SUMMARY AND CONCLUSION

CHAPTER V SUMMARY AND CONCLUSION

Several strategies have been suggested for the control of anaemia in view of its deleterious consequences, especially during pregnancy, and its high prevalence in India. Of the suggested anaemia control strategies, mass supplementation with medicinal iron at field level was considered feasible due to its easy delivery and low cost as compared to other methods. It can also be targeted to specific vulnerable group and rapid improvement in haemoglobin levels can be achieved (De Maeyar 1989). However, the national level evaluation of NNAPP (ICMR 1989) indicated that the programme was not successful in decreasing the prevalence of anaemia among the beneficiaries because of its inadequate coverage and low compliance. Therefore, an alternative delivery system ie linking the distribution of iron tablets with child immunization was tried in the present study.

Also, very little is known regarding the perceptions of the women regarding pregnancy, anaemia and tablet consumption and their cultural beliefs which may influence their health seeking behaviour and consumption of iron tablets. Hence, it was decided to study these.

Despite the fact that iron supplements are distributed free of cost through the ICDS under the NNAPP, these are also distributed by the private doctors and government/trust hospitals in urban areas. The women going for ANC to these clinics may receive tablets/prescription for the same. Hence,

it was thought worthwhile to study the role of these agencies in reducing the prevalence of anaemia, the preventive measures that they prescribe and attitude of the women towards the prescribed drugs.

A lack of compliance for iron tablets has been reported by many researchers (Affiffi et al 1966, Bonar 1969, Okafar et al 1985, Charoenlarp et al 1988). However, only a few systematic studies on compliance are available and reasons for non-compliance are not known. Hence, a need was felt to study compliance and reasons for non-compliance for iron folate supplements when adequate supplies are made available to the pregnant women.

If the prescribed dose of iron tablets is consumed regularly, an improvement in other nutritional parameters like gain in haemoglobin, improvement in weight gain, gestational duration and reduced episodes and duration of infectious morbidities are expected. However, studies on impact of iron through unsupervised field level supplementation trials are scarce, and hence these were studied.

Hence, the present study was planned with the following general objectives :

(1) To assess the perceptions of the women and functionaries regarding anaemia, health seeking behaviour and consumption of iron tablets.

(2) To study the feasibility of linking iron folate delivery to pregnant women to assess its efficacy on coverage and compliance.

(3) To study the impact of iron supplements on maternal and infant outcome parameters.

The first part of the study dealt with the quantitative data, collected by focus group discussions with the community women and functionaries to study their perceptions regarding anaemia, health problems during pregnancy, health seeking behaviour with respect to anaemia and attitude towards consumption of iron tablets.

The second part consisted of linking the distribution of iron tablets to the child immunization system, and assessing its impact on coverage and compliance. The nature of side-effects and beneficial effects experienced by the subjects, role of the private doctors and government hospitals in combating anaemia were assessed. The impact of the supplements was measured in terms of selected parameters of maternal and infant outcome.

The study was conducted over a period of two and half years (May 1991 to June 1993) in Baroda and Ahmedabad. The samples of 268 pregnant women were drawn from 10-15 ICDS centres operating in each of these cities. Pregnant women were selected before 24 weeks of gestation.

The study was conducted in two phases. In phase I, Focus Group Discussions (FGDs) were conducted with pregnant women to assess their beliefs regarding good health, their health seeking behaviour especially with respect to anaemia and their attitude towards consumption of iron tablets. The acceptability of the present system of distributing tablets

was also assessed. FGDs were conducted with AWWs, to assess their perceptions regarding anaemia, their health seeking behaviour, advice given to pregnant women regarding anaemia and their motivation for distribution of iron tablets. In the second phase, the ANM was requested to distribute 30 iron tablets once each month when the pregnant woman visited AWC for her child's immunization. No change in the colour, shape or packaging of the tablets was made. The women were instructed to consume one tablet/day without special instruction on the time of ingestion.

At baseline, data on socio-economic status, past obsteteric history, utilization of services, receipt and consumption of iron tablets by the women, morbidity profile, anthropometry and haemoglobin were collected. Subsequently, data were obtained on receipt and compliance for iron tablets, morbidity profile, anthropometry and haemoglobin levels each month till delivery or 32 weeks of gestation. The birth weights of infants were recorded from the hospital records. All data and parameters were assessed using standard techniques.

Of the 268 women enroled, 44% dropped out, mainly due to migration from the city and therefore, 149 subjects were fully followed-up till delivery. The major findings of the study are summarised below :

(1) Qualitative data indicated that the women were not aware regarding anaemia or its local term. Taking health care or medicines during pregnancy was not

felt necessary by the women. The women avoided allopathic medicines considering them to be "hot", however, tonics or iron/multi vitamin tablets were not considered "hot". They avoided taking more than one medicine together to avoid miscarriage.

(2) Linking the distribution of iron tablets with child immunization system was successful in providing a full dose of 90 tablets to 60% of the women against the 19% coverage reported in the NNAPP evaluation of the old system. Compliance was also high and 42% of the women reported to consume full dose of tablets.

(3) The private doctors and government/trust hospitals helped in improving the receipt and consumption of iron by women. However, only 9% and 8% of the women received full dose from the private and government/trust sources respectively out of which only 7% and 5% consumed full dose. Thus, although the rate of consumption was high, these sources did not make any significant contribution because of low coverage.

(4) Several beneficial effects were experienced by the women who consumed iron tablets. The most frequently mentioned effects were general good feeling, feeling energetic and less tired and decreased dizziness. These could be helpful in motivating women to consume iron tablets.

(5) Various side-effects of iron tablets were experienced by women at different stages of gestation. However, only 3-13% of the subjects reported stopping the consumption of iron tablets due to side-effects at different times during pregnancy.

(6) Several factors affecting compliance were evident. These were factors related to : the patients, disease characteristics, the doctors, the functionaries, logistical factors and social influences.

(7) General prevalence of anaemia decreased from 87% to 74% after supplementation and the prevalence of the severely anaemic women decreased from 12% to 5%. Mean Hb improved significantly by 0.72 g/dl. The Hb gain increased with the increase in the consumption of the tablets.

(8) A mean gain of 5.11 kg in weight was observed in the pregnant women from first contact till delivery. Only 3% of the subjects experienced a weight loss, while 14% of the subjects gained more than 9 kg till delivery. Mean weight gain increased as the number of iron tablets consumed increased.

(9) The mean birth weight of infants born to the subjects consuming less than 90 tablets was lower than that of the infants born to women consuming more than 90 tablets. Similarly normal Hb levels at

first contact improved the birth weight. However, no such trend was observed when the birth weights were compared to Hb levels at the final contact.

(11) Of the subjects anaemic at the last contact 78% had LBW baby.

(12) Weight of the pregnant women at enrolment, gain in weight during pregnancy and sex of the infant were found to be significant predictors of birth weight of the babies.

Implications of the Findings for the Anaemia Control Programme

The study assessed the feasibility of an alternative delivery system for iron folate distribution in India. Linking the distribution of tablets with child immunization system improved the coverage and compliance considerably. A reduction in the prevalence of anaemia was remarkable, however, a majority of the pregnant women still remained anaemic. The dose of 60 mg elemental iron per day was not sufficient to reduce the prevalence of anaemia to 1/3rd the baseline levels for women who were available for only 3 to 4 months. Hence, higher dose of 120 mg iron in divided doses of 2 tablets of 60 mg iron each to be taken every day throughout pregnancy is recommended. Proper packaging of the tablets is recommended to minimize spoilage and loss of tablets.

The belief of the women that the tablets are "hot" did not hamper the consumption of iron tablets. The older women also favoured its consumption due to their past experience.

However, they did not feel the need to consume the tablets regularly. Also, drugging their system with medicines is not culturally acceptable behaviour. In view of these findings, proper counselling regarding the need to consume the iron tablets regularly by pregnant women should be incorporated with the delivery of supplements. A good monitoring, support and follow-up by motivated field staff is necessary to improve compliance. This should be handled by experts in communication and social marketing strategies should be applied to improve the coverage and compliance. Thus, the current distribution of tablets should be linked with child immunization, with culturally acceptable counselling and attractive packaging.

Research Needs

(1) More systematic studies are required to quantify the various factors affecting compliance based on the qualitative data on these in the present study.

(2) There is a need to develop feasible and replicable education package with culturally acceptable simple messages to encourage pregnant women for regular consumption of iron tablets and to assess it's effectiveness in the field setting.

(3) More systematic studies are required on the morbidity profile of pregnant women and effect of iron status on morbidities experienced by the women.

(4) Studies on unsupervised field level supplementation of two doses of 60 mg iron per day on receipt, compliance and maternal-infant outcome parameters are necessary before its mass implementation.