

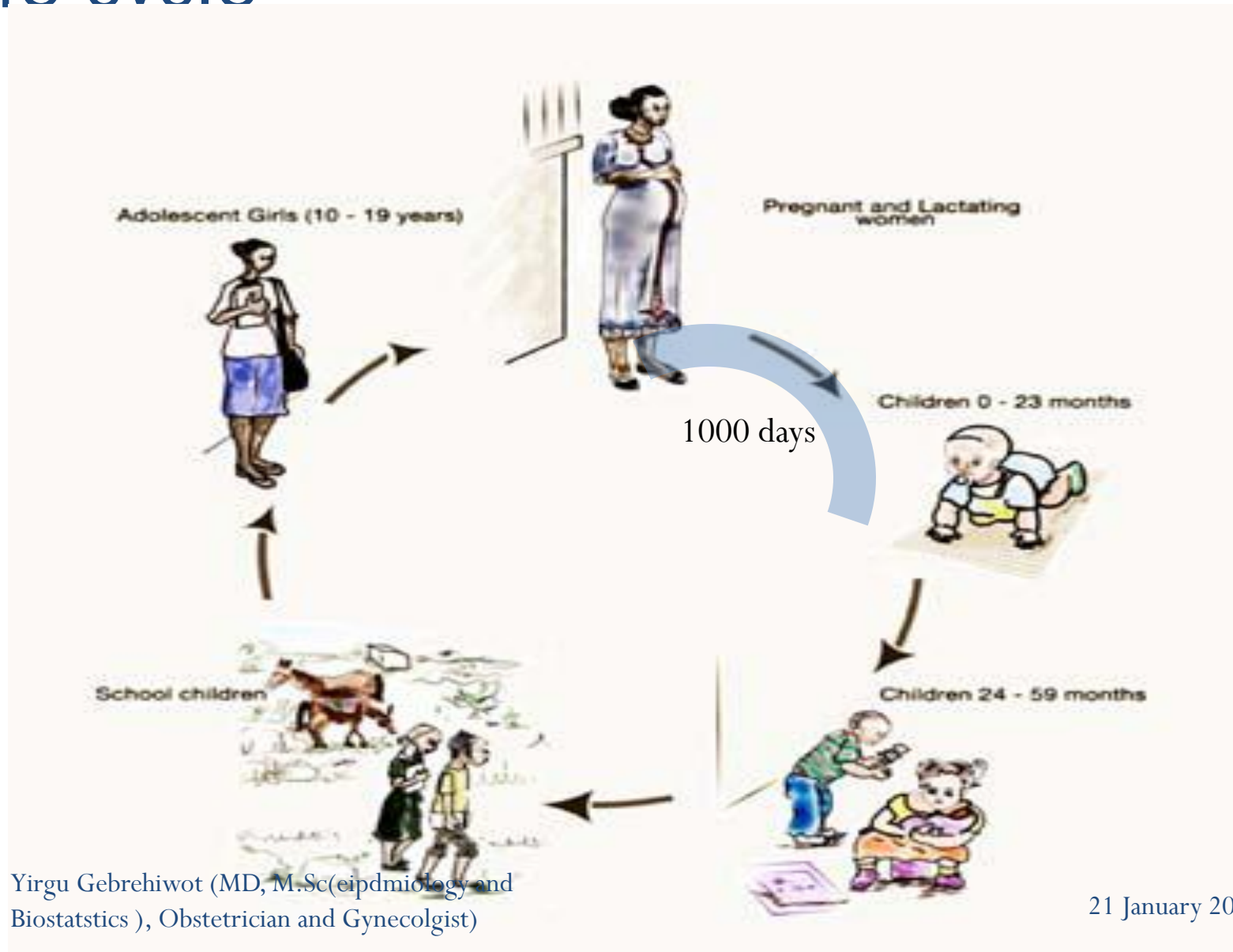
Early life Nutrition in the Context of Maternal Nutrition:

Prevention of intergenerational
malnutrition

Outline

- Life cycle approach(nutrition and RH)
- RH problems of young and adolescents
- Malnutrition
 - PEM
 - Micronutrient Deficiency (Iron , Iodine and Vit A)
- Underlying problems
- Way forward

Life cycle



Life cycle approach in RH

- Birth



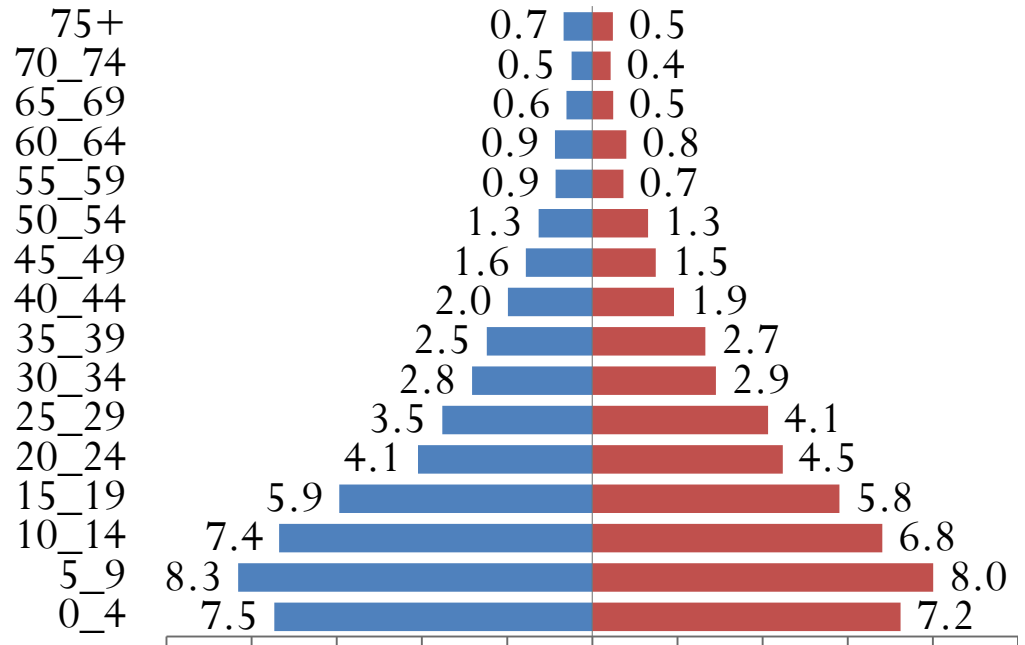
- Adolescence



- Adult



- Elderly



Total population

- under 24 years 48,030,414 (65.5%)
- 10 - 24 years 25,276,315(34.5%)
- 10 - 19 years 18,997,570 (25.9%)

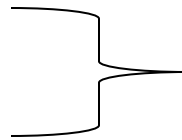
Based on CSA 2007

Some indicators

1. GBV

80% women

50% men



belief in wife beating

2. FGM

>50% females 15-19 yrs. has undergone FGC

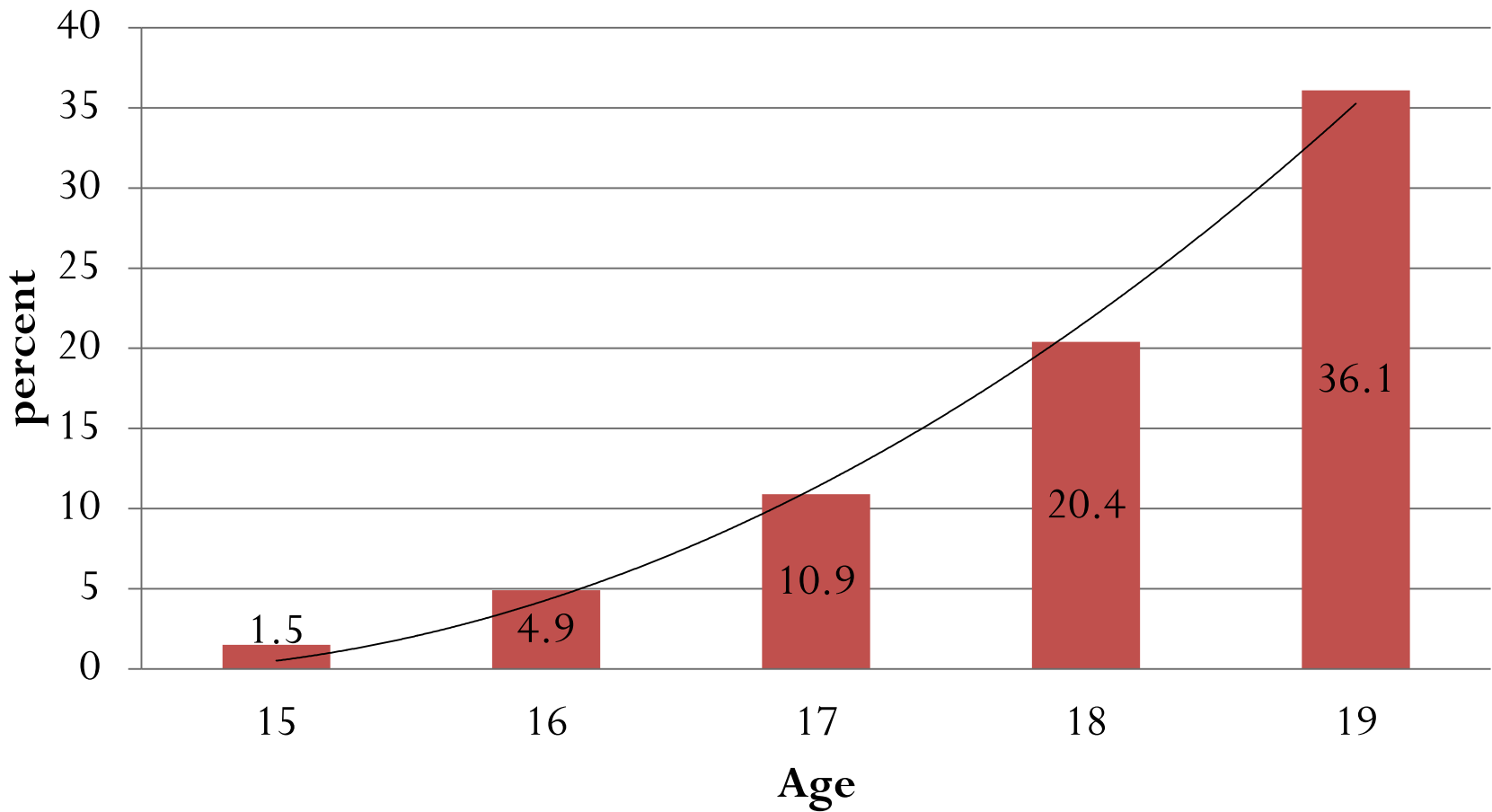
≈ 1/4 females 15-24 believe FGC continue

3. Polygamy 5-8%

Indicators ...Sexuality

- Sexual debut
 - Girls 16 yrs. (14.1 - 21.9yrs.)
 - Boys 20 yrs.
 - Urban Vs rural 2 yrs
 - Educated 5 yrs late
- Age at marriage 16.1 girls

Percent of women with live children



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21 January 2014

Wantednes of pregnancy

Pregnancies, by intention

Total no.	% intended	% unintended	Total %
3,980,000	59	41	100

Pregnancies, by intendedness

Region	Total no.	% intended	% unintended
Addis Ababa	100,000	28	72
Afar	70,000	82	18
Amhara	840,000	63	37
Benshangul-Gumaz	40,000	66	34
Dire Dawa	30,000	37	63
Gambella	10,000	69	31
Harari	20,000	31	69
Oromia	1,570,000	52	48
Somali	260,000	91	9
SNNP	820,000	55	45
Tigray	220,000	74	26

Nutritional status of women

- 3.4 % less than 145
- 26.9% of all and 36.1 % adolescents
less than 18.5 kg/mt^2
- 1% obese

PEM and Birth outcome

Sixteen intervention studies were included in the review.

- Birth weight compared with control [mean difference 73 (g) [95% confidence interval (CI) 30, 117]].
- Combined data from five studies showed a reduction of 32% in the risk of LBW in the intervention group compared with control [relative risk (RR) 0.68 [95% CI 0.51, 0.92]].
- There was a reduction of 34% in the risk of small-for-gestational-age babies in the intervention compared with the control group [RR 0.66 [95% CI 0.49, 0.89]].
- The risk of stillbirth was also reduced by 38% in the intervention group compared with control [RR 0.62 [95% CI 0.40, 0.98]].
- In conclusion, balanced protein-energy supplementation is an effective intervention to reduce the prevalence of LBW and small-for-gestational-age births, especially in undernourished women.

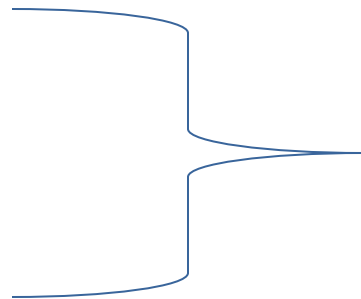
[Imdad A, Bhutta ZA. Maternal nutrition and birth outcomes: effect of balanced protein-energy supplementation. Paediatr Perinat Epidemiol. 2012 Jul;26 Suppl 1:178-90. doi: 10.1111/j.1365-3016.2012.01308.x](#)

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Other Micronutrient deficiency

- Iron
- Vit A
- Iodine
- Thiamine
- Niacin
- Vit C

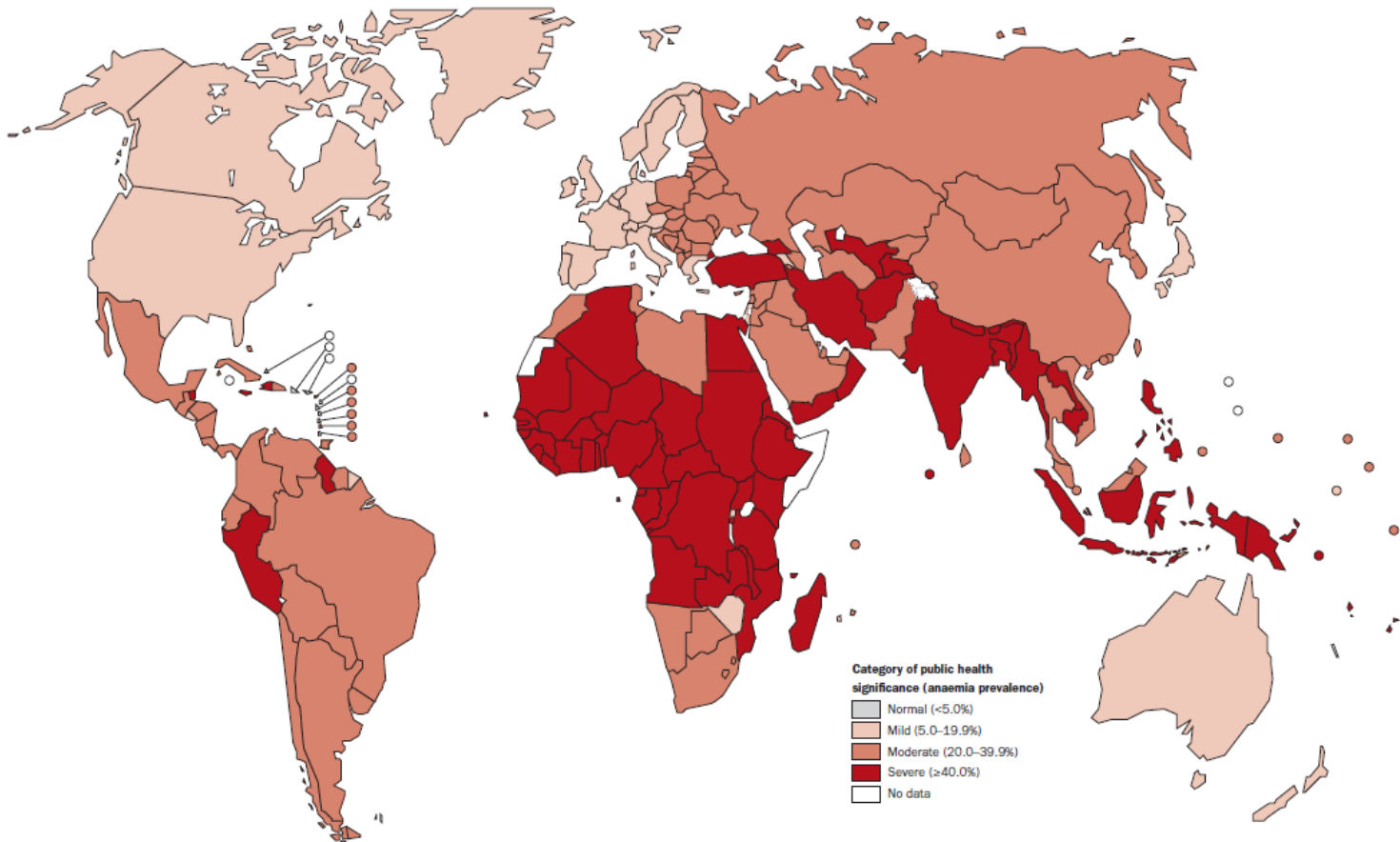


In Emergency Situation(IDP)

Prevalence of Anemia

WHO region	Preschool-age children ^a		Pregnant women		Non-pregnant women	
	Prevalence (%)	# affected (millions)	Prevalence (%)	# affected (millions)	Prevalence (%)	# affected (millions)
Africa	67.6 (64.3-71.0) ^b	83.5 (79.4-87.6)	57.1 (52.8-61.3)	17.2 (15.9-18.5)	47.5 (43.4- 51.6)	69.9 (63.9-75.9)
Americas	29.3 (26.8-31.9)	23.1 (21.1-25.1)	24.1 (17.3-30.8)	3.9 (2.8-5.0)	17.8 (12.9-22.7)	39 (28.3-49.7)
South-East Asia	65.5 (61.0-70.0)	115.3 (107.3-123.2)	48.2 (43.9-52.5)	18.1 (16.4-19.7)	45.7 (41.9-49.4)	182 (166.9-197.1)
Europe	21.7 (15.4-28.0)	11.1 (7.9-14.4)	25.1 (18.6-31.6)	2.6 (2.0-3.3)	19 (14.7-23.3)	40.8 (31.5-50.1)
Eastern Mediterranean	46.7 (42.2-51.2)	0.8 (0.4-1.1)	44.2 (38.2-50.3)	7.1 (6.1-8.0)	32.4 (29.2-35.6)	39.8 (35.8-43.8)
Western Pacific	23.1 (21.9-24.4)	27.4 (25.9-28.9)	30.7 (28.8-32.7)	7.6 (7.1-8.1)	21.5 (20.8-22.2)	97 (94.0-100.0)
Global	47.4 (45.7-49.1)	293.1 (282.8-303.5)	41.8 (39.9-43.8)	56.4 (53.8-59.1)	30.2 (28.7-31.6)	468.4 (446.2-490.6)

Prevalence of anemia



Anemia among women

Maternity status	<11 gm/dl	<7.0 gm
Pregnant	22	1.2
Breast feeding	18.5	0.6
Neither	15	0.5

Age of women	<11 gm/dl	<7.0 gm
15-19	13.4	0.3
20-29	16.3	0.8
30-39	17.3	0.6
40- 49	21.5	0.5

Anemia among women regional distribution

Region	% anemic
Somali	44
Afar	34.8
Dire Dawa	28.8
Gambella	19.4
Hararri	19.4
Oromia	19.2
BG	19.1
Amhara	16.6
Tigray	12.4
SNNPR	11.3
Addis Ababa	9.3

- Eighty-three percent of women did not take iron tablets during their last pregnancy.
- Fifteen percent took them for less than 60 days, and
- less than 1 percent took them for 90 days or more during their last pregnancy.

Deworming

- 8.5 % urban
 - 5.5% national
- 5.0% Rural

The overall prevalence of intestinal parasites was 64.9%
Hookworm was the predominant (49.7%).

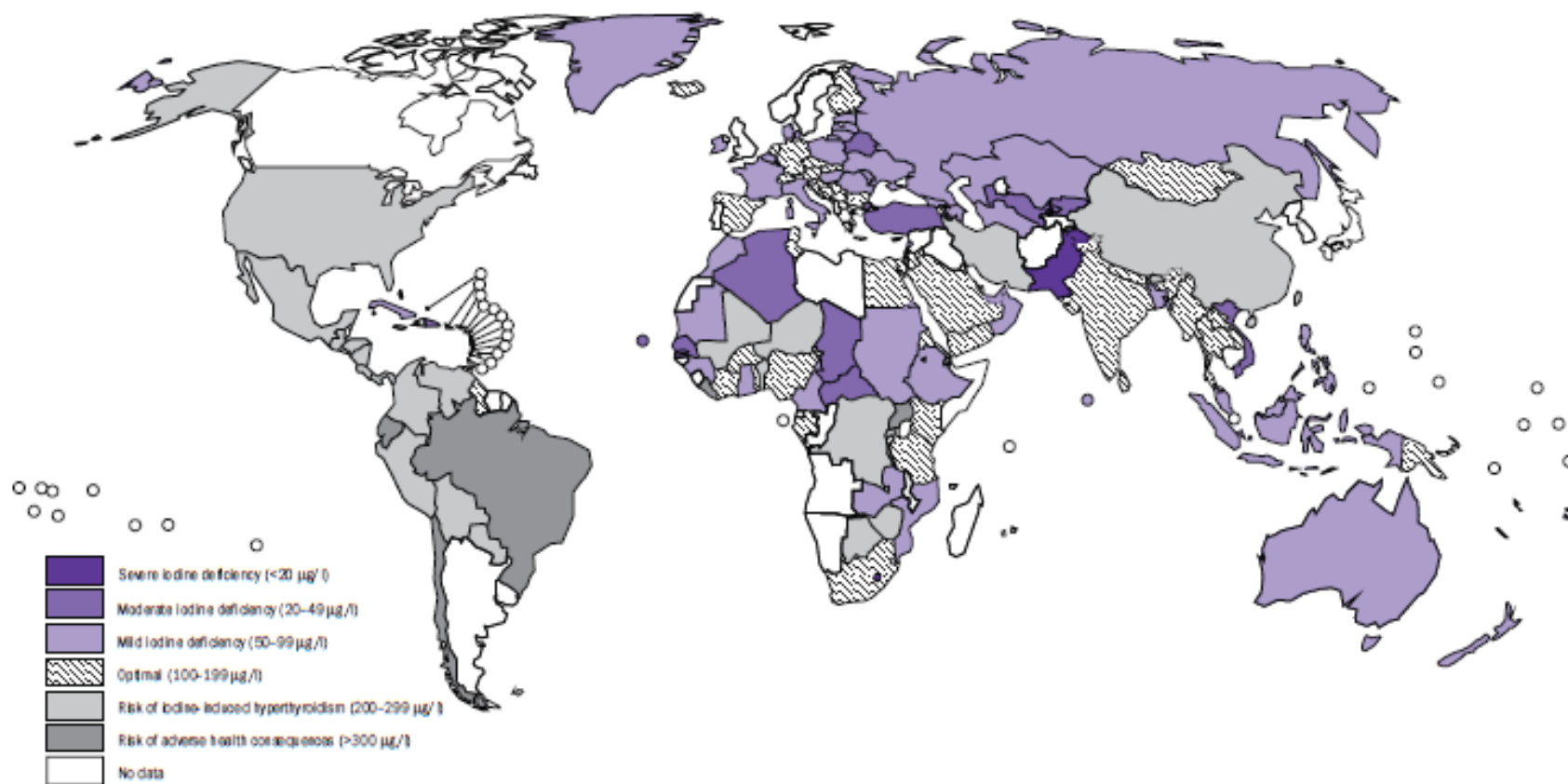
The density of hookworm egg ranged from 48 epg to 11,520 epg with mean and median values of 685 and 288 epg respectively.

Among those subjects with hookworm, 83.9% were anemic. On the contrary only 41 (22.5%) study subjects who appeared negative for hookworm on stool examination were anemic

[Dori GU](#), [Tullu KD](#), [Ali I](#), [Hirko A](#), [Mekuria G](#). Prevalence of hookworm infection and its association with anemia among patients visiting Fenan Medical Center, East Wollega Zone, Ethiopia. [Ethiop Med J](#). 2011 Jul;49(3):265-71.

Public health significance of Iodine

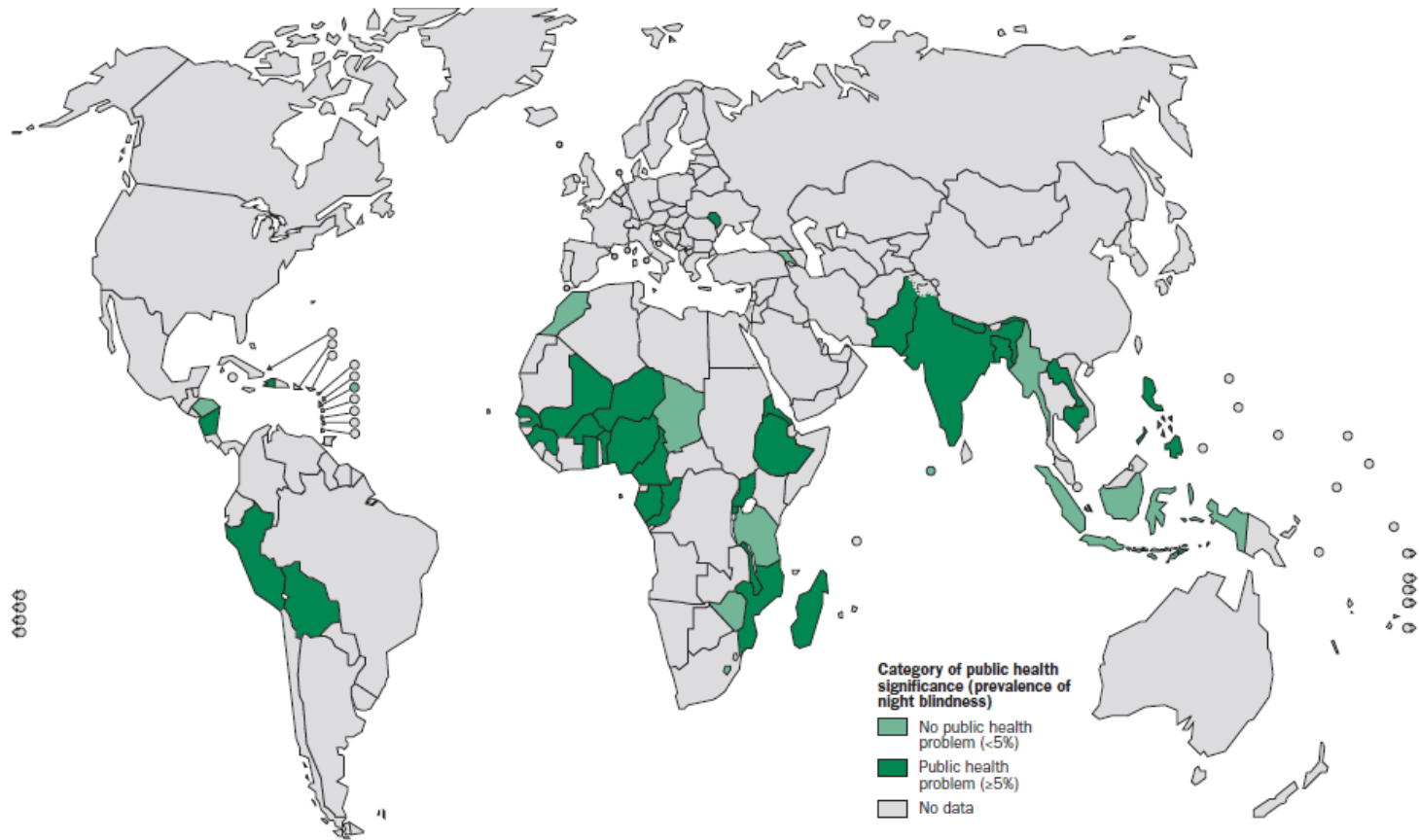
Figure 3.3 Degree of public health significance of iodine nutrition based on median UI



Iodine

- 93.8% salt tested
- 15.4% salt Iodized
- 11.3 , 11.7, 14.7, 15.6, 22.3
- 35.8% of mothers with goiter
- 83% pop. reside in iodine deficient areas
- IQ difference Of 13.5 points

Night blindness as a public health problem

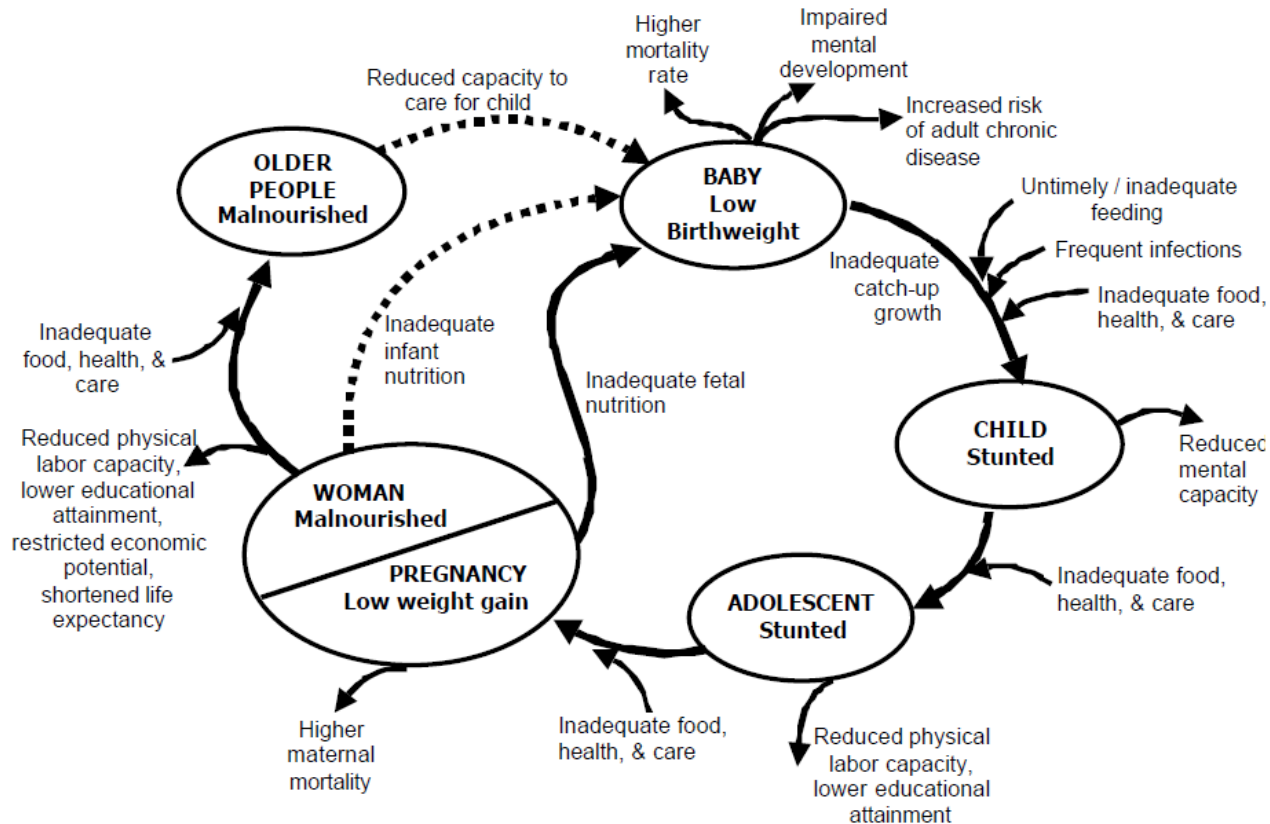


Vitamine A

- 20.4% Urban
- 15.0% rural
- 15.8% national average

- Bitot spot prevalence 1.7%
- Night blindness among women 22% (WHO)

The intergenerational link



Source: ACC/SCN-IFPRI, 2000

Multiple micronutrient supplementation

Only 21 trials (involving 75,785 women) contributed data to the review.

When compared with iron and folate supplementation,

MMS resulted in a statistically significant decrease in the number of

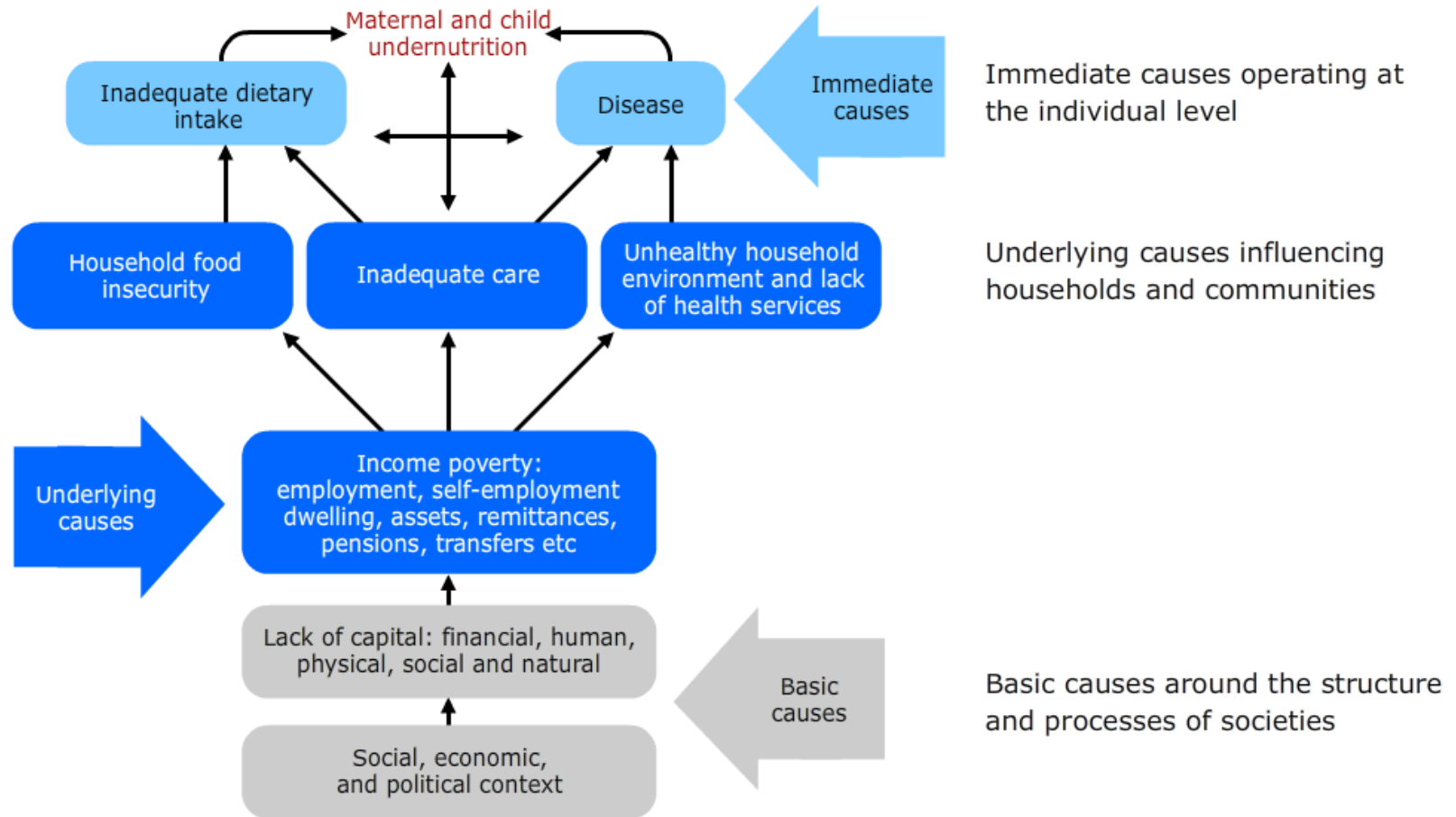
- low birth weight babies (risk ratio (RR) 0.89; (0.83 to 0.94)
- small-for-gestational age (SGA) babies (RR 0.87; 95% CI 0.81 to 0.95).

No statistically significant differences were shown

- preterm births RR 0.99 (95% CI 0.96 to 1.02),
- miscarriage RR 0.90 (95% CI 0.79 to 1.02),
- maternal mortality RR 0.97 (95% CI 0.63 to 1.48),
- perinatal mortality RR 0.99 (95% CI 0.84 to 1.16),
- stillbirths RR 0.96 (95% CI 0.86 to 1.07) and
- neonatal mortality RR 1.01 (95% CI 0.89 to 1.15).

Underlying problems

Conceptual frame work of malnutrition

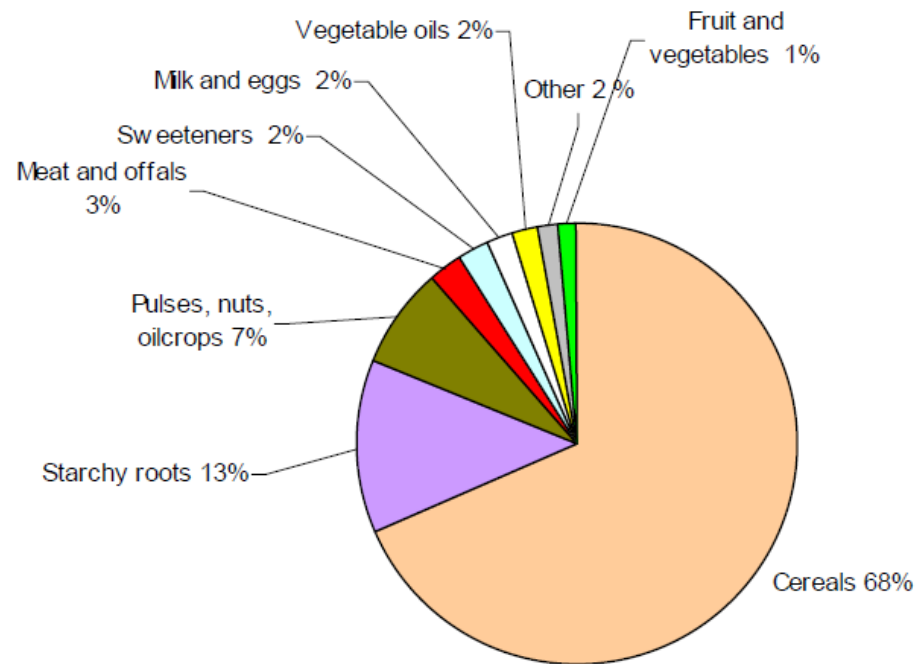


Health seeking

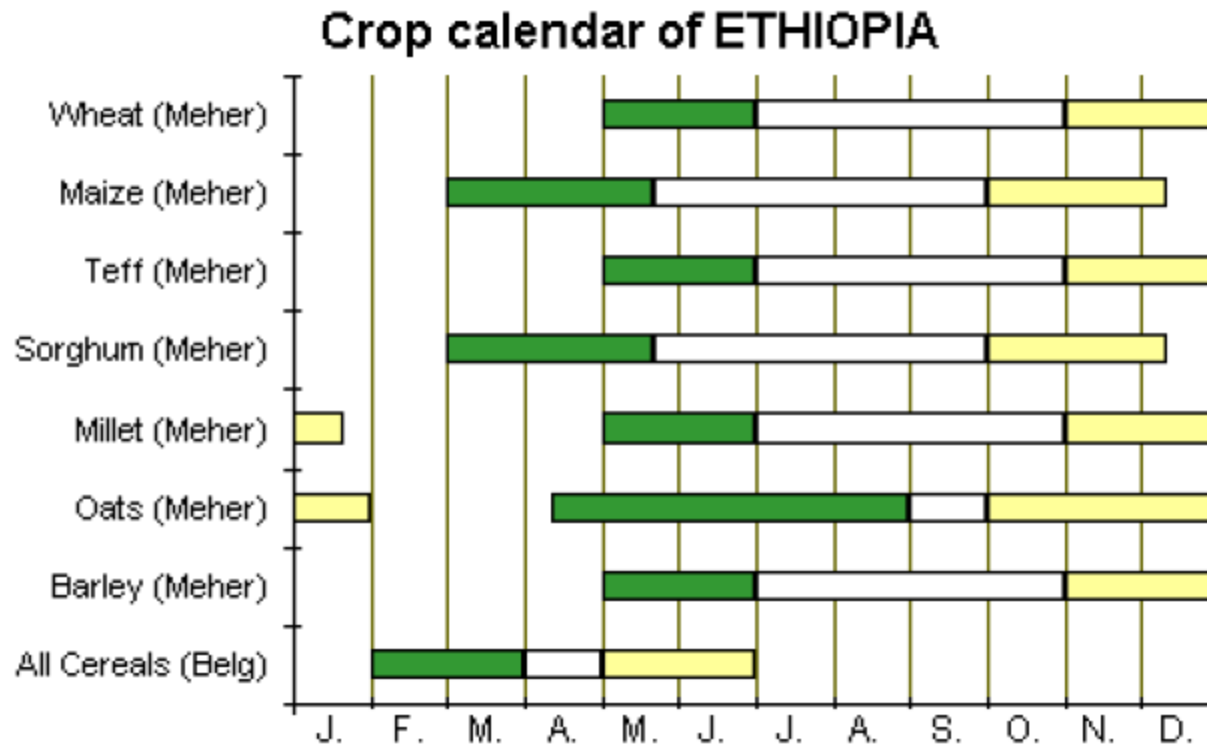
• Ante natal attendance	34%	71.4%
• Skilled attendance	10%	16.8%
• Postnatal care	6.6%	36.2%

Some issues on malnutrition

- Gender issues
- Dietary mix



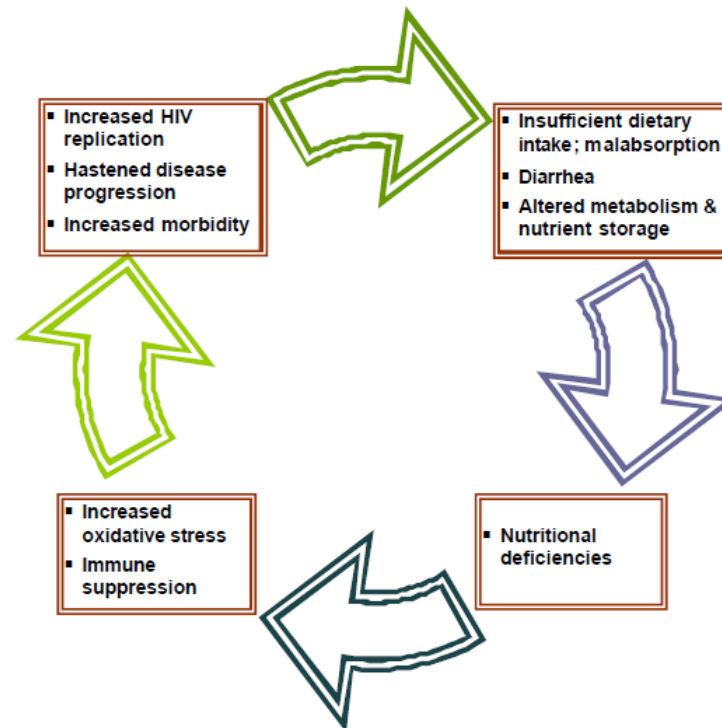
Some issues on malnutrition ...



Some issues on malnutrition

- Chronic illnesses

The vicious cycle of HIV/AIDS and malnutrition



Source: Adapted from Semba & Tang 1999

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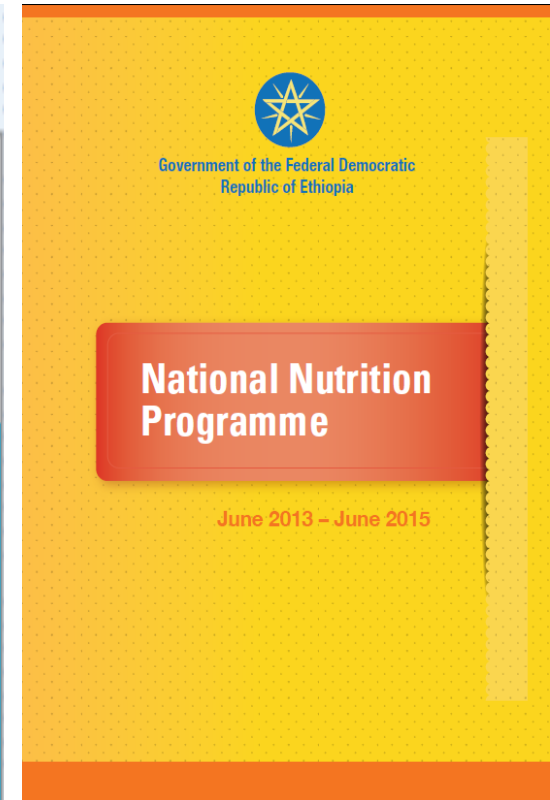
The way out

Strategic Objective 1:

Improve the nutritional status of women (15–49 years) and adolescents (10–19 years)

2015 Targets

- Reducing the proportion of adolescent girls aged 15–19 with a BMI <18.5 from 36 percent to 25 percent.
- Reducing the prevalence of anemia among pregnant women from 22 percent to 12 percent.



Rolling out NNP

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