2})^2 P (1-P)}{d^2} = 600$$

❖ After considering design effect (2) & non-response rate (5%), the final sample size was 1260



Methods cont'd

Amhara National Regional State

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11
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There are 4 phases for CBN then 5 woredas have taken from four batches by simple random sampling

Wogera	Ebnat	Wadla	Chilga	Dembecha
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Then we will take 20% of kebeles in the selected woreda

Wogera 3 kebeles 252	Ebnat 3 kebeles 252	Wadla 3 kebeles 252	Chilga 3 kebeles 252	Dembecha 3 kebeles 252
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Figure 1: Schematic representation of sampling procedure



Methods cont'd

Variables of the study

Dependent variable

- Thinness
- Stunting
- Utilization of CBN
- Access to CBN
- Coverage
- Level of satisfaction

Independent variables

- **Socio demographic and economic variables**
- **Nutrition related variables**
- Community gardening
- Meal frequency
- DDS
- Food insecurity
- Nutrition knowledge
- Iodized salt utilization
- **Health related variables**
- Illness in the past 1 month
- Current physiological state



Methods cont'd

Operational definitions

- **Adolescent girls-** Girls aged from 10-19 years old
- **Newlywed women-** A woman who has recently been married with one year.
- **Food security:**“all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life”. It was assessed by using 6-item module and the sum of affirmative responses to the six questions in the module is the household’s raw score on the scale and assigned as:
 - Raw score 0-1—High or marginal food security
 - Raw score 2-4—Low food security
 - Raw score 5-6—Very low food security



Methods cont'd

Data collection instrument and procedures

Instruments

- Structured Questionnaire was used for quantitative
- 15 key informants at 5 woredas were used for the qualitative
- Semi-structured interview method was used .
- Interview schedule was developed

Data collectors

- ✓ 20 data collectors(health professionals)
- ✓ 7 supervisors(lecturers)
- ✓ Data was collected using pretested structured questionnaire
- ✓ Anthropometric measurements were taken using standard procedures

Data quality control

- ✓ Training of DCs & supervisors- 3 days
- ✓ Pre-testing and Supervision



Methods cont'd

Data processing and analysis

- ✓ Data entered & analyzed – SPSS 20.
- ✓ Descriptive statistics - carried out.



Methods cont'd

- ✓ Both bivariate & multivariate logistic regression model - to identify associated variables for thinness and stunting
- ✓ P value up to 0.2 - bivariate analysis → the multivariate
- ✓ Backward stepwise LR-method
- ✓ 95% CI



Ethical considerations

- ✓ Ethical clearance - IRB of the university and ARHB
- ✓ Communication to Zonal health bureau & District health offices
- ✓ Verbal consent
- ✓ Confidentiality
- ✓ Nutrition education given to adolescents and newlywed



Results and Discussion

SOCIO-DEMOGRAPHIC CHARACTERISTICS

- ✓ A total of 1281 adolescent girls aged 10-19 years included in the final analysis.
- ✓ Among this 499(39%) of them are early adolescents, 425(33%) middle adolescents while 357(27%) late adolescents.
- ✓ Majority of them (83.8%) were single and 126(9.8%) were newlywed.
- ✓ Almost all of them were Amhara in ethnicity and orthodox Christians.
- ✓ Around 65% of them attend primary education and 1013(79.1%) of them are currently students. (Table 1)

Table 1 socio demographic and economic characteristics of adolescents, Amhara region, 2013 (N=1281)

Variables	Number	Percentage
Age		
10 to 14	499	39.0
15 to 17	425	33.2
18 to 19	357	27.9
Woreda		
Dabat	256	20.0
Aykel	256	20.0
Ebnat	258	20.1
Wadila	253	19.8
Dembecha	258	20.1
Marital status		
single	1073	83.8
married	193	15.1
divorced	12	0.9
separated	3	0.2
Newlywed	126	9.8
Religion		
Orthodox	1261	98.4
Muslim	20	1.6
Educational status		
can't read / write	71	5.5
can read / write	32	2.5
primary (1 to 8)	831	64.9
secondary (9 to 12)	315	24.6
college / university	32	2.5

Table1 con'd. socio demographic and economic characteristics of adolescents, Amhara region, 2013 (N=1281)

Occupation		
Housewife	145	11.3
farmer	27	2.1
daily laborer	6	0.5
private / government employee	2	0.2
student	1013	79.1
jobless (unemployed)	67	5.2
Other**	21	1.6
Family size		
< or equal to 5	587	45.8
greater than 5	694	54.2
Wealth Index		
poor	427	33.3
Medium	427	33.3
Rich	427	33.3
Staple cereal		
Teff	484	37.8
Wheat	398	31.1
Maize	184	14.4
Sorghum	123	9.6
Others***	82	7.1



Results and Discussion cont'd

Nutrition and health related characteristics of adolescent's girls and newlywed women

- **Meal frequency**
 - Around 20% of all adolescents were consuming < 3 meals per day
- **Average dietary diversity score of adolescents**
 - The average DDS were 5.6 (SD 2.04).
 - About 33% of adolescent girls had consumed 3 or less food groups (poor dietary diversity) in the previous day, 45% had consumed 4 to 5 different food groups and 21.8% consumed 6 or more food groups.
- **Food security:**
 - The research revealed that 556(44.4%) of adolescents live in food insecure households
- **Sickness in the past one month**
 - Adolescents were asked to list any sickness 1 month prior to the survey and 241(19.2%) of adolescents reported sickness
- **Current Physiological state**
 - It shows that 27 adolescents were pregnant, 58 lactating and the rest 91.6% were non- pregnant and non-lactating



Results and Discussion cont'd

- **BMI for non pregnant adolescents**
 - This survey revealed that more than half of adolescents (54.1%) were thin by using BMI as indicator
 - In the study there were Twenty nine pregnant adolescents and did not included in BMI calculation.
- **Prevalence of low BMI for age**
 - Overall the prevalence of girls with a low body mass index for age Z score less than $<-2SD$ were 13.6%.
- **Prevalence of stunting in adolescents girls and newlywed women**
 - The nutritional status of adolescents was analyzed using height for age Z-score.
 - The overall height for age Z-score less than $-2 SD$ were 31.5% while 14.7% were with less than $-3 SD$.

Table 2 :Nutrition and health related characteristics of adolescents and newlywed women

Variable	Frequency	Percent
Physiological state		
Not pregnant/ lactating	1174	91.6
pregnant	27	2.1
lactating	58	4.5
pregnant and lactating	2	.2
don't know	20	1.6
DDS (all)		
Poor(o-3 food group)	417	32.6
Medium(4-5 food group)	585	45.7
High(6+ food group)	279	21.8
Meal frequency total		
Less than 3 meal	266	20.8
3 plus meal	1015	79.2
Food security		
Food in secured	556	44.4
Food secured	696	55.6
Home gardening		
yes	775	61.9
no	477	38.1
Knowledge on vitamin A rich foods		
green vegetable and other vegetable, fruits egg, meat, milk	163	12.7
I don't know	1118	87.3
Knowledge on iron rich foods		
teff, meat	286	22.3
I don't know	995	77.7
disease reported in last one month		
yes 10/23/2014	241	19.2
No	1011	80.8



Results and Discussion cont'd

- There is an improvement in meal frequency and dietary diversity of adolescent girls.
- Currently 20.8% of girls are consuming less than three meals per day which is better than the base line survey in which three quarter of girls were consuming <3 meals per day.
- There is significant improvement in the number of adolescents receiving high dietary diversity.



Results and Discussion cont'd

Knowledge of adolescents on feeding practice

- when they are asked about time of BF initiation 21% said >1 hr and 16% don't know time of initiation of BF.
- 1/3rd of adolescents didn't have knowledge on timing of EBF and when complementary feeding should be started.



Results and Discussion cont'd

- There is a promising improvement in nutrition knowledge of adolescent girls and newlywed women.
- Around 13% of girls were correctly mentioned the food sources of Vitamin A by saying Green leafy vegetables, fruits, egg and meat.
- whereas 22.3% of them responded correctly for the food sources of Iron by saying teff and meat.



Results and Discussion cont'd

Prevalence of thinness and stunting in adolescent

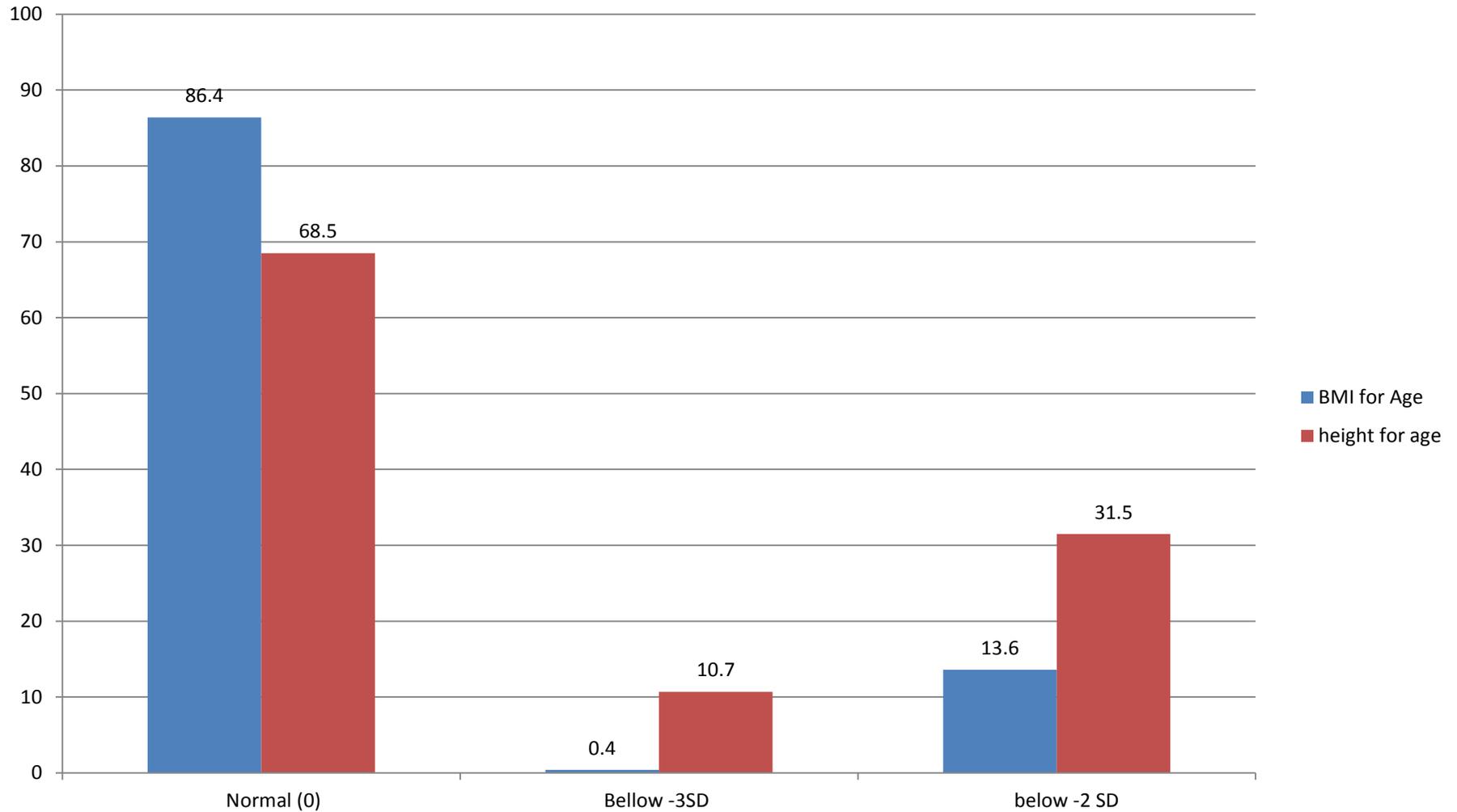
Prevalence of low BMI for age

- Overall the prevalence of girls with a low body mass index for age Z score less than $<-2SD$ were **13.6%**.

Prevalence of stunting in adolescents girls and newlywed women

- The overall height for age Z-score less than $-2 SD$ were **31.5%** while 10.7% were with less than $-3 SD$.

Prevalence of thinness and stunting in adolescent





Results and Discussion cont'd

Prevalence of thinness and stunting in adolescent...

- Despite the fact that CBN program will improve the nutritional status of women and children, prevalence of low BMI for age in adolescent girls and newlywed women were found to be still high (13.6%).
- The result is comparable with the national nutrition baseline survey report for the NNP of Ethiopia which was 14%.
- The finding of this current survey showed that **no significant improvement** in nutritional status of adolescents measured by BMI for age.



Results and Discussion cont'd

Prevalence of thinness and stunting in adolescent...

- Prevalence of stunting in adolescent girls of the study area were found to be 31.5%.
- The finding is higher than the national base line survey done which was 23%.

The reason could be:

- Our survey is done in Amhara region in which the prevalence of malnutrition is very high where as the national baseline survey was conducted on 4 regions.
- The other possible reason could be the national base line survey was conducted in the age group of 13-19 in which the most vulnerable groups were not included.
- .



Results and Discussion cont'd

CBN program for adolescent girls and newlywed women

CBN program was implemented in all 5 woredas' incorporated in our study.

- 53.6% : heard about CBN program.
- The main sources of information were from HEW
- Around 2/3rd of adolescents and newlywed women had health and nutrition information.



Results and Discussion cont'd

CBN program for adolescent girls and newlywed women...

- Adolescent girls and newlywed women were not major target groups in CBN service. This is supported by the qualitative study:
 - All key informant agree that *“even though the CBN project also designed to incorporate adolescent girls and newly-wed women, they are discriminated from any services offering by CBN.”*
 - All said that *“only children from six months up to 2 and 5 years and sometimes, pregnant and lactating women are considered in the Program”*.
 - One key informant replied that: *“We have never ever given any service for adolescent girls and newly-wed women unless they become pregnant and give birth. Because, they are not easily exposed to diseases and it is our belief that they can get the information both at school and from radio programs and advertisements. We had also informed nothing about adolescent girls and newly-wed women nutrition while we had been taking training about CBN.”* (FKI3, Dembecha August 2013).

Factors affecting nutritional status of adolescents and newly women

Factors affecting low BMI for Age in adolescent girls

- Age, dietary diversity score and CBN service utilization

[Tabels\BMI for age regression.docx](#)

Factors affecting low height for age in adolescent girls

- Age, food insecurity and Nutrition and health

information. [Tabels\stunting regression.docx](#)

Factors affecting nutritional status of adolescents and newly women...

- Those who utilized CBN service were 33% less likely to be thin than those not utilizing CBN service (AOR=0.665, 95%CI: 0.467, 0.946).
- This indicates that organizing adolescent girls and newlywed women in CBN is effective in bringing good nutritional outcome indicated by improved BMI for age Z scores.
- This finding is supported by the qualitative study:
 - " Most of the KI said that “there is no any work done in relation to adolescent girls and newly-wed women’s nutrition except issues like HIV/aids, and contraceptive methods.” They are also given awareness on reproductive health education and early marriage, about the idea that “a girl should not get married until 18 years and should not give birth until she is 18.

Factors affecting nutritional status of adolescents and newly women...

- In this study adolescents who had no nutrition and health information were 2 times more likely to be stunted than those who had information(AOR=1.938 (1.462, 2.570)).
- This is because adolescents getting nutrition information will change their dietary habit which can improve their nutritional status.

Adolescents and newlywed women's Access to ,coverage and utilization of CBN program [Tabels\Access, coverage and utilization.docx](#)

Access to CBN program

- Newlywed women and Adolescent girls can get the CBN service from health extension workers, Women development army and other health care providers.
- The number of adolescents who accessed nutrition and health information from HEW and Volunteers. (Table 7)
- The place where adolescents meet and total number of meetings with health extension workers are also shown in this table.



Conclusion

- Adolescent girls and newlywed women showed improvement on selected nutrition proven practices.
- Prevalence of stunting and underweight in adolescents and newlywed women were high.
- Age, dietary diversity score and CBN service utilization were factors affecting low BMI for Age in adolescent girls.
- Age, food insecurity and Nutrition and health information factors affecting low height for age in adolescent girls.



Conclusion...

- Children and infants, as well as lactating and pregnant mothers in all study sites CBN are the sole segments of the population which are given emphasis by the program, CBN.
- Newly-wed women and adolescent girls have no much space with regard to CBN services.



Recommendation

- A sustained and focused CBN services to improve the nutritional status of newly-wed women and adolescent girls. This may improve the accessibility, coverage and utilization of CBN services.
- Creating awareness among the communities and continuous discussion with the health workers so as to give greater attention to the program.



Recommendation

- Adolescent girls and newly-wed women are the future mothers so that to make the next generation healthy, they must be included and given much emphasis in the CBN program, which enables them to be free from malnutrition.



References

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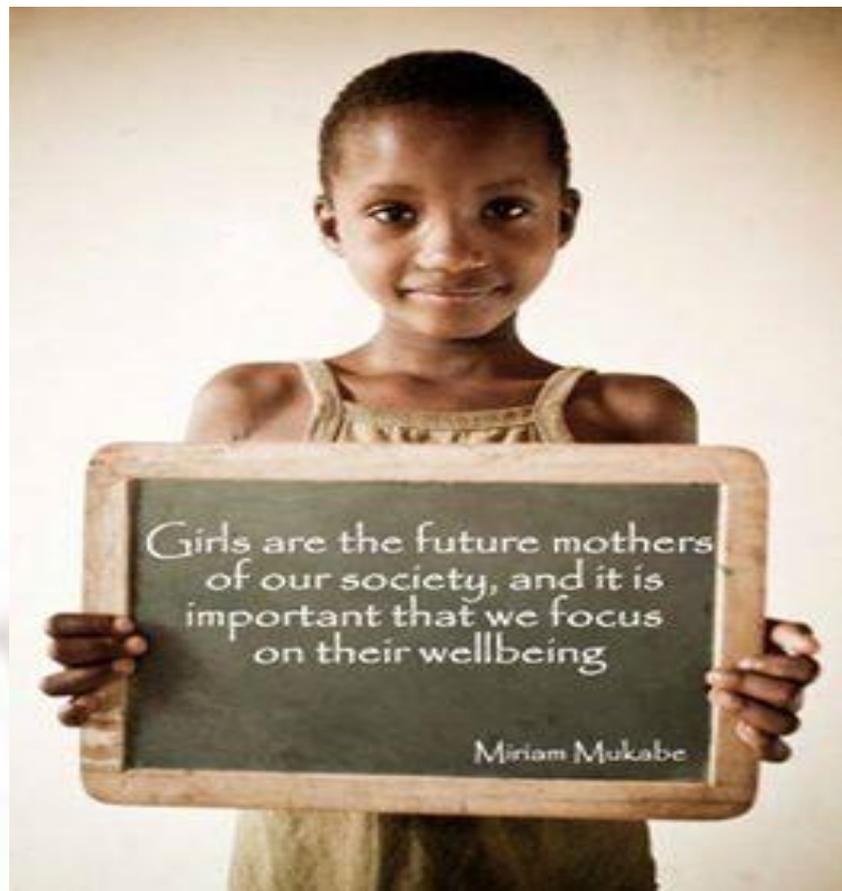
🌿 World bank

🌿 EPHI

🌿 UOG, Staff of IPH

🌿 Data collectors, supervisors and Study participants

🌿 Amhara National Regional State Health Bureau (ANRSHB), Zonal and Woreda Administrative Health offices



Girls are the future mothers
of our society, and it is
important that we focus
on their wellbeing

Miriam Mukabe

