

# **THE PREVALENCE OF ANEMIA AMONG WOMEN ADMITTED IN LABOR AND IT'S EFFECT ON MATERNAL AND FETAL OUTCOMES**

**At Assiut General Hospital**

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## **ABSTRACT**

Anemia a common problem in developing countries, especially among children and pregnant women. In sub-Saharan Africa, it is estimated that between 50% and 70% of all pregnant women are anemic, with 5-15% being severely anemic.

Anemia in pregnancy is defined by the World Health Organization (WHO) as a hemoglobin concentration below 11g/dL. It continues to be a major health problem and is associated with increased rates of maternal and perinatal mortality, premature delivery, low birth weight, and other adverse outcomes. More than half of the pregnant women in the world have hemoglobin levels indicative of anemia (World Health Organization). Although only 15% of pregnant women are anemic in developed countries. The prevalence of anemia in developing countries is relatively high (33% to 75%). The most common cause of anemia in pregnancy worldwide is iron deficiency. The predisposing factors include grandmultiparity, low socioeconomic status, malaria infestation, late booking, HIV infection, and inadequate child spacing.

### **Key Words:**

**Definition of anemia, Prevalence of anemia, Physiology of anemia, Causes of anemia, Types of anemia, Symptoms of anemia, Anemia and preterm labor, Pregnancy increases the risk for anemia in different ways**

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*Nagwa Ibrahim Awad*

*2011*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

" يَرْفَعُ اللَّهُ الَّذِينَ

آتَوْا مِنْكُمْ وَالَّذِينَ

أُوتُوا الْعِلْمَ وَرَجَاتِ

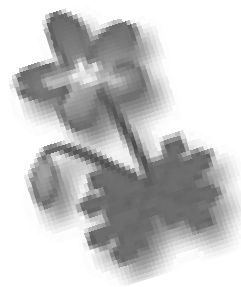
وَاللَّهُ بِمَا تَعْمَلُونَ

خَيْرٌ "

صرق الله العظيم

{سورة المجادلة، الآية ١١}

**I dedicate this work....**



**To my Family**

**Specially**

**My Dear Husband**

**For his support**

**&**

**To my mother,**

**To my Father, my sisters and my brother**

**For their great efforts**

**& encouragement**



*Nagwa*

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# **INTRUDUCTION**

## **1. Introduction:**

Anemia is a major nutritional global problem of immense public health significance, affecting persons of all ages, sex and economic group. It is ranked as the commonest chronic problem (*DeMaeyer and Tegman, 1985*). It is one of the most common and widespread public health problems in the world today, both in industrialized and developing countries. In the Eastern Mediterranean Region (EMR), a total of 149 million people are estimated to be anemic (*Verster and van der Pols, 1995*). An estimated 2000 million people suffer from anemia, making it the world's most common nutritional disorder (*Verster, 1996*). Anemia, although mainly of mild severity, is still a major public health problem among Egyptian women (*El-Sahn, et al., 2006*). And it is associated with increased rates of maternal and perinatal mortality, premature delivery, low birth weight, and other adverse outcomes (*Mohammed, 2000*).

## **2. Definition of anemia:**

A pathological deficiency in the oxygen-carrying component of the blood, measured in unit volume concentrations of hemoglobin, red blood cell volume, or red blood cell number (*The American Heritage, 2000*).

Anemia is a medical condition (*Nabili, 2008*) in which the total volume of red blood cells (and /or the amount of hemoglobin in these cells) is reduced below normal values (*WHO, 1992*). It is

determined either as a hematocrit or hemoglobin concentration  $> 2$  standard deviations below the normal mean for age (*Cohen, 1996; Walters and Abelson, 1996; Korones and Cohen, 1997; Abshire, 2001*).

Anemia in pregnancy is defined by the World Health Organization (WHO) as a hemoglobin concentration below 11 g/dL. (*WHO 1992*). Anemia may be mild, moderate, or severe in nature. Mild anemia, hemoglobin 9.5-11 g/dl, is often asymptomatic and frequently escapes detection. Moderate anemia, hemoglobin 8-9.5 g/dl, may present with other symptoms and warrants timely management to prevent long-term complications. Severe anemia, hemoglobin  $< 8$  g/dl, will warrant investigation and prompt management. Dependent upon its etiology and the magnitude of the RBC deficit, it may be life threatening (*Abshire, 2001; Lesperance and Bernstein, 2002; Segel, et al., 2002; Tender and Cheng, 2002*).

### **1.1 Hemoglobin thresholds used to define anemia (WHO 2001)**

<b>Age or gender group</b>	<b>Hemoglobin threshold (g/dl)</b>
Children (0.50–4.99 yrs)	11
Children (5.00–11.99 yrs)	11.5
Children (12.00–14.99 yrs)	12
Non-pregnant women ( $\geq 15.00$ yrs)	12
Pregnant women	11
Men ( $\geq 15.00$ yrs)	13

### **3. Prevalence of anemia:**

Anemia is the commonest medical disorder in pregnancy, with a prevalence rate of up to 80% percent in some populations (*Trivedi and Puri, 2008*). The exact data on prevalence of anemia is not available but a crude estimate is that 500 million women between 15 and 49 years of age worldwide are anemic (*United States Standing Committee on Nutrition, 2004*). According to World Health Organization estimates, up to 56% of all women living in developing countries are anemic. (*WHO 1992*).

#### **1.2 Anemia prevalence and number of individuals affected in pregnant women, and non-pregnant women in each WHO region (*Benoist, et al., 2008*).**

WHO region	Non-pregnant women		Pregnant women	
	Prevalence (%)	affected (millions)	Prevalence (%)	affected (millions)
Africa	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)	24.1 (17.3–30.8)	3.9 (2.8–5.0)	17.8 (12.9–22.7)	39.0 (28.3–49.7)
South-East Asia	48.2 (43.9–52.5)	18.1 (16.4–19.7)	45.7 (41.9–49.4)	182.0 (166.9–197.1)
Europe	25.1 (18.6–31.6)	2.6 (2.0–3.3)	19.0 (14.7–23.3)	40.8 (31.5–50.1)
Eastern Mediterranean	39.8 (38.2–50.3)	44.2 (6.1–8.0)	7.1 (29.2–35.6)	32.4 (35.8–43.8)
Western Pacific	30.7 (28.8–32.7)	7.6 (7.1–8.1)	21.5 (20.8–22.2)	97.0 (94.0–100.0)
Global	41.8 (39.9–43.8)	56.4 (53.8–59.1)	30.2 (28.7–31.6)	468.4 (446.2–490.6)