

### Deepening Microfinance: Anaemia control for Healthy Generations

Health is not only an individual issue, but also a community issue. Poor health reduces the physical and cognitive capacities of an individual. When people identify health problems, their health seeking process is influenced by availability, accessibility, affordability, adequacy, and acceptability of health infrastructure. Women and children are more vulnerable due to poor nutrition, lack of sanitation, poor hygiene awareness, and lack of access to quality healthcare. Of all stages, the reproductive years are the most vulnerable in a woman's life, and this vulnerability is heightened by malnourishment.

Iron deficiency is the most prevalent nutritional deficiency in the world, and probably the most important micronutrient deficiency in India, where

least one out of five girls and women experience the condition at some point during their reproductive years. Illiteracy, poverty and general economic and social development have a bearing on the incidence of anemia among the people.

#### Kalanjiam Reproductive and Child Health Programme

The Kalanjiam Federations promoted by DHAN design and implement comprehensive reproductive and child health programme to bring positive changes in the health seeking behaviour of the members' families to prevent or reduce anemia and malnutrition among mothers and adolescent girls. They work in concert with the government and private healthcare systems for reducing healthcare expenditure and increasing health seeking behaviour. The Anemia Control is one of the components of the Kalanjiam Reproductive and Child Health (KRCH) Programme implemented by the Kalanjiam Federations. The project was supported by the ICICI Bank. A baseline survey was designed to assess the prevalence of anemia and related Knowledge, Attitude and Practice of pregnant women and adolescent girls. A representative sample of Kalanjiam members consisting of 205 pregnant

69.5 percent of children in the age group of six to 59 months are suffering from anemia of which 63 percent are in the urban areas and 71.5 percent in the rural areas. Iron deficiency anemia is the most common type of anemia. Most of the anemic patients, especially women, suffer from mild to severe deficiency of iron. The hemoglobin count in most of the adolescent girls in India is less than the standard 12 g/deciliter, the standard accepted worldwide.

About half of all pregnant women experience iron deficiency anemia during their pregnancies, and at



women and 448 adolescent girls from Nine Kalanjiam Federations were selected and interviewed with a pre-tested interview schedule.

- The prevalence of anemia was observed as 89.3 percent for pregnant women and 95.6 percent for adolescent girls. This was comparatively higher than that which was reported in other parts of the state and the state as a whole.
- All the possible responses for the consequences of anemia were stated by only a few of them. These observations hold good both for pregnant women and adolescent girls. Both pregnant women and adolescent girls were not fully aware of the complete list of foods that are rich in iron.
- While more than half the pregnant women knew about when Iron Folic Acid (IFA) tablets should be started and the number of tablets to be consumed very few of the adolescent girls had the correct knowledge.
- Around three fourth of the pregnant women and adolescent girls knew about the entry of hook worm into the body and the method of preventing the entry of hook worm and half of them knew the method of treating for hookworm infection.
- Only half of the pregnant women registered in the 3rd month of their pregnancy with the government healthcare systems.
- The number of women who have consumed more than 100 IFA was not satisfactory. Only one tenth of the respondents own a toilet in their home and more than three fourth did not use toilet always.
- Little more than half of the pregnant women and adolescent girls used slippers always while they went out of their homes. Only one tenth of the pregnant women were treated for hookworm infection during their pregnancy.
- While more than two third consumed greens weekly thrice, other iron rich foods such as dates, ragi, jaggery, guava were consumed by few pregnant women and adolescent girls. Meat and fish were hardly used in the diet.

Based on these findings the Kalanjiam Federations



have short listed members and adolescent girls in their families. Based on the level of hemoglobin levels they have been grouped into mild, moderate and severely anemic.

### Anaemia Control Project

In the nine federations selected for the project 1,700 Kalanjiam Groups are functioning in 408 villages. Of these 1,204 Kalanjiam groups were selected and benefited under this project. About 1315 pregnant women were benefited through this anaemia control project. Of the 408 villages, in 309 villages 312 adolescent groups were formed to implement this project among adolescent girls. About 6,690 adolescent girls were benefited through this anaemia control project.

‘Enabling Self Health Governance’ was the core component of the experiment where the people were enabled to become aware of their rights from the government health care system. A well knitted ‘Behavioural Change Communication (BCC)’ package was used to bring positive changes in the health seeking behaviour of the members’ families. The focus on ‘Linkage Building’ enabled the federations to build a sound demand system to claim for legitimate rights from the mainstream and to ensure the reach of quality programmes to all eligible poor. Ultimately the ‘Case Management and Referral Services’ with a strong backup of the microfinance was the foundation of the intervention. The support from the ICICI Bank, and collaboration with the Department of Health & Family Welfare, Tamil

Nadu were crucial in the experiment.

All pregnant women were identified by the health guides and motivated to register with the government Village Health Nurse and obtain Ante Natal Care starting with procuring Iron and Folic Acid (IFA) tablets from the 4<sup>th</sup> month and consume a minimum of 100 tablets during their entire pregnancy. This was monitored by the field level Kalanjiam staff. The pregnant women weight was monitored to gain 10 kg during pregnancy. They were given anaemia related facts through BCC methods a number of times.

All adolescent girls from the Kalanjiam members' family were made to meet as an Adolescent group and they were educated on the anaemia related messages using the various Behavioral Change Communication strategies. Peer educators were organized to educate others and were made to monitor the activities like, distributing IFA, making adolescents wear slippers, procuring and consuming IFA tablets, de-worming and monitoring.

Each health guide was responsible for a particular geographical area around their home village. There was one health associate for 5-7 health guides who would be in charge of delivering all health related activities. The health coordinator was responsible for one federation. The MIS data at the village level from pregnant women and adolescent girls were collected and maintained by Health Guides and sent it to Health Associates and they consolidated for the federation and gave it to the Health Coordinators.

### Conclusions of End Evaluation

The Anaemia Control programme a community based action research embedded with a one group pre post design. This is the end of project evaluation of the Anaemia Control Project carried out by Kalanjiam Foundation through nine federations in different districts of Tamilnadu during the period from 2006 to 2008. The evaluation data was collected in December 2008 and January 2009. This was one group pre post evaluation without a control. In the Baseline Survey all pregnant women of Kalanjiam members consisting of 205 and 165 and a representative sample of 448 and 430 adolescent girls

from the nine Federation areas were chosen as the samples. Personnel working in different areas of Kalanjiam not associated with the Health Programmes were involved in data collection coordinated by a senior official who had joined Kalanjiam just prior to the evaluation with good experience in research. In addition, qualitative methods were adopted by Kalanjiam staff at various levels using KII (Key Informant Interview) with the top level and Focus Group Discussions with other levels staff which was carried out by the consultants.

### Decrease in the prevalence of anemia

#### Pregnant women

- The interventions impacted a significant ( $P < 0.000$ ) decrease 25.7 percent in the prevalence of anaemia among pregnant women from 89.3 percent to 63.6 percent.
- The severe anaemia among pregnant women was not a major problem in this area. The impact of the interventions reduced the prevalence of moderate anaemia by 40.8 percent which was highly significant ( $P < 0.000$ ). The shift occurred from moderate to mild and normal category is indicative of the positive impact of the interventions.
- The mean Hb and maximum Hb level had an increase from 9.49 to 10.41 g/dl and 12.1 to 14.2 g/dl respectively

#### Adolescent Girls

- The impact made among adolescent girls was a significant decrease of 34.4 percent in the prevalence of anaemia ( $P < 0.001$ )





- Severe anaemia was reduced from 5.8 percent to 0.5 percent. Moderate anaemia has shown a significant ( $P < 0.001$ ) decline of 36 percent. The occurrence of shift from moderate to mild and normal category is indicative of the positive impact of the interventions
- The mean Hb and maximum Hb level had an increase from 9.6 to 11.3 g/dl and 13.0 to 14.4 g/dl respectively

### Increase in the knowledge of anaemia related facts

#### Pregnant women

- A significant increase in the knowledge level was observed among pregnant women on the definition of anaemia and each of the 8 signs & symptoms, 8 causes, 7 consequences, detection and 4 preventions. The normal level of Hb for pregnant woman was known by 95.8 percent of the women.
- The increase in the knowledge of Jaggery, ragi, Guava, meat and fish as iron rich foods was found to be significant.
- The knowledge that a minimum of 100 tablets of IFA must be consumed during pregnancy was significantly ( $P < 0.001$ ) increased from 57.1 percent to 100 percent. The knowledge on the correct month to start IFA was increased from 47.8 percent to 93.9 percent which is significant ( $P < 0.001$ ).
- All pregnant women knew the path of entry for hook worm as the feet, prevention of hook worm and treatment for hook worm which were significantly increased from 68.3 percent, 73.2 percent and 51.2 percent respectively

#### Adolescent Girls

- A highly significant ( $P < 0.0000$ ) increase in the knowledge level was observed among adolescent girls on the definition of anaemia and each of the 10 signs & symptoms, 7 causes, 7 consequences for adolescent girls, 7 consequences for pregnant women, detection and 4 ways of preventing anaemia. The normal level of Hb for adolescent girl and the same for pregnant woman was known to 92.3 percent and 98.4 percent respectively of the adolescent girls.

- The knowledge on the correct number of IFA to be taken by pregnant women as minimum 100 tablets during pregnancy was increased from 15.4 percent to 99.8 percent and the correct month to start IFA increased from 15 percent to 96 percent which were found to be highly significant ( $P < 0.000$ ). The knowledge of stating each of the 5 listed side effects was found to be significant ( $P < 0.0001$ ).
- The knowledge on iron rich foods as greens, GLV, dates, jaggery, ragi, guava, meat and fish have significantly increased ( $P < 0.001$ ) after the intervention
- All adolescent girls knew the path of entry for hook worm as the feet, prevention of hook worm and treatment for hook worm which were significantly increased from 75.0 percent, 76.3 percent and 45.5 percent respectively

### Change in the attitude towards anaemia

There is very high positive attitude in every area measured towards anaemia. Probably this is based on the education on anaemia provided at the grass root level.

### Shift in the practices related to anaemia

1. Pregnant women - antenatal care, early IFA procurement and consumption, regular weight taking during pregnancy, Hb testing and intake of iron rich foods.
2. Adolescent girls - IFA procurement and consumption, regular weight taking, Hb testing, intake of iron rich foods and de-worming.

#### Pregnant women

- Before intervention 65.4 percent pregnant women had minimum of 3 antenatal checkups which was increased to 80 percent.
- IFA procurement and IFA consumption have not changed much except those who consumed more than 90 have increased from 6.4 percent to 17 percent.

- The practice of using toilet always is very low. Probably this is associated with few houses where toilets are available in houses.
- The practice of wearing slippers always have increased significantly ( $P < 0.001$ ) from 55.6 percent to 93.9 percent
- The practice of taking de-worming tablets during their pregnancy was not adopted as this was not promoted by the government health system.
- There was not much change observed in the dietary pattern of increasing their diet during pregnancy or having the same quantity or reducing their diet.
- Even the consumption of iron rich foods that were promoted such as greens, GLV, dates, ragi, guava, meat and fish did not change much.

#### Adolescent Girls

- Adolescent girls have procured (86.5 percent) and consumed (80 percent) 30-60 IFA tablets significantly different from the baseline data (22.1 percent).
- The consumption of iron rich foods that were promoted such as greens, GLV, dates, ragi, guava, meat and fish did not change much because of the intervention

- The changes in the practice of using toilet did not take place. Probably this is associated with few houses where toilets are available in houses.
- The practice of wearing slippers always have increased significantly ( $P < 0.0$ ) from 55.4 percent to 97.2 percent

#### Behaviour Change Communication Materials

The BCC materials developed were found to be effective enough to bring knowledge change. The flip chart and hand bills have complete correct and positive messages on anaemia. Flip chart and hand bills cover the entire range of messages on anaemia and they can be used anywhere and every where

#### De-worming and hook worm infection

The government system did not support the pregnant women de-worming and hence it did not take place. Adolescents were de-wormed once in 6 months. De-worming was done at least once for 93.5 percent of the adolescent girls during intervention. A small sample of adolescents tested was found to have no hook worm prevalence in the stools tested.

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Excerpts from the evaluation reports of Dr. Abel Rajaratnam and Dr. Jolly Abel, who have done base line and end evaluation for the Anaemia Control Project implemented by the Kalanjiam Federations

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