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ORIGINAL ARTICLE

# KAP Studies Among Indian Antenatal Women: Can We Reduce the Incidence of Anemia?

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#### About the Author

**Kranti K. Kulkarni**, Asst. Professor at Terna Medical College and Sahyadri Hospital, has a keen interest in high-risk obstetric management and believes more in primordial prevention as the chief principle in management. She is also a member of the Mumbai Obstetric and Gyne Society and considers herself lucky to have been a student of many stalwarts of this society

#### Abstract

*Aim* To study the knowledge, attitude, and practices of antenatal women regarding nutrition and drug compliance in a maternal and child health center in Navi Mumbai.

*Material and Methods* This study was carried out on 250 pregnant females visiting a maternal and child health center over a period of 4 months from November 2012 to February 2013. Women attending the antenatal OPD were asked to fill a questionnaire regarding anemia so as to test their knowledge, attitudes, and practices pertaining to anemia and role of their diet.

**Electronic supplementary material** The online version of this article (doi:10.1007/s13224-014-0618-0) contains supplementary material, which is available to authorized users.

Kulkarni K. K. (⊠), Assistant Professor MCH Nerul, Navi Mumbai, India e-mail: krantiphadnis@gmail.com *Observation* The observations were analyzed. This study reflects the ignorance and lack of education among the majority of child-bearing women of low socioeconomic class. *Conclusion* Educating antenatal women about the importance of diet and implementing this into practice will help in the prevention of anemia. It is also seen that drug compliance for iron and folic acid (free supply) has significantly improved, not only because of the cost factor but also due to the reinforcement of knowledge by the staff so as to achieve the minimum WHO target hemoglobin of 10.5 g% in all mothers.

Keywords KAP studies · Anemia · Antenatal women

## Aim

The aim of this study was to assess the knowledge, attitudes, and practices of antenatal patients visiting a maternal and child health center in Navi Mumbai.

## Material and Methods

The study was carried out on 250 women visiting a maternal and child health center over a period of 4 months from November 2012 to February 2013. Their knowledge, attitudes, and practices regarding nutrition and drug compliance were studied.

Women attending the antenatal OPD were asked to fill a questionnaire regarding anemia so as to test their knowledge, attitudes, and practices pertaining to

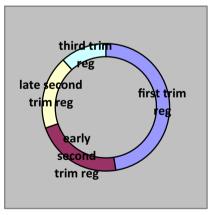
- a) Dietary sources of iron.
- b) Consumption of iron-rich food.
- c) Consequences of low hemoglobin count in mother (maternal complications of anemia).
- d) Effects of anemia on fetus and pregnancy outcome.
- e) Assessing their drug compliance.
- f) Importance of high protein diet in correction of anemia.
- g) Sources of knowledge.

#### Observations

#### Analysis of Parameters

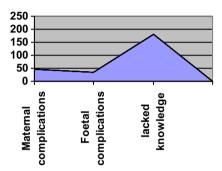
Majority of patients (119) registered in the first trimester; 102 patients first came between 12 and 28 weeks, of which 55 came in the first half; and 47 registered in late second trimester. About 29 patients remained unregistered till the third trimester.

## ANC registration period



Out of 250 women, 122 were aware of the correct sources of iron in food; however, only 65 women actually implemented this in their diet practice. Besides, 66 women also knew the importance of high protein supplements for heme-binding. 128 females had no idea as to which foods help them build up hemoglobin.

Knowledge about maternal and fetal complications of anemia:



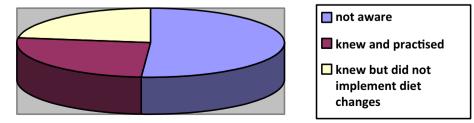
About 47 mothers were aware of a few maternal complications of anemia in pregnancy, whereas another 50 consumed iron-rich diet only to prevent giddiness and blood transfusion. Around 33 women knew of fetal complications like growth restriction and infections leading to prematurity. Most were unaware of other ill-effects of anemia like preterm labor, intrauterine fetal hypoxia, recurrent infections, failing lactation, and high output cardiac failure.

This knowledge had been imparted to them largely by medical or paramedical professionals (56). About 28 women acquired this information by past experience of self and/or colleagues; 22 women attributed it to their family members; 15 women learnt through reading books, while four of them had acquired it through sharing the same from friends and neighbors.

Yet surprisingly enough, almost 90 % of the women (217) had been regularly taking Ferrous Sulfate and Folic Acid (FSFA) tablets (provided free of cost in Navi Mumbai Municipal Corporation): i.e., 60 mg elemental iron, from the start of second trimester. Two females, who complained of intolerance, were switched to ferrous fumarate available outside. 9 % were advised parental iron in view of low hemoglobin.

The average baseline hemoglobin in these 250 patients was 9.5 g %.

#### Knowledge and practices about sources of iron



All women were given mebendazole at or after 28 weeks as a routine protocol single dose for deworming.

However, the role of deworming was known to only 16 women. Neither were the women aware of the minimum spacing period between two pregnancies; nor did anyone know about iron stores.

All women agreed upon the importance of regular antenatal check up and compliance of medicines.

# Conclusion

The study supports the conclusion:

Educating antenatal women about importance of diet and implementing this into practice will help in the prevention of anemia.

This was concluded because we learnt from the questionnaire that merely 50% of the women registered in the first trimester. Since the time of registration, almost all antenatal women were consuming ferrous sulfate. This means that drug compliance was good. However, they were already anemic at the time of conception: either because of nutritional deficiency or because of poorly spaced pregnancies. Some were also lactating, and almost all women were from the low socioeconomic group.

Such continuous reinforcement of knowledge to women by health workers may bring about a change in their nutritional habits, adopting contraceptive methods, and ensuring early registration and regular follow-up, which will go a long way to help in reducing the incidence of anemia.

Anemia is a major public health problem throughout the world, particularly for women of reproductive age in developing countries. In India, anemia is a common cause of maternal morbidity and mortality and a key factor related to low birth weight [1]. A significant association of anemia with socioeconomic status and parents' educational status suggests a need to develop strategies for intensive adult education and to improve the socioeconomic status of the population through poverty-alleviation programs [2].

This study reflects the ignorance and lack of education among majority of child-bearing women especially of low socioeconomic class. It also shows that drug compliance for iron and folic acid (free supply) has significantly improved, not only because of the cost factor but also due to the reinforcement of their knowledge by the staff so as to achieve the minimum WHO target hemoglobin of 10.5 g% in all mothers. Mistrusts among pregnant women toward hematinics can be corrected with adequate education [3].

It is also proposed that such repeated attempts of counseling for dietary measures of anemia can help in the prevention and correction of anemia—the commonest morbid condition prevailing in our state and the leading cause of maternal mortality in India.

**Compliance with ethical requirements and Conflict of interest** All procedures followed were in accordance with the ethical standards of the complete antenatal care and safe motherhood agenda to prevent and treat anemia. Informed consent was obtained from all patients for being included in the study. An ethical clearance has also been taken from the institutional ethical committee. The author of the article Dr. Kranti Kulkarni Phadnis declares that there is no conflict of interest.

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