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Community Medicine

A STUDY TO ASSESS THE PREVALENCE OF ANEMIA & IT'S SOCIO DEMOGRAPHIC FACTORS AMONG THE WOMEN OF AN URBAN SLUM OF MANKHURD

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ABSTRACT

Background: Iron deficiency which is the leading cause for anemia is estimated to be responsible for about half of all anaemia globally which has increased by 4 percentage points in NFHS 4 since NFHS-3 in Maharshtra. So the study was done to to find the prevalence of anemia & socio demographic factors of it among the women of an urban slum of Mankhurd, Mumbai, Maharashtra.

Methods: The Community based cross sectional descriptive study was carried out during the period from January to December 2014 in an urban slum of Mankhurd. The estimated sample size was be calculated as 315. Haemoglobin estimation was done by Sahli's Method. Data collected and statistically analysed using SPSS 20 statistical package.

Results: The prevalence of anemia was 49.5 %. About 41.6% & 54.4% were Hindus & Muslims had anemia respectively. About 73.1% married women had anemia .28.2%, 34% and 25.6% of the women who were educated up to primary , secondary and higher secondary were anemic respectively. Majority of the anemic women belongs to class IV whereas with no anemia belong to class III. About 17.9% women were having vegetarian type of diet had anemia. Whereas 82.1% women even though having mixed type of diet were found anemic. 24(17.9%), 48(35.8%) and 62(46.3%) women who had 1, 2 and 3 or >3 pregnancies in the past had anemia respectively. About 52(38.8%), 68(50.7%) and 14(10.5%) anemic women had 1 or <1, 2 and 3 or >3 years of interval in between pregnancies respectively.

Conclusions: In the study majority of anemic women were among 15 to 25 years of age group. Higher prevalence of anemia among was among the women those belongs to socioeconomic class IV & with increases as number & interval between pregnancies.

KEYWORDS : Anemia , Diet, Prevalence, interval in between pregnancies.

INTRODUCTION

Nutritional anemia is defined by WHO as "a condition in which the haemoglobin content of blood is lower than normal as a result of deficiency of one or more essential nutrients regardless of the cause of such deficiency".

Iron, folic acid, and other vitamins and minerals (micronutrients) are required for the formation of haemoglobin. Nutrition deficiencies are the most common causes of anemia and iron deficiency anemia is a major contributor to the global burden of disease .

In addition to iron, other nutritional deficiencies (e.g., folate and vitamin B-12) can cause anemia, as can non-nutritional factors such as acute and chronic infections (malaria, hookworm, HIV) and genetic conditions such as thalassemia and sickle cell trait.

Pregnant women with Hb less than 11g/dl and non pregnant women with Hb less than 12 g/dl are consider anemic.[1]

The priority target groups, who are at high risk, are, women of reproductive age during pregnancy &lactation & young children. Among women of reproductive age, adolescent girls and pregnant women are at most risk for anemia: adolescents because of the onset of menstruation and pregnant women because of the increased blood volume associated with pregnancy.

Nutritional anemia attributes to high maternal mortality, high incidence of low birth weight babies, high perinatal mortality and fetal wastage. Also iron deficiency may impair cellular immune response and increase susceptibility to infection.[2]

National Family Health Survey-III data shows that the prevalence of anemia among women of reproductive age in India has increased from 52% (NFHSII) to 56% (NFHSIII) where as according to NFHS-IV data, prevalence of anaemia in India is 53%.[3,4]

Despite of the various national health programmes & schemes such as national anemia prevention and control program, Iron plus initiative , Anemia Mukat Bharat , the morbidity due anemia still continues. With this background an attempt has been made to find the prevalence of anemia & socio demographic factors of it among the women of an urban slum of Mankhurd, Mumbai.

METHODS

The Community based descriptive cross sectional study was carried out among the women of reproductive age women in an urban slum of Mankhurd. The study during was from the period of January 2014 to December 2014.

The prevalence of anaemia among women of reproductive age is 56% [5], allowable error is 10% at 95% level of significance, the estimated sample size was calculated using the formula given below-
Estimated sample size= $4PQ/L^2$= 315.

Total number of houses in urban slum were 14,487 which were distributed sector wise (Total 11 sectors) So one sector had been selected by random method sampling then the house was selected by stratified random sampling method. Hb estimation was done by Sahli's Method. Inclusion criteria were women of reproductive age group 15-49 year ,who are residing in study area from past 6 months & those willing to participate in study. Exclusion criteria: Pregnant women < 18 years of age.Data was collected till the sample size was reached by pretested & predesigned questionnaire. Data collected from the study was entered in the computer using Microsoft Excel 2007 and statistically analysed using SPSS 20 statistical package. Appropriate statistical measures had been .The approval by Institutional Ethics Committee was obtained.

RESULTS

In the present study , 48.7% , 30.8 % And 20.5% of anemic subject belongs to 15-25years , 26-35years and 36- 49 years respectively. About 41.6% were Hindus had anemia whereas 54.4% Muslims had anemia . About 73.1% married study subject had anemia where as 67.3% had no anemia. 28.2% , 34% and 25.6% of the study subject who were educated up to primary , secondary and higher secondary were anemic respectively whereas 11.9%, 45.9% and 22% of the study subject who were educated up to primary , secondary and higher secondary had no anemia respectively. Majority of the anemic study subjects belongs to class IV whereas with no anemia belong to class III.(Table 1).

The prevalence of anemia among reproductive age women (15 to 49 years) was 49.5%.(Table 2).

About 35.3% subjects who had given the history of worm infestation were found anemic (Figure 1).

About 17.9% subjects were having vegetarian type of diet had anemia. Whereas 82.1% subjects even though having mixed type of diet were found anemic. (Figure 2).

In the study 24(17.9%), 48(35.8%) and 62(46.3%) women who had 1, 2 and 3 or >3 pregnancies in the past had anemia respectively. (Table 3).

About 52(38.8%), 68(50.7%) and 14(10.5%) anemic women had 1 or <1, 2 and 3 or >3 years of interval in between pregnancies respectively. (Table 4)

DISCUSSION

In the present study "A study to assess the prevalence of anemia & it's socio demographic factors among the women of an urban slum of Mankhurd, Mumbai. **"**

The prevalence of anemia among reproductive age women (15 to 49 years) was 49.5% however the prevalence in various studies was 49.6%, 55.9%,48.9% , 60.8%.[6,7,,8,9]

We found that 48.7%, 30.8 % and 20.5% of anemic subject belongs to 15-25years , 26-35years and 36- 49 years respectively whereas in the study done by Shrinivasa et al[10] had found that nearly half of anemic were in age group of 15 to 25 Years. Ansuman Panigrahi et al [9] among women in the reproductive age group (15–49 years) had found that 54%, 56.3%and 52.6% anemic women were in < 20 years age group, 21 to 30 years of age group and 41 to 49 years of age group.

In this study about 41.6% were Hindus had anemia whereas 54.4% Muslims had anemia however in the Comparative study of prevalence of anemia in Muslim and non-muslim pregnant women by Babita Bansal et al[12] the prevalence of anemia among Muslim was 81.1% and among the non Muslims was 92.3%.

In our study 28.2%, 34% and 25.6% of the study subject who were educated up to primary , secondary and higher secondary were anemic respectively whereas 11.9%, 45.9% and 22% of the study subject who were educated up to primary , secondary and higher secondary had no anemia respectively.

Shobha Rao et al[13] in there studies found that (68.6%) majority of anemic subjects were educated up to secondary class.

In this study majority of the anemic study subjects belongs to class IV. Similar result was found in the study by Piyusha Mahashabde et al [14], G. Viveki, A.B. Halappanavar et al [15]

We found that 35.3% subjects who had given the history of worm infestation were found anemic. In the study by Ansuman Panigrahi et al[9] at urban slum found that out of 13 subjects who had intestinal parasite 09(69.2%) had anemia. Bilkish N. Patavegar, Manjunath S.Kamble et al [16] in their study revealed that the77.78% females who had history of passage of worms in stools were suffering from anemia than that of non-anemic women.

In this study about 17.9% subjects were having vegetarian type of diet had anemia. Whereas 82.1% subjects even though having mixed type of diet were found anemic. Higher prevalence of anemia (77.0%) was associated with several socio-cultural reasons associated with low consumption of green leafy vegetables, dislike of green leafy vegetables by husband and children, and lack of awareness about different recipes for it.[13]

In our study 24(17.9%), 48(35.8%) and 62(46.3%) women who had 1, 2 and 3 or >3 pregnancies in the past had anemia respectively. Ahmad N, Kalakoti P et al[17] found that there was a significant relationship of parity with anaemia.

In our study we found that 52(38.8%), 68(50.7%) and 14(10.5%) anemic women had 1 or <1, 2 and 3 or >3 years of interval in between pregnancies respectively. The prevalence of anemia increases when the interval in between pregnancies decreases. Raghuram V et al [18] got the similar finding that prevalence of anemia amongst women in the reproductive age group (15-45years) was found to be more (62.9%), among women with birth interval less than 2 years between two births.

CONCLUSION:

In the study we found that majority of anemic women belongs to 15 to 25 years of age group. Higher prevalence of anemia among was among the women who had education up to primary class, secondary & higher secondary and those in socioeconomic class IV. 35.3% of anemic study subjects had worm infestation. The prevalence of anemia increases as number & interval between pregnancies increase hence educating the married women about birth spacing and family planning through ANM/ASHA or community development officer will help to decrease the burden of anemia. Community participation should be there to organise for mass screening session for anemia also for de worming and nutritional supplementation activities.

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DECLARATIONS

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

Table 1: Distribution of study subjects according to socio demographic factors with status of anemia

Socio demographic factors	Anemia(%) N=(156)	No Anemia(%) N=(159)
Age (in Years)		
15-25	48.7	40.3
26-35	30.8	30.8
36-49	20.5	28.9
Religion.		
Hindu	41.6	16.3
Muslim	54.4	67.3
Christian	2.0	10.7
Others	2.0	5.7
Marital status		
Married	73.1	67.3
Unmarried	26.9	27.7
Divorced	0	2.5
Widow	0	2.5
Education		
Illiterate	7.1	1.3
Primary	28.2	11.9
Secondary	34.0	45.9
Higher secondary	25.6	22.0
Graduate	5.1	18.9
Socio economic classes		
Class I	1.3	5.1
Class II	3.8	6.9
Class III	39.8	61.6
Class IV	53.8	26.4
Class V	1.3	00.0

Table2: Distribution of women according to Status of Anemia

Status of Anemia	Frequency	Percent (%)
Anemia	156	49.5
No anemia	159	50.5
Total	315	100.0

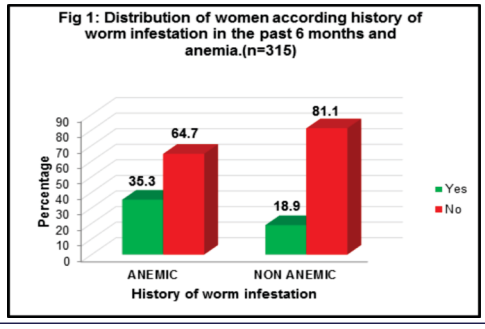

Fig 2
Distribution of women according to their type of diet and anemia.(n=315)

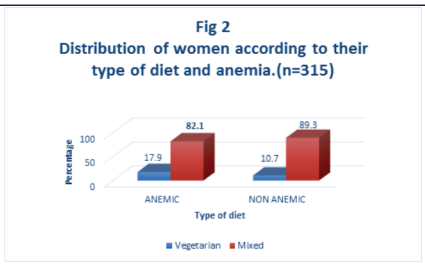

Table 3:Distribution of women according to number of pregnancies in the past and anemia (excluding single, adolescent and primigravida women):

No.of pregnancies in the past	Anemic		Non anemic	
	Frequency	(%)	Frequency	(%)
1	24	17.9	22	26.8
2	48	35.8	28	34.2
3 or >3	62	46.3	32	39.0
Total	134	100	82	100

Table 4:Distribution of women according to interval between two pregnancies and anemia, excluding single, adolescent and primigravida women:

Interval between two pregnancies (in years)	Anemic		Non anemic	
	Frequency	Percent (%)	Frequency	Percent (%)
1 or <1	52	38.8	15	18.3
2	68	50.7	40	48.8
3 or >3	14	10.5	27	32.9
Total	134	100	82	100

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