THE REPUBLIC OF UGANDA

Ministry of Health

NATIONAL ANAEMIA POLICY

FEBRUARY 2002

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PREFACE

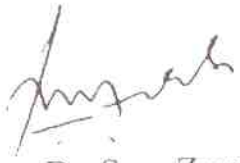
Anaemia is the most widespread nutrition related public health problem world - wide. There are several causative factors leading to anaemia. This makes a multi - sectoral approach towards prevention and control of anaemia crucial.

Iron deficiency and more particularly iron deficiency anaemia is a major cause of anaemia. Anaemia is ranked among the top ten causes of outpatient morbidity in Uganda and is associated with serious life threatening consequences.

Anaemia has a negative effect on social and economic development due to the negative impact it has on productivity of the affected individuals, including reduced academic performance of school children.

This makes it a more eminent condition to address with urgency, as poverty eradication is a priority of the Government of Uganda.

Considering the magnitude of the problem of anaemia in Uganda and its associated adverse consequences, this National Anaemia Policy has been prepared in order to guide and strengthen existing interventions as well as improve coordination and collaboration of the key players in the prevention and control of anaemia.



Dr. Sam Zaramba
Director for Health Services (Clinical and Community)

NATIONAL POLICY ON ANAEMIA

1.0 INTRODUCTION

Anaemia is defined as lower than acceptable level of hemoglobin or haematocrit in blood with respect to the individual. Anaemia is the most widespread nutrition related public health problem. Asia and Africa are the most affected regions with prevalence rates reaching 50 per cent in women and children.

2.0 JUSTIFICATION

The magnitude of anaemia is high in Uganda and the multifactor causes are known. Anaemia has significant adverse effects and consequences. Progress in tackling anaemia in general and iron deficiency anaemia in particular has been slow despite the fact that it is reflected in international goals and resolutions as well as various national policies. Uganda has no specific policy on anaemia. Currently there are various policies in place which address anaemia but there is need to pool them and come out with a comprehensive national policy in order to address anaemia holistically.

3.0 SITUATION ANALYSIS

3.1 DEMOGRAPHY AND OTHER KEY INDICATORS

The population of Uganda is estimated to be about 22 million (2000 projection), 86 per cent of which lives in rural areas. Children aged 5 years constitute 19 per cent, and women in the reproductive age constitute 21 per cent. The IMR is 88 per 1,000 live births, the U5MR is 152 per 1,000 live births and the MMR is 499 per 100,000 live births (1). The proportion of low birth weight is 23 per cent. Among children under five years, 39 per cent is stunted (low height for age), 23 per cent is under weight (low weight for age) and 4 per cent is wasted (low weight for height).

3.2 CAUSES

There are several causative factors leading to anaemia as a public health problem. Iron deficiency and more particularly iron deficiency anaemia is the most widespread nutritional deficiency in the world. Other causes of anaemia include other macro and micronutrient deficiencies, malaria, worm infestation, genetic factors and disorders as well as chronic infection and disease.

3.3 ANAEMIA PREVALENCE

Anaemia is ranked among the top ten commonest causes of outpatient morbidity in Uganda and is responsible for 2.3 per cent of the burden of disease. Among pregnant women, 50 per cent suffers from Iron deficiency Anaemia and about 30 per cent of maternal deaths are attributed to anaemia. In some parts of Uganda up to 65 per cent of post partum women suffer from anaemia. In children, iron deficiency anaemia is among the major deficiencies that affect school children and is responsible for 4.3 per cent of all deaths and 3 per cent of all admissions (2). There is also evidence of a high prevalence of anaemia among pre school children in Uganda. The UDHS 2000 indicated that 30% women and 18% men were anaemic. UDHS also showed that there is a correlation between level of anaemia in the mother and the level of anaemia in the children age 6 – 59 months. If a mother is moderately anaemic 44% of the children are likely to be moderately anaemic. Prevalence of anaemia in children under five years is 64% (UDHS 2000).

(1) UDHS 2000

(2) AFRICA NUTRITION 1995

Iron deficiency anaemia, which is common whenever diets do not include iron rich foods, especially during periods of rapid growth, pregnancy, lactation, bleeding including menstruation and ill health. Anaemia can also result from deficiencies of Vitamins A, C, folate and others of the B group.

In Uganda malaria due to plasmodium falciparum is the commonest cause of morbidity and mortality, accounting for 80 to 90 per cent of the infections and often resulting in severe and recurrent anaemia. In areas where malaria is endemic, it is often the primary cause of anaemia in the population.

Intestinal worm infestation in particular, hookworm, but also parasites like schistosoma are common in pre- school and school age children, and are an important cause of anaemia in this age group.

Other causes of anaemia in Uganda are genetic disorders, in particular sickle cell disease, and chronic infections such as HIV/AIDS, tuberculosis and urinary tract infections. Sickle cell anaemia is a life threatening condition. Anaemia may complicate chronic conditions such as cancer, renal problems and bone marrow disorders.

4.0 CONSEQUENCES OF ANAEMIA

Anaemia is associated with serious and life threatening consequences such as maternal mortality and morbidity, perinatal mortality and morbidity, low birth weight, and child morbidity and mortality.

It also contributes to lowered resistance to diseases, increased susceptibility to infection, poor cognitive development, impaired physical development, poor school performance, reduced work capacity with adverse implications to social and economic development.

About 30% maternal deaths are attributed to anaemia. In some parts of Uganda up to 65 per cent of post partum women suffers from anaemia. In children, iron deficiency anaemia is among the major deficiencies that affect school children and is responsible for 4.3 per cent of all deaths and 3 per cent of all admissions (2). There is also evidence of a high prevalence of anaemia among pre - school children in Uganda.

5.0 CURRENT INTERVENTIONS

Various complementary interventions for prevention and control of anaemia exist in various areas namely: Reproductive Health, Malaria Control Programme, Integrated Management of Childhood Illnesses, Environmental Health, School Health, the nutrition section and clinical services for sickle cell anaemia and the blood transfusion services.

5.1 WOMEN

At present interventions for prevention of anaemia are targeted towards reproductive health, in particular pregnant women, and these include:

Pregnant women are encouraged to attend antenatal care at least four times during the period of pregnancy during which time they receive iron and folic acid tablets to boost their haemoglobin formation

During pregnancy the women undergo physical and laboratory examinations to assess the levels of haemoglobin in order for corrective action to be taken in time.

All pregnant women must receive a preventive dose of fansidar during the second and third trimester of pregnancy to protect them from malaria.

Through antenatal care, screening of women for common illnesses is done, treatment given and referral of complicated cases done.

5.2 CHILDREN

Among children under five, on going interventions include the following:

Mothers are encouraged to breast feed all children from birth for the first six months of life without introducing any complementary feeds (exclusive breastfeeding).

Complementary feeds are introduced at the age of six months with continued breast-feeding for a period of two years or beyond.

All children of age six months to fifty-nine months receive a high dose Vitamin A capsule every six months.

At the age of one year, children are given the first dose of tablets for worm infestations and this is repeated every six months there after.

5.3 SICKLE CELL DISEASE

Special Sickle Cell Clinics are conducted for persons with sickle cells during which all sicklers receive preventive anti- malarial doses and receive folic acid tablets daily to supplement the excessive loss due to the frequent destruction of the abnormal cells. However the special sickle cell clinic based interventions are not being implemented countrywide.

6.0 DIAGNOSIS, TREATMENT, PREVENTION AND CONTROL

Early diagnosis and treatment are important in order to prevent the adverse effects of anaemia. Diagnosis of anaemia can be based on clinical, laboratory, and dietary assessment. Treatment depends on the severity, age, type and cause of the anaemia. In general, anaemia is a preventable condition, but requires multiple interventions, multi-sectoral approach, political will and resource mobilization.

7.0 EXISTING POLICIES ON ANAEMIA

7.1 INTERNATIONAL POLICIES

The World Summit for Children in 1990 set a global goal of anaemia reduction among pregnant women by 30% to be achieved by the year 2000. This goal has not been met and has now been extended and expanded in the outcome document of the UN Special Session on Children, supposed to be held in May 2002, which calls for a reduction of anaemia prevalence by 30% in each country by the year 2010.

7.2 NATIONAL POLICIES

At national level, anaemia reduction has been placed within the context of the Poverty Eradication Action Plan realizing the impact of anaemia on social and economic development. Other supportive policies are the National Health Policy with protection against nutrition related diseases as one of the components of the National Minimum Health Care Package, and the Food and Nutrition Policy which calls for an elimination of micro-nutrient deficiencies with particular emphasis on iron deficiency anaemia.

8.0 GOAL

The goal of this policy is to reduce the morbidity and mortality due to anaemia and its complications in the Uganda population.

9.0 OBJECTIVES

Policy objectives that will contribute to achieving the overall goal are:

1. To improve management of sickle cell anaemia
2. To ensure early detection and treatment of anaemia
3. To eliminate iron deficiency anemia and other micronutrient deficiencies
4. To support and strengthen complementary policies relevant to anaemia namely: prevention and control of malaria, prevention and treatment of worm infestations, integrated management of childhood illnesses, reproductive health and school health policies.

10.0 IMPLEMENTATION STRATEGIES

Multiple interventions will be integrated into existing health services to address anaemia prevention and control with emphasis on high-risk groups.

10.1 OVERALL STRATEGIES

1. Carrying out appropriate case management of anaemia in all age groups based on cause and degree of anaemia.
2. Supplementation of groups vulnerable to anaemia with iron and folic acid tablets will be done according to the recommended routine.
3. Promotion of diet diversification, which involves cultivation (production), and consumption of iron rich foods and other nutrient rich foods will be done.
4. Promoting and advocating for Public Health measures relevant to anaemia prevention and control such as appropriate sanitation and immunization against childhood illnesses will be done.
5. Advocacy for fortifying of selected foods with iron for selected target groups will be done.

10.2 SPECIFIC INTERVENTION PACKAGES FOR HIGHEST RISK GROUPS

PREGNANT WOMEN

1. Pregnant women will be screened for anemia and corrective measures taken.
2. All pregnant women and women within the first six weeks since delivery will be given routine supplementation with iron and folic acid tablets and counseling will be done to ensure compliance.

3. All expectant mothers will be given preventive doses of fansidar as recommended by the malaria policy.
4. Anti- worm tablets will be regularly administered to groups vulnerable to worm infestations.
5. Nutrition education and dietary counselling to promote consumption of iron rich foods will be conducted.

Adolescent girls (10 – 19 years of age)

1. Adolescent girls will be given supplements of Iron and folic acid tablets
2. Tablets for getting rid of worms will be given regularly.
3. Dietary counselling to promote consumption of iron rich foods will be done
4. Life skills training on sexual and reproductive health will be conducted.

Pre school children (under 6)

1. Promotion of exclusive breastfeeding for the first 6 months followed by adequate complementary feeding and continued breastfeeding for two years or beyond;
2. Promotion and support of optimal feeding practices providing adequate quantity and quality of food at the recommended frequency will be done;
3. Detection and management of anaemia for corrective action will be done;
5. Management of childhood illnesses will be done in a holistic manner;
6. Routine administration of tablets to get rid of worms will be done;
7. High dose vitamin A capsules will be given to all children of age 6-59 months every six months.
8. Immunization will be done for the preventable childhood illnesses;
9. Advocacy for complementary foods fortified with iron will be done.

School age children (6-12 years of age)

1. All children in the school age bracket will be given tablets against worms regularly;
2. Appropriate fecal and refuse waste disposal facilities will be ensured;
3. Sanitation and hygiene education will be conducted;
4. Nutrition education and counselling on appropriate feeding practices will be done;
5. Advocacy for fortified food e.g. biscuits for school children will be done.

Sickle Cell Anaemia patients

1. Women suffering from sickle cell disease will be counselled on the risk of future pregnancies;
2. All sicklers will be given Folic acid tablets to supplement their daily requirements;
3. All sicklers will receive preventive doses against malaria;
4. Appropriate care and nutrition education for sickle cell patients will be ensured.

10.3 SUPPORTIVE STRATEGIES

1. Advocacy and social mobilization through a comprehensive communication Strategy will be done;
2. Building partnership among various stakeholders who have complementary; contribution towards prevention and control of anaemia will be ensured;

3. Promotion of operational research and information sharing in the area of anaemia will be done.

10.4 POLICY IMPLEMENTATION

National level working group on anaemia with membership from MOH relevant departments and development partners shall be formed. This working group shall be responsible for the coordination between various stakeholders and shall play an advisory role to the Government. Specific Terms Of Reference shall be developed.

Under guidance of the working group, Ministry of Health and other line ministries, the decentralized health system, development partners and the community shall all play their specific roles as spelt out in the Policy Guidelines.

10.5 QUALITY ASSURANCE, MONITORING AND EVALUATION

Monitoring of the policy is essential and will be done at various levels to assess inputs, weaknesses and achievements using set out indicators. Periodic evaluation will be conducted with an aim of judging whether the policy is effectively implemented in order to provide opportunity to revise and strengthen it.

10.6 LEGAL IMPLICATIONS

The Government shall provide enabling laws and regulations for the smooth implementation of this policy.

11.0 FUNDING

The Government of Uganda with development partners shall mobilize resources to cover implementation of the anaemia policy.

ANNEX I

IRON SUPPLEMENTS FOR CHILDREN TO PREVENT ANEMIA

CHILDREN 6-24 MONTHS OF AGE

Prevalence of Anemia in Children	Dosage (Daily)	Birth Weight Category	Duration
♦ 40%	12.5 mg iron + 50 ug folic acid daily	Normal	from 6-12 months of age
		Low Birth Weight (< 2500g)	from 2-12 months of age
♦ 40%	12.5 mg iron + 50 ug folic acid daily	Normal	from 6-24 months of age
		Low Birth Weight (< 2500g)	from 2-24 months of age

Notes: Iron dosage for children 2-5 years of age is based on 2mg iron/kg Body Weight

INDIVIDUALS OVER 2 YEARS OF AGE

Group	Dosage (Daily)
Children 2-5 years	20-30 mg iron
Children 6-11 years	30-60 mg iron
Adolescents and adults	60 mg iron

Notes: Iron dosage for children 2-5 years of age is based on 2 mg iron/kg Body Weight.

- If the population group includes girls or women of reproductive age, 400 ug of folic acid should be included with the iron supplement f or the prevention of birth defects in those who become pregnant.
- Research is ongoing to determine the most cost-effective dosing regimen for iron supplementation

to these age groups in different contexts. The efficacy of one or twice-weekly supplementation in these groups appears promising and the operational efficiency of intermittent dosing regimens is being evaluated. While policy recommendations are being formulated, program planners should adopt the dosing regimen believed to be most feasible and sustainable in their communities.

Source: INAGG/WHO/UNICEF 1998

N.B: Weekly iron Supplementation should be considered in Uganda.

ANNEX 2

TREATMENT FOR PARASITES TO PREVENT ANEMIA

FOR CHILDREN ABOVE FIVE YEARS OF AGE AND ADULTS

If hookworms are endemic (20-30% prevalence or greater), it will be most effective to combine iron supplementation with anthelminthic treatment for adults and children above the age of 5 years. The following single-dose treatments are recommended to be given at least once yearly.

Albendazole:	400 mg single dose (Not drug of choice in Uganda)
Mebendazole:	500 mg single dose (recommended drug of choice in Uganda)
Levamisole:	2.5 mg/kg single dose
Pyrantel:	10 mg/kg single dose

If urinary schistosomiasis is endemic, provide annual treatment for urinary schistosomiasis to school-age children who report having blood in their urine.

Praziquantel:	40 mg/kg single dose

Source: INAGG/WHO/UNICEF 1998

Mebendazole is the drug of choice in Uganda because Albendazole is too expensive and no generic formulation is available.

ANNEX 3

TREATMENT OF SEVERE ANEMIA IN CHILDREN

Definitions of Severe Anemia

- 1st choice: Hemoglobin <7.0 g/dl, or hematocrit <20%

  2nd choice: Blood spot on filter paper, formerly the Talqvist method (kits available from WHO).

  3rd choice: Extreme pallor of conjunctiva, palm, or nail beds, or breathlessness at rest.

Note: Any child with oedema or severe visible wasting should be considered severely anemic.

Deciding Whether to Treat or Refer Cases of Severe Anemia

Criteria for REFERRAL to a specialized clinic, doctor or hospital:

Signs of respiratory distress or cardiac abnormalities (e.g., labored breathing at rest or oedema).

Cases that are NOT REFERRED should be

treated as follows:

Age Group	Dose	Duration
< 2 years	25 mg iron + 100-400ug folic acid daily	3 months
2-12 years	60 mg iron + 400 ug folic acid daily	3 months

Notes: After completing 3 months of therapeutic supplementation, infants should continue preventive supplementation regimen.

Children with oedema or severe wasting should be assumed to be severely anemic. However, delay oral iron supplementation until the child regains appetite and starts gaining weight, usually after 14 days.

FOLLOW-UP OF TREATED CASES OF SEVERE ANEMIA

Children diagnosed with severe anemia and treated with oral iron and folate therapy should be asked to return for evaluation one week and four weeks after iron supplementation is begun. The purpose of this follow-up is to refer children who are in need of further medical attention. At that time, children should be referred to a hospital if:

Their condition has worsened at the one-week follow-up visit *OR*

If their condition shows no improvement at the four week follow-up visit

Source: INAGG/WHO/UNICEF 1998

Details of Iron and folic acids doses in severe anaemia for different age groups will be found in the treatment guidelines of Intergrated Management of Childhood Illness (IMCI) and in the National Anaemia guidelines.

ANNEX 4

IRON/FOLIC ACID SUPPLEMENTS FOR PREGNANT WOMEN TO PREVENT ANAEMIA

FOR ALL PREGNANT WOMEN

PREVALENCE OF ANAEMIA IN PREGNANT WOMEN IN THE AREA	DOSE	DURATION
< 40%	60 mg iron +400 ug	Six months in pregnancy (or if started late, extend to postnatal period for a total duration of six months)[b]
> 40%	60 mg iron + 400 ug folic acid daily	Folic acid daily Six months in pregnancy, plus continuing to three months post-partum (or a total duration of nine months)

Notes:

a. Where iron supplements containing 400 ug of folic acid are not available, an iron supplement with a lower level of folic acid may be used.

b. If six months duration cannot be achieved, increase the dose to 120 mg iron in pregnancy.

Source: INAGG/WHO/UNICEF 1998.

ANNEX 5

TREATMENT GUIDELINES ON MALARIA IN PREGNANCY[2]

Intermittent presumptive treatment (IPT) of malaria in pregnancy with Sulfadoxine-pyrimethamine (SP) Fansidar and chemoprophylaxis).

This is where a pregnant woman living in Uganda is presumed to have malaria and is treated with full dose of sulfadoxine – pyrimethamine (SP) Fansidar periodically. The target population includes:

- Those of low gravidity i.e. primigravidae and secundigravidae.
- HIV infected
- Adolescents (10-24 years).
- Sicklers.
- All those with unexplained anemia
- All those from hypo endemic areas: Kabale, Kisoro, Rukungiri, Bushenyi, Ntungamo, Kapchorwa, Kabarole, Kasese, Bundibugyo, Kibaale, etc.

Dosage:

Sulfadoxine – pyrimethamine (SP) or Fansidar should be given as a single adult dose (3 tablets) during the second and third trimester.

- 1st dose; between 16 (quickening) and 24 weeks of gestation.
- 2nd dose: between 28 and 36 weeks of gestation.
- In special categories like HIV sero positive mothers, 3 doses of SP (at least 1 month apart) should be given between 16 and 36 weeks of gestation.

Note:

- Sulphadoxine – pyrimethanine (SP) is not recommended for use in the 1st trimester (<12 weeks of gestation).
- SP is also not recommended shortly prior to delivery i.e. after 36 weeks of gestation.
- SP should not be given to mothers with the history of hypersensitivity or allergy to sulpha drugs;instead chloroquine should be given as a full course first, then 2 tablets given weekly as a chemoprophylasis until delivery.
- SP should be given at ANC clinic or at least where there is supervision of an enrolled midwife through a Directly Observed Treatment (DOT) method.
- SP should be administered as part of the ANC parcel with products like anti-helminths (Mebendazole 500mg) in the 2nd and 3rd trimester and haematinics (iron and folic acid) daily to fight anemia which is responsible for more than 50% of maternal morbidity.
- Folic acid supplementation should be delayed for one week after SP administration.
- Each mother must be educated on safe motherhood versus malaria and its effects in pregnancy, benefits of IPT, and role of SP in IPT, its dosage, benefits, safety and side effects.

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[2]**Treatment guidelines on Malaria in pregnancy, MOH (2000)**

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ANNEX 6

TREATMENT OF SEVERE ANAEMIA IN WOMEN

DEFINITIONS OF SEVERE ANAEMIA

1st Choice: Hemoglobin <7.0g/dL, or hematocrit <20%.

2nd Choice: Blood spot on filter paper, formerly the Talqvist method (kits available from WHO).

3rd Choice: Extreme pallor of conjunctive, palm, or nail beds, or breathless-ness at rest (see photo in Protocol 16).

DECIDING WHETHER TO TREAT OR REFER CASES OF SEVERE ANAEMIA

Criteria for REFERRAL to a specialized clinic, doctor, or hospital:

Pregnant woman beyond 36 weeks gestation (i.e., in the last month of pregnancy).

Any woman with signs of respiratory distress or cardiac abnormalities (e.g. labored breathing at rest or edema).

Cases that are not REFERRED should be treated as follows:

	DOSE	**DURATION**
Adolescents and Adults, including pregnant women	120 mg + 800 ug folic acid daily	3 months

Note: After completing three months of therapeutic supplementation, pregnant women and infants should continue preventive supplementation regimen, as recommended.

FOLLOW-UP OF TREATED CASES OF SEVERE ANEMIA

Individuals diagnosed with severe anemia and treated with oral iron and folic therapy should be asked to return for evaluation one week and four weeks after iron supplementation is begun. The purpose of these follow-up visits is to refer individuals in need of further medical attention.

At that time, individuals should be referred to a hospital ***OR***

If their condition shows no improvement at the four-week follow-up visit.

Source: INAGG/WHO/UNICEF 1998.

ANNEX 7

UNCOMPLICATED MALARIA TREATMENT

1st line treatment

Chloroquine+SP Or chloroquine alone

- Chloroquine and SP (Sulphadoxine 500mg + pyrimethamine 25g) combination therapy is recommended in areas of high chloroquine resistance i.e. resistance over 25%. While chloroquine alone is recommended in areas of low resistance below 25%.

Dosage:

Chloroquine (25mg/kg on 3rd day, +SP 25mg/kg sulphadoxine + 125mg/kg) as a single dose on 1st day (i.e. CQ tabs 4:4:2 + Fansidar 3 stat).

- However, due to unknown teratogenic and kernicterus risks, SP should not be used outside (16-36 weeks) period, even in areas of high resistance to chloroquine, instead oral quinine should be used for 7 days as 1st line drug.
- Note: These drugs should be administered orally, and first doses given as Directly Observed Treatment (DOT).

Parental drugs should only be given in cases that cannot tolerate oral medication such as repeated vomiting.

2nd line treatment

Oral quinine tablets: In case of failure to 1st line treatment

- Oral quinine should be used as 2nd line doses of 10mg/kg 8 hourly in 5% dextrose solution till the patient can take orally, then continue with oral quinine 10 mg 8 hourly to make a total of 7 days. Additional glucose should be given to counteract the effects of quinine.
- However, in 2nd and 3rd trimester (i.e. 16-36 wks) instead of the 7 days, the quinine regime could be abbreviated with a single dose of SP on the 3rd day when then the patient is stable.
- For pre-referral treatment, deep intramuscular quinine of 10mg/kg injection (diluted 100 mg/ml) on anterior part of the thigh should be given.

***Note: No loading dose should be given to pregnant mothers for fear of adverse effects like hypoglycemia, oxytocic effects.

Support therapy

Efforts should be made to correct complications e.g.

- Severe anemia by transfusion
- Fluid and electrolyte balance
- Convulsions by anticonvalsants

- Hyper pyrexia by antipyretics
- Renal failure through renal support or Refer to a physician

Artmesinin derivatives (where possible)

- Artemesinin: 20 mg/kg as loading dose on 1st day given orally, then 10mg/kg once a day for the next 6 days.
- Artesunate: 4 mg/kg as loading dose on 1st day orally, then 2 mg once a day for the next 6 days.
- Artemether: 4 mg as loading dose 1st day orally or by injection, then 2 mg/kg once a day for the next 6 days.

2. Mothers should be encouraged to use insecticide treated mosquito nets (ITNs) and other environmental measures like proper domestic sanitation, repellents etc.
3. Malaria in pregnancy case management. In case of suspected overt malaria in Pregnancy, efforts should be made to make a diagnosis by taking a complete history and carry out a thorough physical examination and where possible carry out necessary investigations. However, investigations should not cause delay in instituting treatment. Management of malaria in pregnancy depends on presentation of the disease.

ANNEX 8

TREATMENT OF UNCOMPLICATED MALARIA[3]

General principles of treatment:

- Always give a full treatment, the right number of tablets over the right number of days.
- Give drugs orally unless the patient vomits repeatedly.
- If symptoms persist but there are no danger signs, wait at least 72 hours before you change treatment. Whenever possible a laboratory test for malaria parasites should first be done.

You should be aware that drug failure is more likely to be seen in young children and pregnant women who do not have good immunity.

If patient does not respond to treatment after 72 hours and no laboratory facility is available, give second line drug.

- Heavy patients (more than 80 kg) must get a higher dose than usually indicated for adults.

You must calculate the correct dose from the weight.

- If treatment with SP fails, the patient should be treated with a full course of oral quinine.

SP does not have an anti-pyretics effects of its own as chloroquine has. Therefore, anti-pyretics should always be given together with SP.

TREATMENT OF UNCOMPLICATED MALARIA DURING PREGNANCY[3]

- Chloroquine is safe during pregnancy and should be given as first line drug in the usual dose of 25-mg/kg-body weight.
- If chloroquine fails, SP (Fansidar) should be given to pregnant women after the first trimester.
- Pregnant women should not be given SP during the first trimester. Here quinine (10mg/kg in three doses over 7 days) is the drug of choice.
- Pregnant women during the 1st & 2nd pregnancies should always be carefully examined for danger signs.

Prophylactic Malaria treatment during ANC visits

- The first dose of SP is given at the beginning of the 2nd trimester (3 tablets).
- The second dose of SP is given at the beginning of the 3rd trimester (3 tablets).

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[3] **Treatment of uncomplicated malaria MOH: guide to health workers**

DEVELOPED AND PRODUCED WITH SUPPORT FROM UNICEF