Prevalence of and risk factors of anemia among pregnant women Mukalla – Hadhramout – Yemen

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Abstract:

Anemia is among the public health problem especially in developing countries. Yemen is not an exceptional.***Methodology:*** this study is cross sectional study, which is conducted during the first 6 month of the year 2004 and involved 300 pregnant women attending 4 main MCH centers in Al-salam, October and Fowa regions. The data were collected used a questionnaire. The blood samples were extracted by finger prick.***Results:*** Showed that anemia is a common feature among blood pregnant women (81%) in comparison to (19%) that are not anemic.***Conclusion and recommendations:*** Prevalence of anemia among studied pregnant women were frequent in all age groups and anemia is less in the first trimester (5.3%).Increasing level of awareness in women and their families about the risk of anemia in pregnancy and to create the need for iron supplement.

Introduction:

Al-Mukalla city is one of the main seaports in Republic of Yemen. Within 2000 it has total population of about 210.000.Female in reproductive age constitute 22.08.%.Anemia is present when there is decrease in the level of hemoglobin in blood below the reference level for age and sex of an individual [1]. The cut-off point setout by WHO which anemia is likely to be present in pregnant women is less than 11gm/dl.Anemia is a major public health problem especially in developing countries; Yemen is not an exceptional, which receiving emphasis by governmental bodies, both local and international.Study in different places in Yemen, (Al-Hodiada and Hajj gives result that severe anemia is a major problem encountered in mothers seeking prenatal care and often prove fatal to pregnant women [2]. A study in Kuwait showed that the prevalence of anemia was 21% during the first trimester, rising to 38% and 45% during second and third trimester respectively [3].Based on clinical observation, anemia during pregnancy in Mukalla city is high and constitutes major factor contributing maternal and fetal morbidity and mortality.The actual prevalence of anemia among pregnant women is not known in addition to that, there are certain factors, which may play a major role in the development of problems.Inadequate iron store before conception is a main cause of iron deficiency anemia during pregnancy. More over inappropriate spacing of pregnancies farther aggravates low hemoglobin level and result in anemia, which in turn lower the survival chances of both mother and child.There are many functional consequences of maternal anemia such as intrauterine growth retardation, low brain weight and increase prenatal mortality. Iron deficiency anemia decreases the capacity of immune system to protect the body against invading microorganism. Also anemia affects cognitive behavior, learning capacity and physical development. This result in reduced production, reduced income and reduced ability to care for children. The result of the study is expected to provide comprehensive state regarding the magnitudes of the problem, as well as illustrating the modifiable risk factors.

Aims& Objectives

General Objective:

To identify the prevalence and the risk factors of anemia among pregnant women attending mother &child health clinics (MCH) in Mukalla districts.

Specific Objective:

1.To determine the prevalence of anemia in pregnancy among women attending the MCH clinics according to the following variables (Age group, educational level, occupation, and parity.)

2.To identify the relation between anemia &gestational state.

3.To identify the relation between anemia &iron supplement.

4.To identify the relation between anemia &abortion.

5.To identify the relation between anemia & interval between pregnancy.

6.To identify the time pregnant women first present to antenatal care.

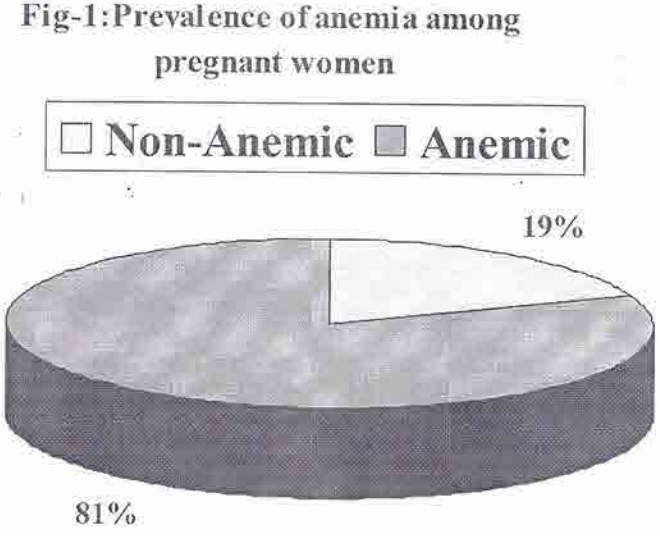
Material &Methods:

This study is cross-sectional study was conducted in Al-Mukalla city through the participation of 300 pregnant women attending four main MCH centers during the period (Jan –end of June 2003). The centers were located in will-populated areas(Al-Salam , Al-Omal , October & Foah).

Sampling :
In each participating area representing sample of women attending MCH centers were collected . the sample size was calculated based on total number of attending pregnant women to these four MCH centers during the previous year 2003 which was 3012 women.The data were collected by interview using questionnaire which was designed and pre tested including general information (Age, occupation ,age of marriage, level of education ,number of children ,interval between pregnancies ,and number of abortion ...).The interview carried out by female group of third year medical students. 300 pregnant women were interviewed represent 12% of total , each third woman was selected to be included in this study .Hemoglobin was determined by cyanomethahemogloin method . Blood samples were extracted by finger prick and were taken to university laboratory for investigation. The cut-off point set out by WHO which considered anemia is exist if the hemoglobin level below 11gm /dl.

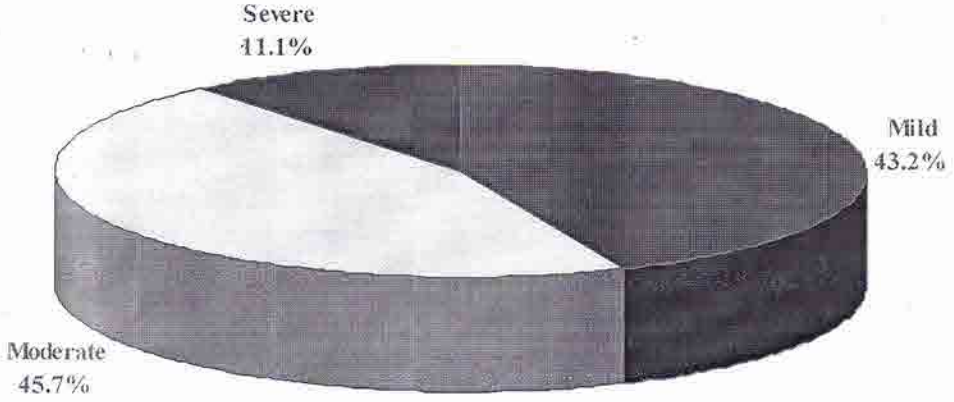
Results:

Figures 1 & 2: The prevalence & degree of anemia among pregnant women:



243 out of 300 pregnant women were anemic which represent 81%, while 19% of pregnant women were not anemic.

Fig-2:Degree of Anemia in Prgnant Women



Among those 11.1% were severely anemic, 45.7% were moderate and 43.2% are mild.

Table 1: Distribution of studded women according to age:

Age in years	Total	
	No.	%
15 -19	33	11%
20 -24	82	27.23%
25 -29	91	30.33%
30 -34	52	17.33%
> 35	42	14%

The peak of cases were at the 25–29 years followed by age group of 20- 24years.

Table 2: Relation between anemia and educational level:

	Anemic		Non anemic		Total	
	No	%	No	%	No	%
Illiterate	63	21	19	6.3	82	27.33
Read &write	60	20	13	4.3	73	24.33
Primary school	68	22.7	12	4.0	80	26.67
Secondary school & above	52	17.3	13	4.3	65	21.67
Total	243	81	57	19	300	100

According to the educational level of the pregnant women and anemia, the participants under study had demonstrated that anemia is more among less educated level.

Table 3: relation between anemia and number of lived children:

No. of live child	Anemic		Non Anemic		Total	
	No	%	No	%	No	%
< 3	61	20.3	18	6	79	26.3
3 – 5	158	52.7	37	12.3	195	65
6 -8	21	7	2	0.7	23	7.7
> 8	3	1	0	0	3	1
Total	243	81	57	19	300	100

Table 4: Relation between anemia and No. of abortion:

No. of abortion	Anemic		Non Anemic		Total	
	No	%	NO	%	NO	%
1	32	30.2	6	5.7	38	35.8
2 - 3	60	56.6	1	0.9	61	57.6
> 4	7	6.6	0	0	7	6.6
Total	99	93.4	7	6.6	106	100

106 out of 300 pregnant women have history of abortion,99 of them are anemic. More than 60% 0f anemic mother have 2 – 3 abortion.

Table 5: relation between anemia and last delivery

Intervals between delivery	Anemic		Non Anemic		Total	
	No	%	No	%	No	%
< 2 years	165	55	38	12.7	203	67.6
> 2 years	78	26	19	6.3	97	32.3
Total	243	81	57	19	300	100

The prevalence of anemia is more common among pregnant women with short interval between pregnancies (< 2 years) which is 55%.

Table 6: Relation between anemia and gestation stages:

Gestational stage	Anemic		Non Anemic		Total	
	No.	%	No.	%	No.	%
1st trimester	13	4.3	4	1.3	17	5.7
2nd trimester	69	23	18	6	87	29
3rd trimester	161	53.7	35	11.7	196	65.3
Total	243	81	57	19	300	100

From the table the anemia is less in first trimester and it is more in the last trimester.

Table 7: Relation between anemia and iron supplement:

	Anemic		Non Anemic		Total	
	No	%	No	%	No	%
Yes	85		40		125	
No	158		17		175	
Total	243		57		300	

Out of anemic pregnant women only 35% received iron supplement

there is a close relation between anemia and abortion. 99 out of 243 cases have history of abortion, 67% have more than two abortion.In the present study showed that the highest proportion of anemia was seen during first third and trimester (66%.3 and 5.3% respectively), this the same as found in a studies from neighboring countries and this is going with the observation trend concerning the visit to MCH centers by the pregnant women at their last trimester. This is an important issue to concerned for any future program in health education conducted among women providing them with an essential information and knowledge regarding the importance of early visit to MCH for early detection of anemia and any other health problems before going to pregnancy and labor complications.In United states and many other countries, where universal iron supplementation is practiced, anemia is found to be less prevalent than in our place, were iron supplement is not yet implemented and there is a significant iron deficiency[7].

Conclusions:

1-Prevalence of anemia among studied population was 81%. Degree of anemia : severe anemia among studied population is 11.11% ,moderate 45.7% and mild 43.20%

2-Anemia was frequent among women at all age group.

3-Age distribution of studied population peak of the cases at age (25-29) years followed by the age group (20-24) years (most of pregnant women under the study was between 20-30 years).

4-High percentage of anemic mothers among studied population with slight discrepancy between them regarding their level of education.

5-About 68% of pregnancies are short interval and women have little time to

Discussion:

Anemia was a common feature among 300 pregnant women attending the MCH centers in Al-Mukalla city at the period of undertaken study.243 cases were anemic (81%) while the minority, 57 (19%) were classified as non anemic. It is seen that anemia is one of the important risk factor threatening the mother safety and success of pregnancy.The prevalence of anemia in the Eastern Mediterranean Region (EMR) ranges from around 20% in Jordon, Egypt, and Oman to more than 60% in Djibouti [4]. One the other hand, the prevalence of anemia in pregnant women range from 11% in some parts of Saudia Arabia to 26% in the United Arab Emirate [5]. In this study, among anemic mothers, 11% having severe degree of anemia (Hb less than 7gm/dl) and more than 45% have moderate anemia which reflects the magnitude of the problem in our country. Study in Al-hudaidah and Hajjah gave results that sever anemia is a major problem encounters mother seeks pre-natal care. The age distribution of the studied group showed that 30% of sample are in the age group of 20-24 years (27%). According to the level of education, the participants under the study had demonstrated a high percentage of anemic mother among them.52% % of the anemic respondents have already 3- 5 children while 12% was non-anemic. Anemia is also found to be highly associated with repeated abortions, 60% of anemic women have history 2 -3 abortion and less than 1% found to be non-anemic this indicates the high prevalence of anemia with frequent pregnancies. and due to the low prevalence of contraception method used (21%) in (DHS) and most of the respondents in this study are of small age this mean they are prone to have more children in the future [6].In this study

6-Prevalence of anemia was in 5.3% during 1st trimester, rising to 28.4% and 66.3% during 2nd and 3rd trimester respectively.

7-The first visit of pregnant women to MCH center start very late mostly in third trimester (65.3%) and very low (5.7%) in the first trimester.

8-90% of the studied population were having 5 children or less.

9-among anemic pregnant women only 35% received iron supplement.

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Recommendations:

1-Increase awareness of women, their families and communities about the risk of anemia in pregnancy.

2-Early prenatal visit provides an opportunity to detect and manage anemia during pregnancy.

3-Effective iron supplementation program for pregnant women should be initiated in Mukalla district.

4-Health education and information about child spacing.

5- Family planning program are needed to provide knowledge about the importance of child spacing and build up their hemoglobin level before becoming pregnant again (short birth intervals are common among studied population).

improving nutritional status of the women