Prevalence and epidemiological aspect of Anemia Among Pregnant Women Attending Antenatal Care Centers in Alniaryah province- Eastern Saudi Arabia.

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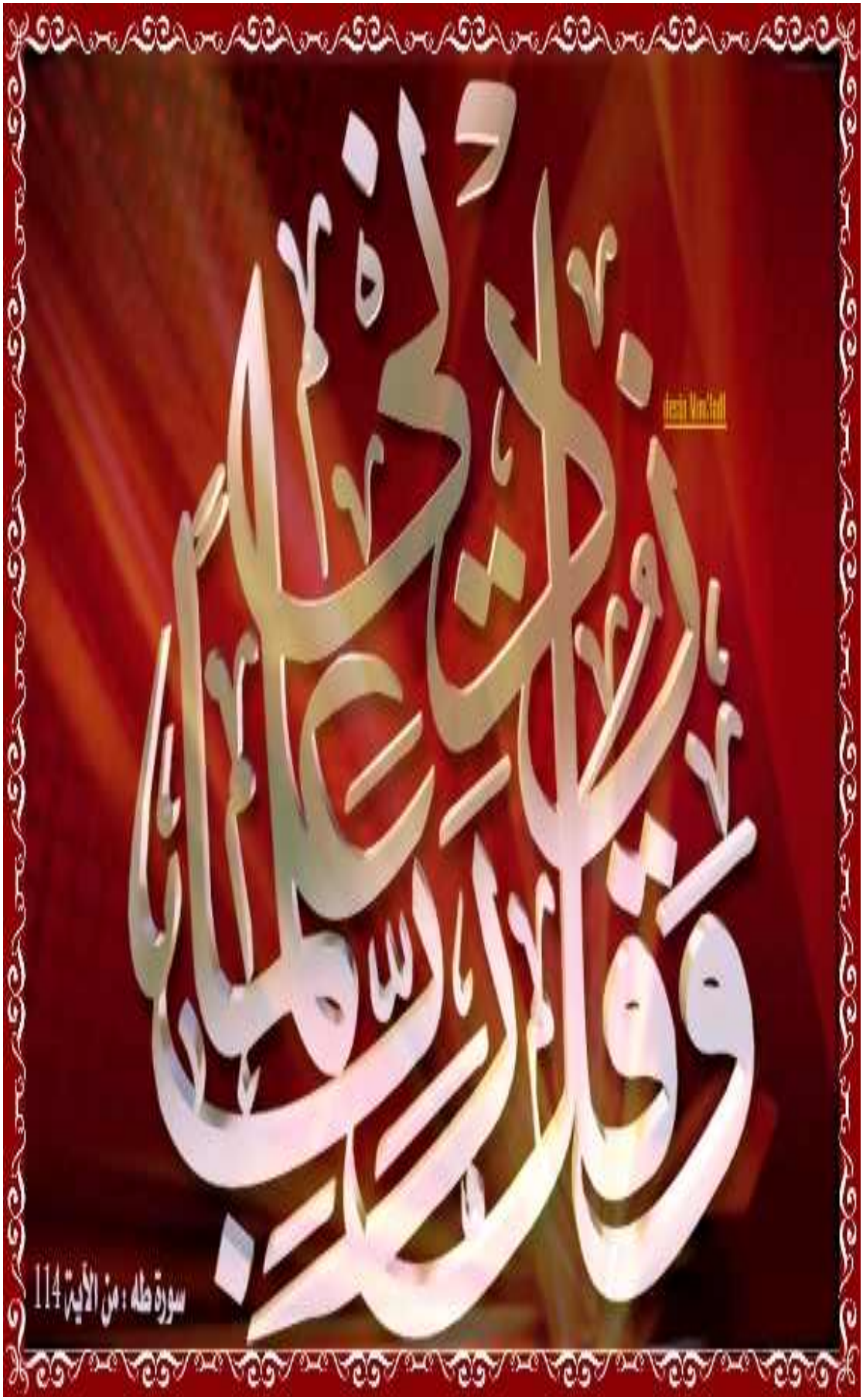
Abstract

Background: Anemia during pregnancy is a global public health problem affecting maternal and fetal morbidity and mortality. **Objectives:** The present study was conducted to measure the prevalence of anemia among pregnant women attending governmental antenatal care clinics in Alniaryah province and to determine associated epidemiological features. **Subjects and Methods:** the study is a descriptive one carried out on pregnant women attending antenatal care clinics in the two primary health care facilities in Alniaryah province- Eastern Saudi Arabia during the period from year 2011 to year 2013.Data extraction sheet was designed to collect data from records about socio-demographic characteristics, obstetrical history, gynecological history, medical history, surgical history, previous blood transfusion, results of physical examination, results of laboratory investigations and data about the outcome of pregnancy. **Results:** The total number of records of pregnant women studied was 510 records. The frequency of anemia was found to be (27.45%) of the studied women. There was no statistically significant difference between the anemic group and normal group regarding socio-demographic characteristics, results of medical examination and lab investigations and the outcome of pregnancy ($p > 0.05$). However, there was a statistically significant difference between the two groups as regard history of blood transfusion (5.71% in the anemic group compared to 1.08% of the normal group) ($p < 0.05$), proportion of women who had spacing two or more years between pregnancies (21.43% in the anemic group and 31.89% in the normal group) ($p < 0.05$), type of previous delivery and type of contraceptive methods used before ($p < 0.05$). **Conclusion and Recommendations:** The observed frequency of anemia found in this study was (27.45%). History of blood transfusion, lack of spacing between pregnancies, use of contraceptive methods other than oral contraceptive pills and intra uterine contraceptive devices and history of both vaginal delivery and CS was higher among the anemic than the normal group. To reduce frequency of anemia among pregnant women, there is a need for further analytic house hold studies for measuring the actual size of the problem, impact on pregnancy outcome and to answer the questionable epidemiological factors raised from the current study, there is also a need for more educational programs to improve public awareness of the causes of anemia during pregnancy and healthy dietary habits, strength health care seeking behavior of women to ensure early diagnosis and management of anemia.

***Key words*:** Anemia, Pregnancy, epidemiological aspects, Saudi Arabia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Abbreviations

ACT……….…………………...Artemisinin-based combination therapy
CV…………………………….……………………...Cardiovascular
CS……..………………….……...……..…………Cesarean Section
CDC…………The US Centers for Disease Control and Prevention
DM ……………………….……...…………………..Diabetes mellitus
EMR ………………..………...........Eastern Mediterranean Region
EPO…….………………….…..…………..Erythropoietin hormone
ETC …………………………...……………..…….Etcetera
Fe ……………………….…………………………….Ferrous
FDA……………………….……...US Food and Drug Administration
HBsAg…………………….…….........Hepatitis B surface Antigen
H b……………………...……….……………….......Hemoglobin
HTN ……………….………...……………………..Hypertension
IDA……………….…………….……………......Iron deficiency anemia
INACG..…International Nutritional Anemia Consultative Group
I U C D …….......................... Intrauterine Contraceptive Device
NAD …………………...…..…………...No abnormality detected
NIDs ……………..………………….National Immunization Days
OCP………………..……………….…..………...Oral Contraceptive
Pills PFH……….………………...……….Plasma Free Hemoglobin
Rh ………..…………………………….……………Rhesus Factor
RBC……………...……………..……….……….Red Blood Cell
SD…………….……….……..…....……..…. ….Standard deviation
SPSS…………………………Statistical Package for Social Science
UN…………………...……...…….……..………United Nations
UNICEF……………………..…....United Nations Children's Fund
US ……………………..……..……...……...……..…..United State
WHO…………………...…………......World Health Organization

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INTRODUCTION

Introduction

"A person, ordinarily in good health . suddenly becomes pale, the surface of the body being waxy and bloodless; she is faint and fatigued; capable of great bodily efforts which, however, produce palpitations and distress; she has pain in the head, impatience of light, throbbing at the temples, and sometimes an universal throbbing, slight confusion in the mind, and a sense of total and extreme prostration. At the same time the pulse is frequent, large, strong and hard; at least, an observer who should not see the pallid face and miserable look of the patient would pronounce it to be hard.. Still every surface which can be examined during life, is destitute of blood. And after death, the only remarkable appearance is the bloodlessness of the tissues."

Walter Channing, 1842

(Dean of Harvard Medical School 1842)

Anemia is a public health problem that affects populations in both rich and poor countries (1) .

Anaemia (defined by the World Health Organization as haemoglobin levels of < 11 g/dl) is one of the world's leading causes of disability (2), and thus one of the most serious global public health problems.

Although the primary cause is iron deficiency, it is seldom present in isolation .More frequently it coexists with a number of other causes such as malaria, parasitic infestation, nutritional deficiencies ،and haemoglob–inopathies (1) .

Anaemia affects nearly half of all pregnant women in the world: 52% in developing countries compared with 23% in the developed world(2) .

The most common causes of anaemia are poor nutrition, deficiencies of iron and other micronutrients , malaria , hookworm disease , and schistosomiasis ; HIV infection and haemoglobinopathies are additional factors (3) .

Iron deficiency is the most common cause of anaemia in pregnancy (2). It usually occurs due to low iron stores prior to pregnancy. The growing foetus depletes what stores there are and takes priority for any iron available. It is important to remember that increased iron requirements continue after the birth of the baby due to blood loss and breastfeeding (4) .

Women who experienced heavy menstruation and those who became pregnant soon after the birth of a child are at particular risk of becoming anemic in pregnancy (5). There is a paucity of studies showed the prevalence of anemia among pregnant females inAlniaryah province-Eastern Saudi Arabia.

Numerous countries conduct interventions to reduce anemia particularly in the groups most susceptible to its devastating effects: pregnant women and young children. In order to assess the impact of these interventions, the adequacy of the strategies implemented, and the progress made in the fight against anemia, information of anemia

prevalence must be investigated or estimated . This is the primary objective of the WHO Global Database on Anemia (6) .

However, estimates of anemia prevalence by themselves are only useful if they are associated with a picture of the various causal factors that contribute to the development of anemia in specific settings. Indeed these factors are multiple and complex, and it is critical to collect accurate information about them to provide the basis for developing the best interventions for anemia control.

In the last three decades, there have been various attempts to produce estimates of the prevalence of anemia at different levels including at the global level, but until the present time, there has never been a systematic review of all of the data collected and published with the objective of deriving regional and global estimates. The WHO Global Database on Anemia has filled this gap: data from93countries, representing as much as 76% of the population in the case of preschool-age children, were analyzed and used to develop statistical models to generate national prevalence estimates for countries with no data within the time frame specified(7) .

It is surprising that given the public health importance of anemia, there are numerous countries lacking national prevalence data. Moreover, most survey data are related to the three population groups: preschool-age children, pregnant women, and non-pregnant women of reproductive age. (6) .

Anemia in pregnancy is associated with increased rate of maternal and perinatal mortality‹premature delivery, low birth weight and other adverse outcomes(89) .

According to World Development Indicators: Nutrition intake and supplements, the prevalence of anemia among pregnant ladies in Saudi Arabia, during 2005 – 2010 estimated as 32 % By world bank report 2013 (10) .

A 2008 WHO analysis reported that anemia affected 24.8% of the world's population, including 42% of pregnant women, 30% of nonpregnant women, and 47% of preschool children(2).

Most recently, global anemia prevalence was estimated at 29% in pregnant women, 38% in nonpregnant women, and 43% in children, with reductions since 1995 in each group(18).

Iron deficiency anemia is a serious worldwide health problem, having negative effect on work capacity, intellectual and pregnancy. I n the country of middle Mediterranean region (EMR) the prevalence of anemia in women and preschool children is high,(20-60%).Anemia in EMR has many causes, such as low bioavailability of the absorbed iron ,high consumption of inhibitors of iron absorption ,child bearing pattern and parasitic infection(19).

In the Arab Gulf countries, maternal anemia, especially iron deficiency anemia has been considered as an important public health problem with a prevalence ranging from 22.6% to 54.0%. High parity with iron deficiency was found to be an important cause (23)

If not controlled, iron deficiency anaemia may lead to many health consequences such as impaired motor development, poor scholastic achievement of children, decreased physical and work capacity of adults, increased maternal morbidity and mortality in pregnant women(24)

Prevalence of anemia among pregnant women,(is the percentage of pregnant women whose hemoglobin level is less than 11. 0 grams per liter at sea level.),is found to be 31.98 2005(25) Maternal anemia in pregnancy is commonly considered as risk factor for poor pregnancy outcome and can threaten the life of mother and fetus (190). However, the extent to which the maternal hemoglobin concentration affectsthefetalweightandfetaloutcomeisstilluncertain.Somestudieshavenot foundasignificantassociation between low hemoglobin before delivery and adverse outcome (191), while other studies have shown a strong associa- tion(192).

Rationale :

Anaemia during pregnancy is a global public health problem affecting maternal morbidity, mortality and fetal mortality .

Research question:

What is the prevalence and epidemiological features of Anemia in pregnant women attending antenatal care at family care centers in Alniaryah province ,eastern Saudi Arabia .

Aim OF WORK AND OBJECTIVES