

# Anaemia

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# Definition

Reduced level of RBC, measures as Hb

Different limits depending on gender and age

All are anaemic if Hb < 11.0

Severe anaemia if Hb < 5.0

# Function

RBC's are oxygen carriers

Lungs to tissue

# Symptoms of anaemia

Fatigue

palpitations

breathlessness/dyspnoea

dizziness

headache

heart failure

decreased resistance to infections

increased risk of illness/mortality

increased risk of low birth weight/ preterm delivery

children get impaired cognition/ reduced ability to learn

In general anaemia is very common here!

Especially here due to worms and malaria

# Anaemia

Hb needs different compounds derived from food in order to function

These are in particular iron, B12 and folate

# Food sources for iron

meat

green leaf vegetables

beans and lentils

potatoes

fortified cereals

milk (not breastfeeding) reduces the uptake of iron

C-vitamin increases the uptake of iron

# Food sources for b-vitamins

B12: meat, liver, fish, eggs, peanuts, dairy products

Folate: fruits, green leaf vegetables, kidneybeans



# Causes of anaemia

## IRON DEFICIENCY

Due to reduced intake: Insufficient foods

Increased requirements: growth, pregnancy, lactation

Increased losses: Bleeding (GI-bleeding, trauma, menstruation), worms

# Causes of anaemia

B-VITAMIN DEFICIENCY:

Reduced intake: foods

Increased requirements: for folate it's pregnancy

Increased losses: GI -worms

# Causes of anaemia

## MALARIA

The parasite destructs RBS in blood stream.

The body fights the infection for instance in spleen and there destroys RBC.

Recurrent malaria infection in small children can lead to severe anaemia, especially if insufficient treated

# Causes of anaemia

HEMOGLOBINOPATHY; Sickle cell anaemia

Hb-pathy's are different inheritable diseases caused by a defect genetic programming of the Hb molecule making them look different.

Protects against malaria

if you have inherited the trait from both parents ( homozygot) it can cause severe anaemia and premature death. If you have only one trait (heterozygot) it causes milder symptoms.

typical for sickle cell anaemia are pain crises due to clotting of the sickled RBC causing microinfarctions.

# Causes of anaemia

## INFALMMATION

Causes anaemia due to different inflammatory processes in the body.

Ex infections, TB, HIV, malignancy.

# Which type of anaemia

FBC - full blood count

other tests

Here, often a combination of things

# Treatment

- 1) treat underlying illnesses like infections, malaria, worms etc
- 2) supplement what is lacking; iron, folate, B12
- 3) Blood transfusion: If Hb < 4.0 or Hb between 4-6 and patient has symptoms of anaemia