

Saving mother and child's lives through adequate nutrition

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Outline

- Introduction
- Maternal, newborn and child health status
- Direct causes of mortality
- Underlying cause of mortality: malnutrition
- Malnutrition in mother, child and newborn
- ~~Infant and Young Child Feeding~~
- The Way Forward

Introduction

- ❑ Satisfactory nutrition depends on an adequate and balanced intake of proteins, carbohydrate, fats, vitamins and minerals.
 - ❑ Hence nutritional disorders may result from intake of:
 - a) Insufficient food (total nutrients) resulting in undernutrition**
 - b) Food deficient in specific nutrients resulting in malnutrition eg lack of Vit D—rickets**
 - c) Too much food (excess calorie intake) resulting in obesity**
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- ❑ “Malnutrition is implicated in more than half of all child deaths worldwide—a proportion unmatched by any infectious disease since the black death.
 - ❑ Yet, it is not an infectious disease. Its ravages extend to the millions of survivors who are left crippled, chronically vulnerable to illness, and intellectually disabled.
 - ❑ It imperils women, families and, ultimately the viability of whole societies.”

UNICEF: State of the World's

Children

Status of Maternal, Newborn and Child health

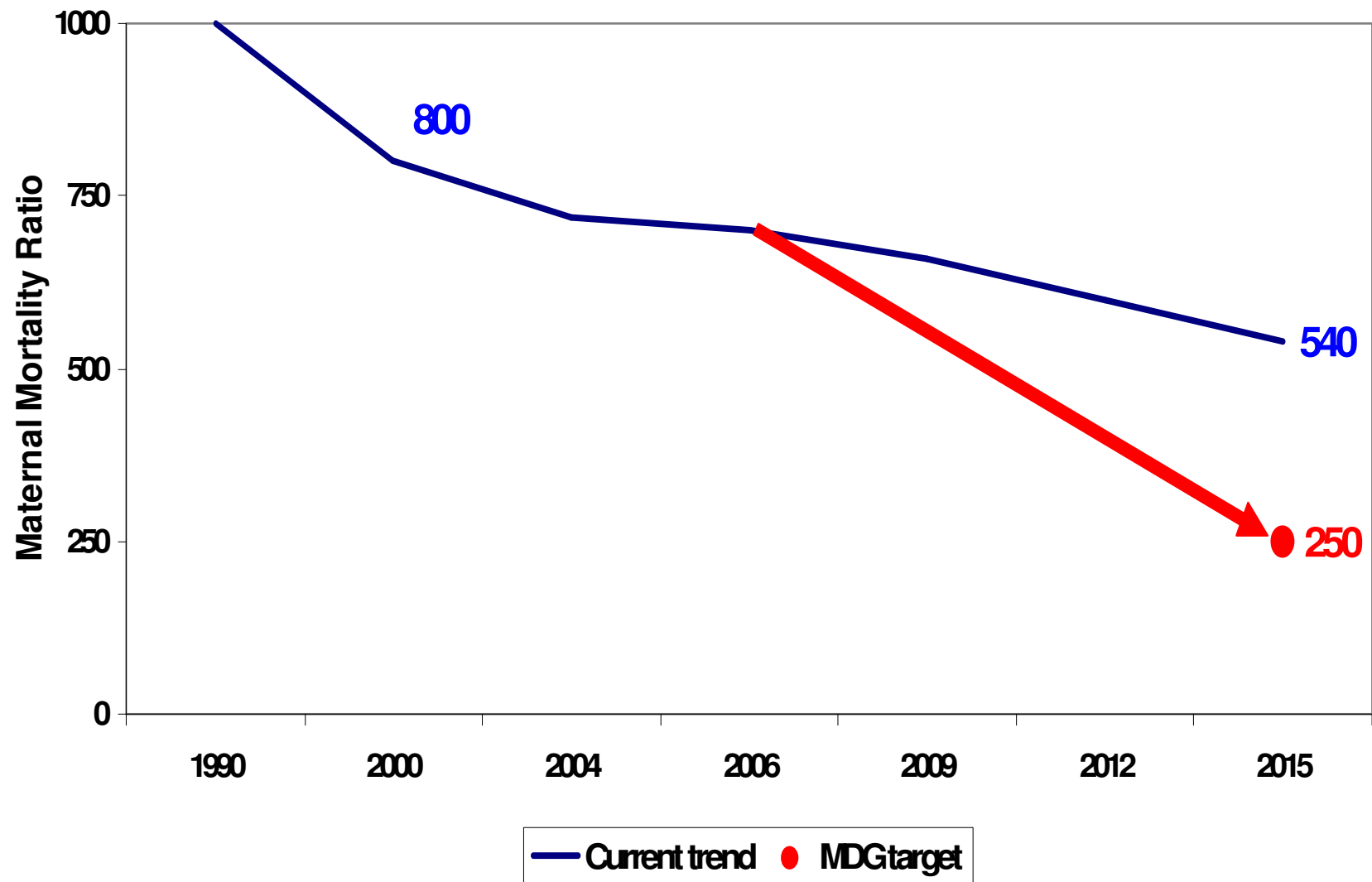
- ❑ Each year globally, 11 million mothers, babies and young children die unnecessarily-preventable deaths
 - ❑ In Nigeria, many more women and children die when compared to most other countries.
 - ❑ The country loses about 2,300 under-five year olds daily
 - ❑ And also 145 women of childbearing age daily
 - ❑ Thus making Nigeria the second largest contributor to the under-five (U5MR) and maternal mortality ratio (MMR) in the world by virtue of its population.
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Nigeria---maternal mortality

- ❑ MM Ratio ranges from 800-1,500 per 100,000 live births
 - ❑ MM Ratio less than 10 per 100,000 live births in most industrialized countries
 - ❑ In Nigeria 53,000 maternal deaths per year ...approx 145 per day.
 - ❑ 1 death = 30 morbidities
 - ❑ Every 10 minutes in Nigeria, a woman dies of pregnancy related complications
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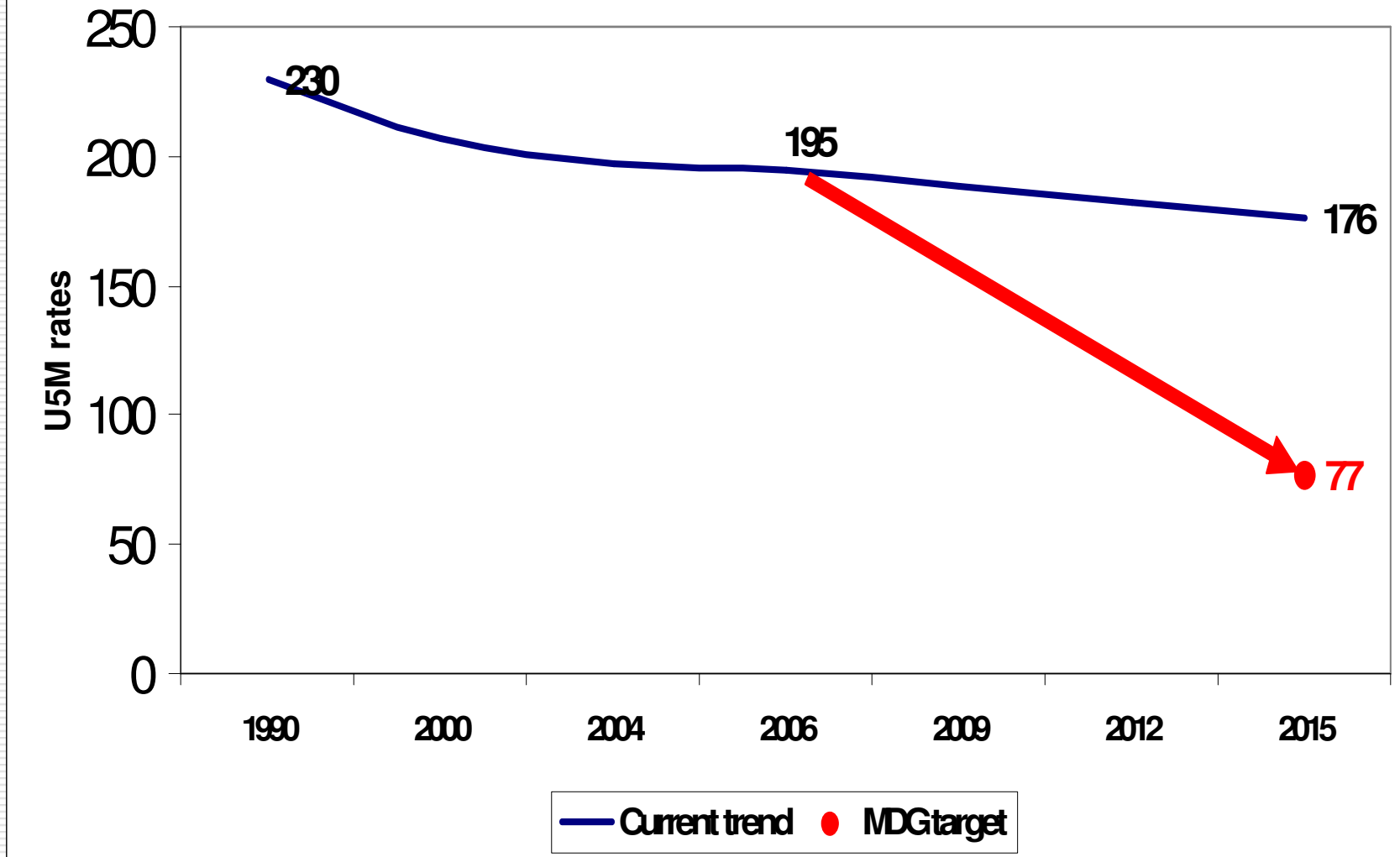
Nigeria Trend in Maternal Mortality



Nigeria--Under five mortality

- ❑ Out of about 5.3 million children born in Nigeria annually, 1 million die before age of 5years
 - ❑ Under five MR 201 per 1,000births
 - ❑ Every minute 2 under five children die
 - ❑ Nigeria contributes about 10% of the global under five mortality
 - ❑ Deaths are mainly from preventable causes
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Trends in U5M rates



Nigeria—Neonatal mortality

- ❑ Out of the one million U5MR, newborn deaths constitute 25-30%
- ❑ Each year an estimated 284,000 newborn babies in Nigeria die in the first month of life
- ❑ Nigeria's newborn deaths is about 700 per day
- ❑ Nigeria ranks 3rd highest in the world in neonatal mortality
- ❑ Contributes highest number of newborn deaths in Africa
- ❑ 90% of these deaths are preventable

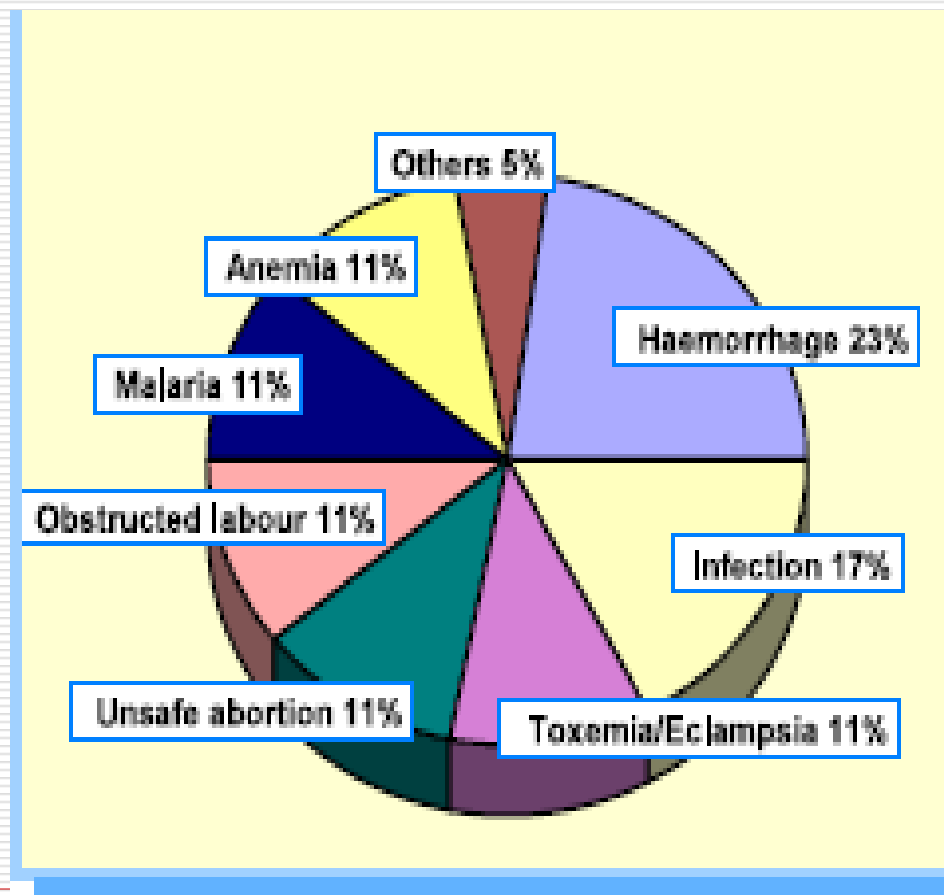
African countries with the highest numbers of newborn and maternal deaths in Africa

COUNTRY	Rank for number of newborn death	Number of newborn death	Rank for number of maternal death
NIGERIA	1	255,500	1
DR CONGO	2	130,900	2
ETHIOPIA	3	119,500	3
TANZANIA	4	44,900	8
UGANDA	5	44,500	6
KENYA	6	43,600	4
COTE d'IVOIRE	7	42,800	16
ANGOLA	8	40,100	5
MALI	9	36,900	9
NIGER	10	31,700	7

MNCH in relation to the MDGs 4 and 5

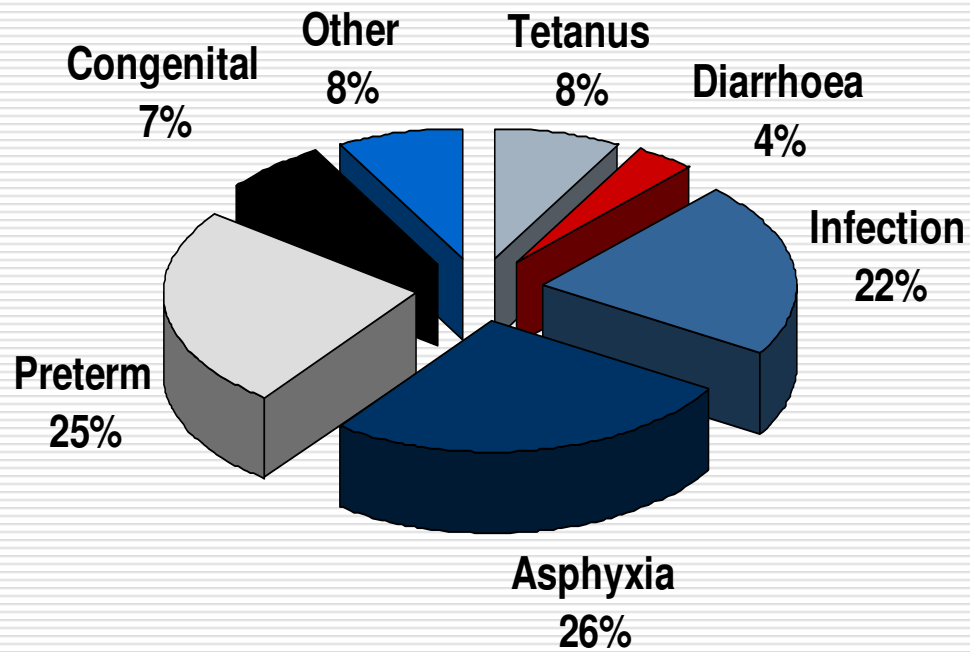
- Given that its population is the largest in Africa, Nigeria's failure to make inroads into the MDGs significantly influenced the progress report that the goals are very unlikely to be achieved in Sub-Saharan Africa.
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Direct Causes of Maternal Mortality



Direct causes of neonatal mortality

60 to 90% of neonatal deaths are in LBW babies, mostly preterm



Contribution of LBW to Neonatal Mortality

- ❑ 25% of newborn deaths in Nigeria are **directly** due to complications of preterm birth
 - ❑ National LBW figure for Nigeria is 14%..approx 75% not weighed at birth
 - ❑ Preterm birth and low birth weight is an **indirect** cause in up to about 80% of newborn deaths in Nigeria.
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Foetal origin of chronic diseases

The Hypothesis is that :

- Factors operating during pregnancy or early post-natal development may predispose individuals toward diabetes and heart diseases.
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Clinical and experimental evidence

- Compared to infants with birth-weight >4kg,

In LBW infants:

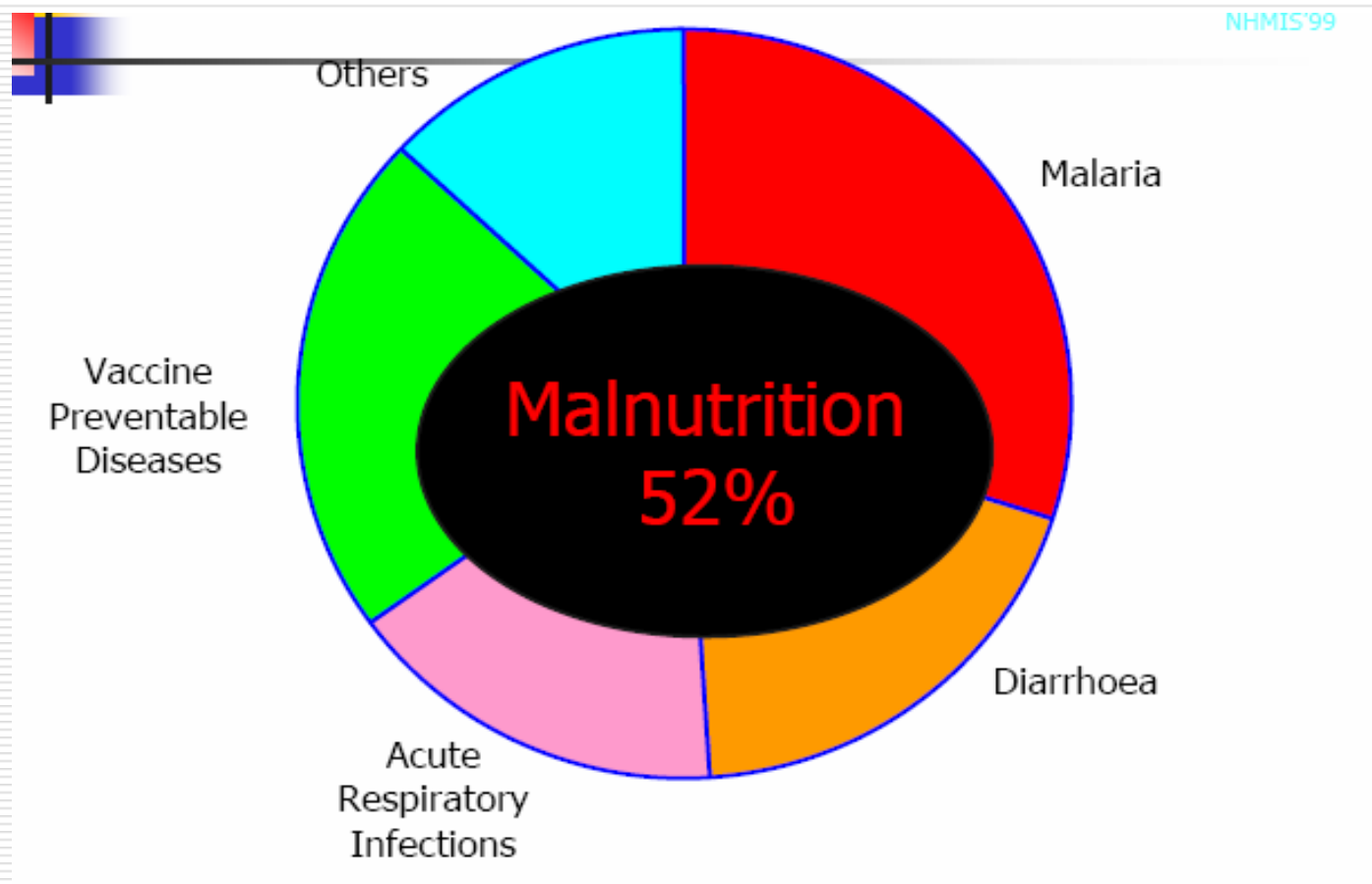
-26% had impaired glucose tolerance

-17% were afflicted with diabetes at age 64yrs.

-200% more likely to die of heart disease before 65yrs.

(Hoet,J.J 1997)

Direct causes of Under-five mortality



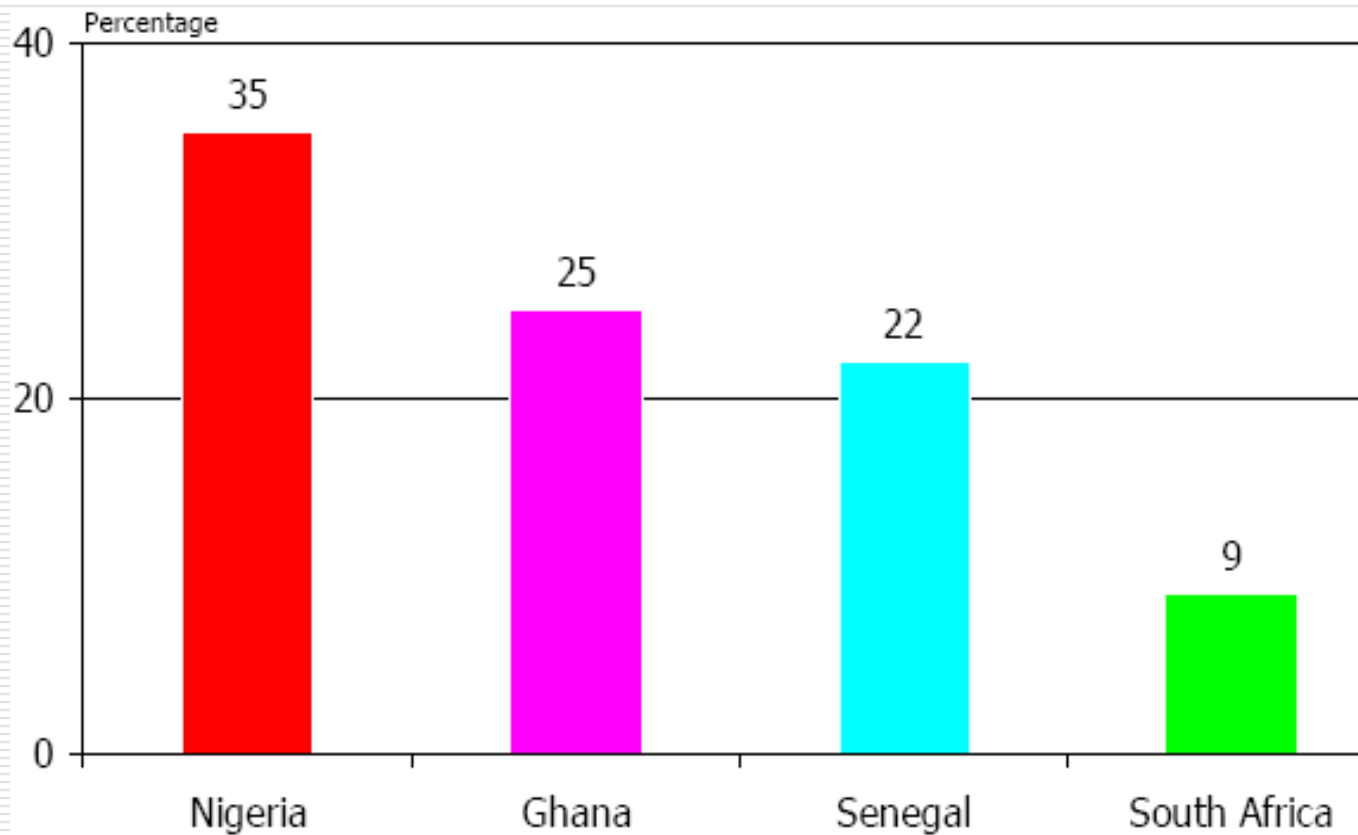
Underlying cause of mortality in MNCH: Malnutrition

- ❑ Nutrition is a major thrust for maternal newborn and child health.
 - ❑ Good nutrition is an important predictor of pregnancy outcome for both mother and infant.
 - ❑ Early and exclusive breastfeeding for first 6mths is recommended for infants for nutritional, immunologic and psychological benefits.
 - ❑ Home based complementary feeds from 6months
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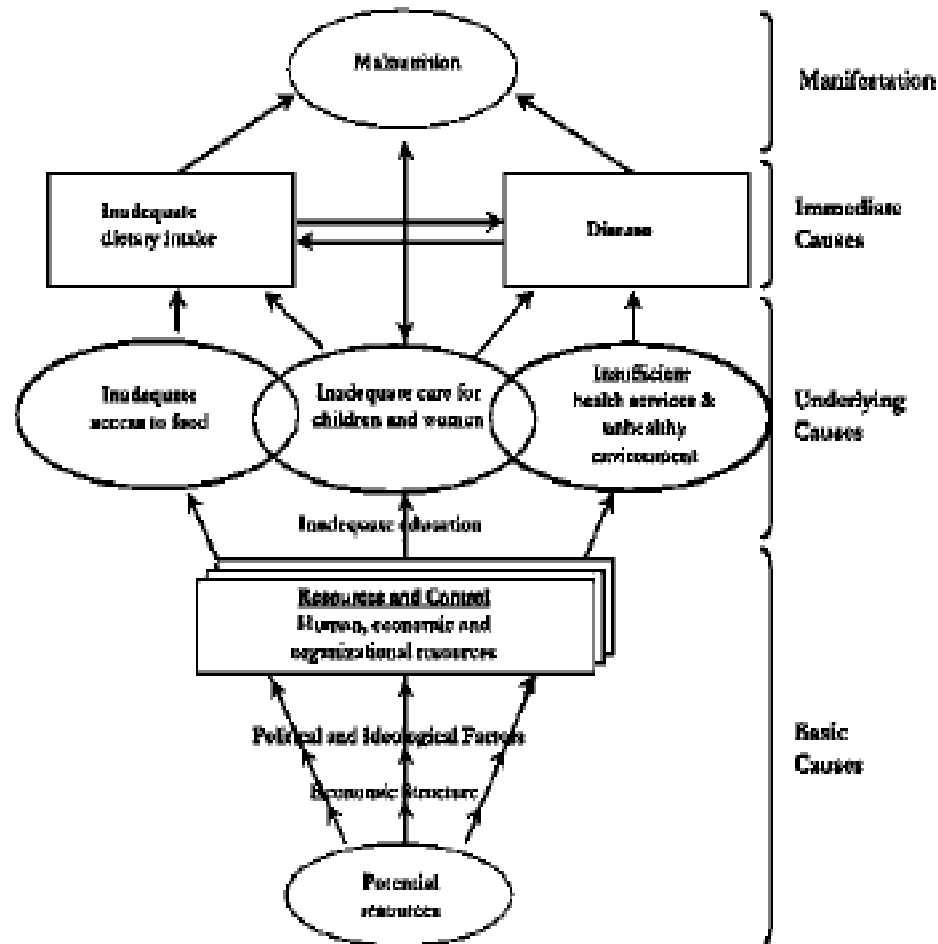
Nutrition Disorders and nutrients lacking

- ❑ Protein, calories --Protein Energy Malnutrition PEM (eg Kwashiokor)
 - ❑ Vitamin A—Xerophthalmia (blindness)
 - ❑ Vitamin B1(Thiamine)--Beri-Beri
 - ❑ Vitamin B2(Riboflavin)—cheilosis, angular stomatitis (cracks at angle of mouth, lips)
 - ❑ Vitamin C---scurvy (bleeding gums, mouth sores)
 - ❑ Vitamin D---Rickets
 - ❑ Iron, Folic acid—Anaemia
 - ❑ Iodine—Goitre
 - ❑ Calcium—Rickets, osteomalacia
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Protein-Energy Malnutrition



Conceptual framework for the causes of Malnutrition



Predisposing factors to malnutrition

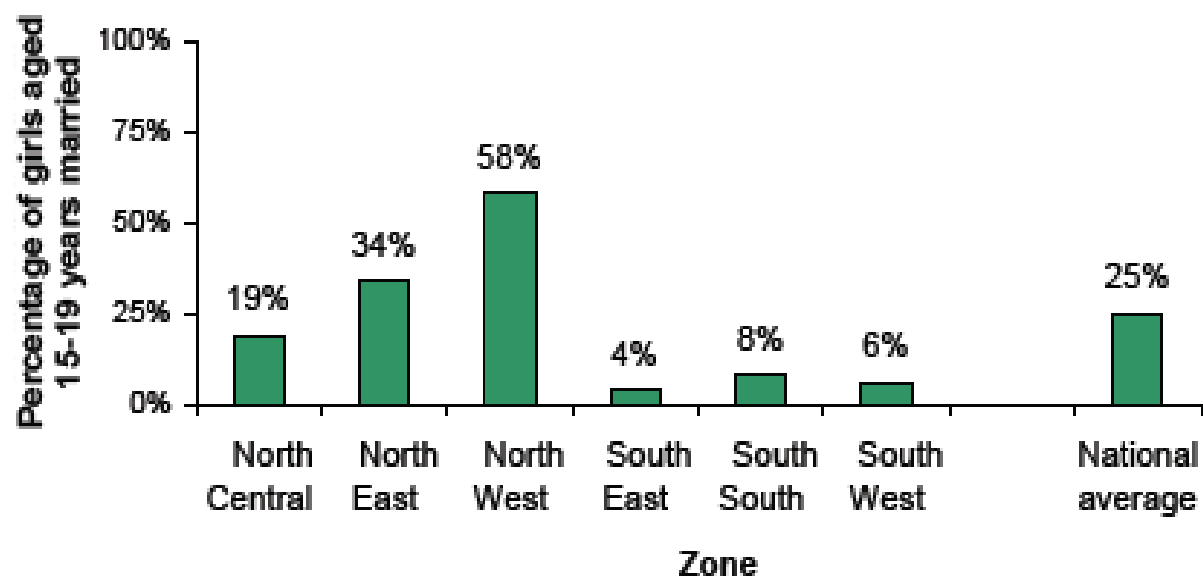
- Poverty
 - Illiteracy
 - Ignorance
 - Breastfeeding practices
 - Lack of adequate information and support on good feeding practices
 - Inadequate emphasis on nutrition of the girl child and adolescents
 - Teenage pregnancy/Early marriages
 - Cultural beliefs, taboos, bad customs
 - Parasites/infections/infestations esp diarrhoea
 - Access to health services
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Poverty

- ❑ In 2007, Nigeria had the twelfth highest oil production in the world.
 - ❑ Despite this and a wealth of other natural resources, Nigeria ranks as the thirteenth poorest country in the world.
 - ❑ According to the World Bank, two out of every three Nigerians live below the extreme poverty level (less than \$1 USD per day) and
 - ❑ 90 percent of Nigerians live on less than \$2 USD per day
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Early marriages

Figure 1.7: Percentage of girls aged 15-19 years who are married, by zone



Source: ¹

Continuum of care

- ❑ Girl child---male preference
 - ❑ Adolescent ---calories, Fe, Folic acid, Ca, zinc, Vitamins
 - ❑ Pre-pregnancy---Folic acid, Vit D
 - ❑ Pregnancy—calories (285 cal/day), vitamins, Fe , Folic acid
 - ❑ Birth-blood loss-anaemia
 - ❑ Postnatal/Lactation/Breastfeeding-calories,extra 500cal/day, Vit A, Fe
 - ❑ Newborn—early and exclusive breastfeeding 6mths
 - ❑ Child—complementary feeds, adequate nutrition, vitamins, minerals
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With malnutrition...

Adolescents

- Anaemic
 - Increased incidence anomalies in pregnancy
 - Low immunity, increased infections
 - More co-morbidities
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Mothers

- Malnourished mothers
 - Anaemia in pregnancy
 - Cephalopelvic disproportion-obstructed labour
 - More low birth weight
 - More intrauterine growth restriction
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Newborns

- Low birth weights (80-90% mortality)
 - Hypothermia
 - Hypoglycaemia
 - Infections
 - Foetal origin of chronic diseases
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Children

- Stunting (chronic malnutrition)
 - Wasting (acute malnutrition)
 - Protein energy malnutrition (PEM)
 - Anaemia
 - More likely to die from common childhood ailments like diarrhoeal diseases and respiratory infections
 - For those who survive, frequent illness can have longer term detrimental effects on healthy growth and development.
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NDHS 2008

- ❑ Stunting(Ht for age)---Average 41%. Rural 45% Vs 31% urban. Uneducated mothers 51%, educated mothers 20%.
 - ❑ Wasting (Wt for ht)---Ave 14%. Half severely wasted. Rural 15% vs 11% urban. 20% uneduc mothers. 6% educ mothers.
 - ❑ Underweight (Wt for age)--- Ave 23%. 27% rural vs 16% urban. Uneduc 34%. Educ mothers 8%
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Micronutrient deficiency in women and U5 children in Nigeria (NFCNS 2001-2003)

Group	Vit A	Iron	Iodine	Zinc	Vit B	
Women <49yrs	13.1	24.3	30.7	28.1	13.0	
Children <5yrs	29.5	27.5	27.5	20.0	22.6	

Infant and Young Child Feeding

Components

- ❑ Exclusive breastfeeding for six months.
- ❑ Continued breastfeeding with safe, appropriate and adequate complementary feeding up to 2 years or beyond.
- ❑ Related nutrition and reproductive health care for the mother, including delay of first birth and spacing of births three to five years apart.

Early and Exclusive breastfeeding

- ❑ Breastfeeding should start as soon as possible after delivery, and within the first 30 minutes.
 - ❑ Immediate breastfeeding hastens the expulsion of the placenta, contracts the uterus, and reduces blood loss.
 - ❑ Breastfeeding prevents low blood sugar, and provides the newborn with nutrition tailored to its needs
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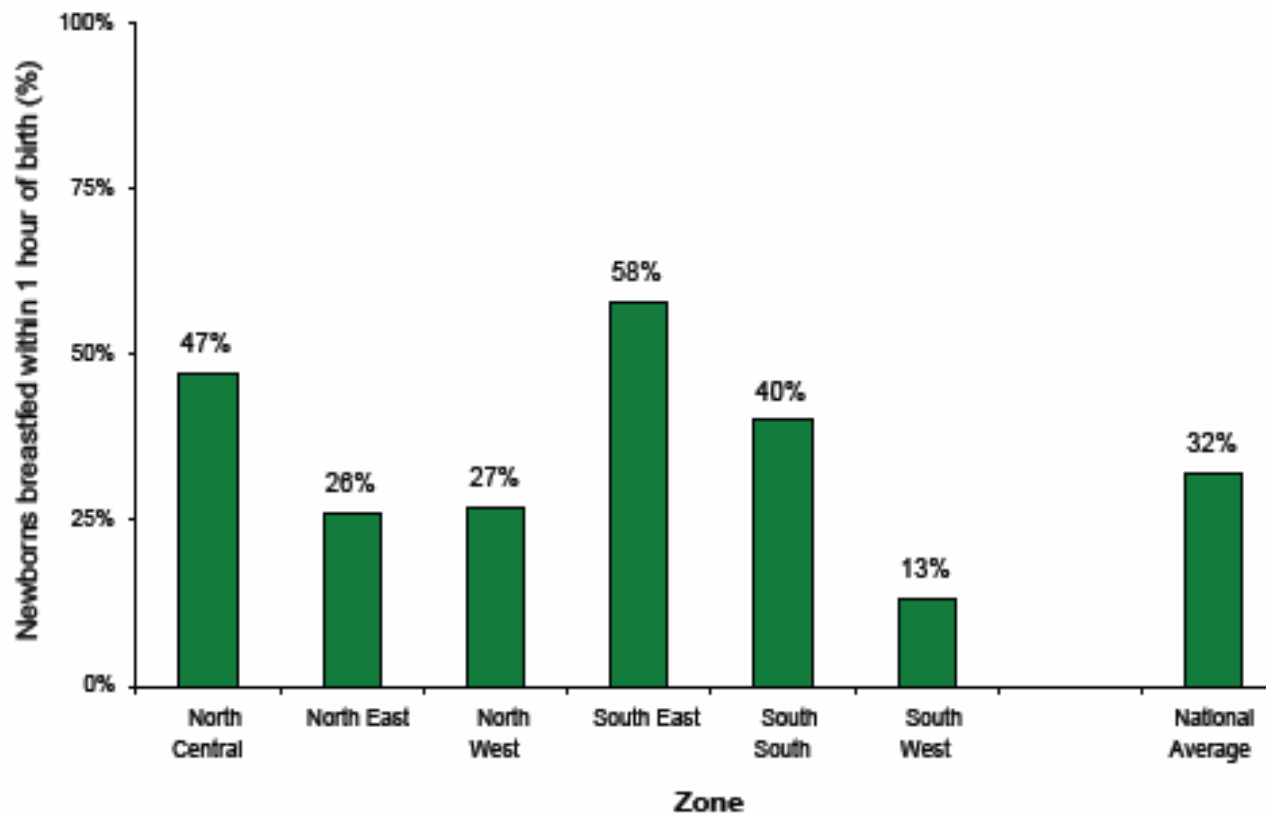
Breast feeding

- ❑ Breast milk is one of the most important foods to help develop the body and intelligence of the child.
 - ❑ Breast milk is rich in substances that protect the child's body (antibodies), reducing the chance of infections--pneumonias, diarrhoea
 - ❑ If the child is breastfed, this protection continues until the child's second birthday.
 - ❑ Unlike other liquids including water, breast milk is free from contamination, has the right temperature, contains all necessary nutrients, is easily digested.
 - ❑ Bonding/psychological advantages.
 - ❑ Family planning
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Breastfeeding

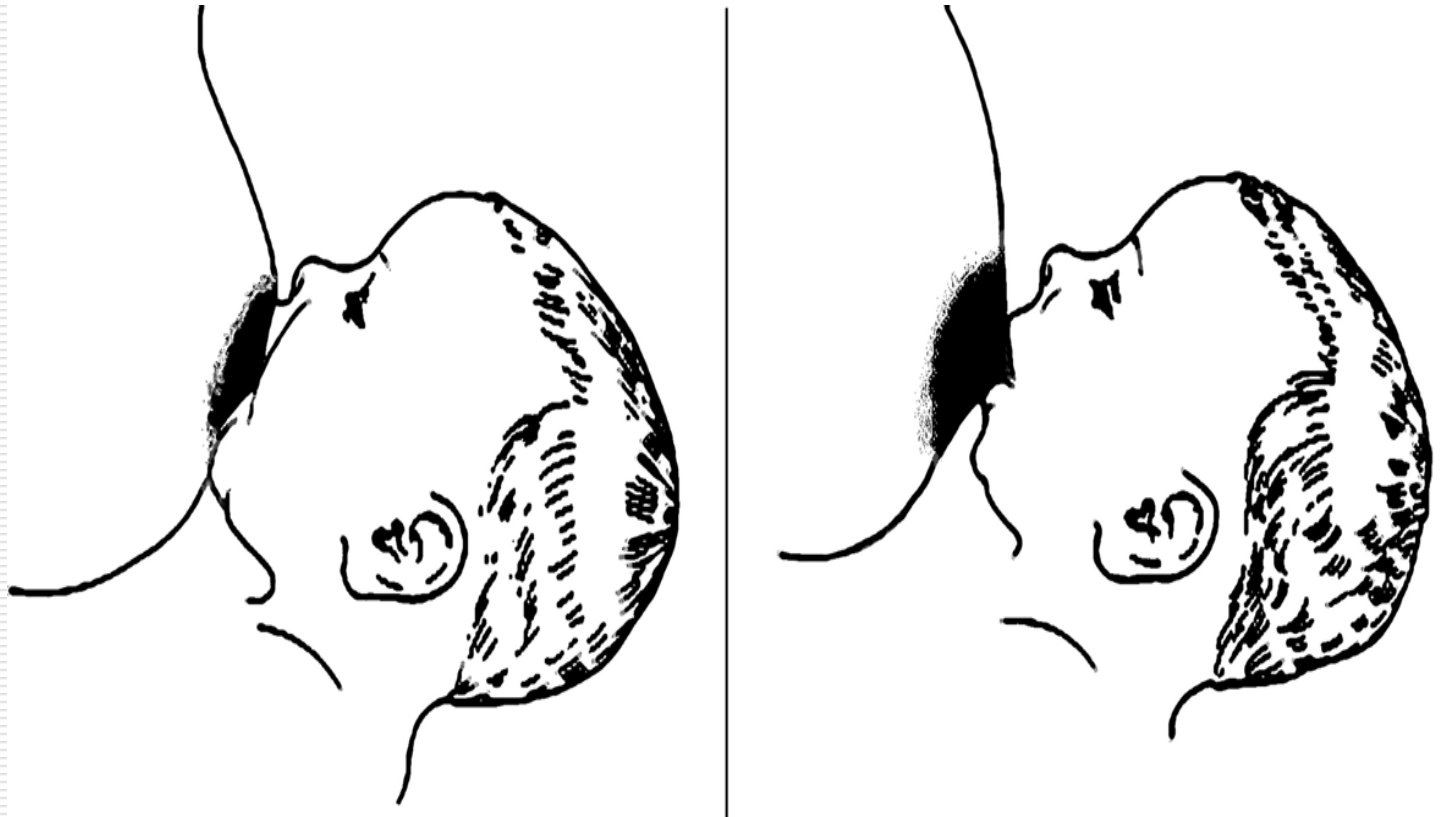
- ❑ Findings from a landmark study in Ghana show that both timing of initiation and type of breastfeeding pattern exert independent influences on neonatal mortality.
- ❑ Twenty-two percent of newborn deaths could be averted if breastfeeding started within one hour of delivery and 16 % could be averted if breastfeeding started within the first day.
- ❑ In addition, the risk of neonatal death was four times higher in those newborns not exclusively breastfed during the first month.

% newborns breastfed within 1hr of birth



Source: 4

GOOD AND POOR ATTACHMENT TO THE BREAST



NDHS 2008

- ❑ 13% exclusively breastfed
 - ❑ 34% of age 0-5mths were given plain water
 - ❑ 35% of infants 0-5mths are given complementary foods
 - ❑ 75% of infants 6-9mths are given complementary foods
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The way forward

There are roles at all levels

- Individual/family levels
 - Governments' levels
 - Professional Associations' level
 - Private Sector's level
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Individual/Family level

- ❑ Prioritize food and care for adolescents, pregnant and lactating mothers and their infants
- ❑ Breastfeed exclusively for six months and continue breastfeeding for 2 years or more
- ❑ Follow guidelines for complementary feeding and care practices for infants and young children
- ❑ Emphasize food group diversity, responsive feeding/eating, and adequate physical activity throughout the life cycle

National level

- ❑ Alleviate poverty
 - ❑ Female education
 - ❑ Increase food production
 - ❑ Develop national policies that prioritize and safeguard nutrition security
 - ❑ Interventions: Food fortification with micronutrient (Salt ----Iodine, Flour—Vit A, Veg oil—Vit A)
 - ❑ Establish a sustainable institutional framework to guide and monitor food and nutrition programs.
 - ❑ Ensure provision of adequate foods in schools; School Health Program
 - ❑ Emphasize nutrition education in schools
 - ❑ Improve sanitation: safe water
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Professional associations

- Conduct and support problem-oriented nutrition research
- Provide governments with evidence based advice
- Establish food based dietary guidelines
- Conduct vigorous and sustained advocacy
- Vital role of mass media on nutrition education

Private sector's role

- ❑ Actively support Governments' efforts at reducing under-nutrition in women & children.
 - ❑ Proactive in addressing negative issues in nutrition transition
 - ❑ Support for regular Nation-wide nutrition data collection
 - ❑ Development of appropriate high impact complementary foods/supplements
 - ❑ Sustained Advocacy for Nutrition to
 - * Nigerian Governments
 - * Foreign Governments
 - * International Development Partners
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Conclusion

- ❑ Only a concerted effort by all stakeholders will bring adequate nutrition and health to all mothers, newborn and children towards the attainment of MDG 4 and 5 in Nigeria
 - ❑ The time for action is now!!
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Thanks so much for listening



chan Hubschman/Save the Children

o save newborn lives.
