



# Delaying Age of Marriage and Reducing Anaemia Among Adolescent Girls in Jharkhand

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## Introduction

India is a young country and one-tenth of its population comprises adolescents aged 15-19 years.<sup>1</sup> Although the minimum legal age at marriage for girls in India is 18 years, the traditional practice of marrying girls early is still prevalent in many regions across the country. Early marriage in India is generally followed by early and closely spaced childbirths, which pose increased risk of maternal and newborn mortality and morbidity.

In Jharkhand, the median age at marriage for girls is 15.8 years. Adolescent girls in the state suffer from high levels of under-nutrition and anaemia, which further increases their risks in pregnancy and childbirth. Nearly half of girls in the age group of 15-19 years are mildly anaemic, 18 percent are moderately anaemic and 0.8 percent severely anaemic in Jharkhand.<sup>2</sup>

The USAID-funded Vistaar Project responded to a request from the Government of Jharkhand (GOJH) to provide technical assistance in its efforts to improve adolescent health in the state. The Project led by IntraHealth International, initiated evidence reviews and consultative meetings in early 2007. As a result, GOJH and the Project decided to focus on two key adolescent health issues: early marriage and adolescent anaemia. The Project assisted five districts in Jharkhand: Chatra, Garhwa, Hazaribagh, Latehar, and Ramgarh. The Project contracted with a local non-governmental organisation, Child in Need Institute (CINI), to support these interventions, especially at the district level.

The Project, in partnership with state and district officials from different departments, identified specific interventions, which included the following:

- Sensitising and motivating state and district officials to adolescent health issues

- Developing an adolescent health communication strategy for the state
- Expanding Life Skills Education (LSE) within two government programmes, the *Kasturba Gandhi Balika Vidyalyaya* (KGBV) and the National Programme for Education of Girls at Elementary Level (NPEGEL)
- Building a pool of trainers including cluster coordinators from the Department of Education (DOE) and Lady Supervisors from the Department of Women and Child Development (DWCD), with increased capacity in LSE, Interpersonal Communication (IPC), and equity and gender
- Supporting these trainers to conduct training for teachers and *Anganwadi* workers (AWWs) to address select adolescent health issues

### Results from the Project Management Information System (July 2009-March 2012)

- A multi-agency team developed an adolescent health communication strategy for GOJH.
- The Project team helped to train a pool of 207 teachers from KGBV and NPEGEL, who provided LSE to 4,976 adolescent girls in five Project districts.
- The Project trained 39 ICDS Lady Supervisors in IPC and equity and gender issues, who then trained 976 AWWs during the regular monthly meetings in Hazaribagh and Ramgarh districts.
- The Project team oriented 96 religious leaders in Ramgarh, Chatra and Garhwa districts on issues related to early marriage, and supported them in discouraging underage marriages.
- The team helped DHFW establish model adolescent-friendly clinics in seven community health centres in Hazaribagh and Ramgarh districts.
- The team helped DHFW organise the first annual adolescent health week called *Kishori Swasthya Saptah* (KSS), which was attended by over one million adolescent girls, across the state.

- Sensitising and orienting key community leaders on the benefits of delaying age of marriage (e.g., religious leaders, parents, teachers, health workers, and other community members)
- Advocating for adolescent-friendly health services and supporting the Department of Health and Family Welfare (DHFV) to establish adolescent-friendly clinics
- Supporting iron and folic acid (IFA) distribution programmes for KGBV and NPEGEL schools
- Strengthening Village Health and Nutrition Days (VHNDs), to improve their outreach and services to adolescent girls
- Organising adolescent health weeks for adolescent girls and their families

## Endline Evaluation

The Project conducted a baseline survey in the five Project-assisted districts, Chatra, Garhwa, Hazaribagh, Latehar, and Ramgarh, in November-December 2008. Due to factors such as political unrest in Naxalite areas, disruption in IFA supplies and frequent transfers of officials, the level of technical assistance was higher in Hazaribagh and Ramgarh, and hence, in March-April 2012, the Project conducted an endline survey only in Hazaribagh and Ramgarh districts.

The baseline survey targeted 1,000 adolescent girls and 1,000 adolescent boys aged 15-19 years and 1,000 parents (500 mothers and 500 fathers) of adolescents in every district using a multi-stage cluster sampling technique. The survey team also interviewed two community leaders from each primary sampling unit (PSU), consisting mostly of village leaders (*Pradhans*), local government (*Panchayat*) or ward members, teachers or AWWs.

The endline sampling methodology was similar to that at baseline. However, during the endline, adolescent boys and their fathers were not included in the sample, since the Project's technical assistance activities were more focused around adolescent girls and, to some extent, their mothers. At baseline, adolescent girls were tested for their haemoglobin levels (Hb% in blood), to estimate anaemia levels. However, due to a chronic shortage of IFA supply in Jharkhand for over a year starting from December 2010, the endline survey did not conduct haemoglobin tests. The endline measured changes in the awareness related to anaemia and in IFA consumption. In the absence of haemoglobin testing for anaemia in adolescents at endline, the sample sizes were recalculated. In each district, the

endline sample size was set at 500 adolescent girls and 500 mothers of adolescent girls. As with the baseline survey, the survey team interviewed two community leaders from each PSU.

**Table 1: Sample sizes for baseline and endline**

Respondents	Baseline			Endline		
	Hazaribagh	Ramgarh	Total	Hazaribagh	Ramgarh	Total
Adolescent girls	1,000	899	1,899	500	500	1,000
Mothers of adolescent girls	471	433	904	500	500	1,000
Community leaders	200	200	400	105	106	211

The Project selected external research agencies for data collection: ORG Centre for Social Research for baseline and Centre for Operations Research and Training for endline. The Project also identified an external consultant to guide the analysis and write an endline report.

## Key Findings

This section compares the Project's baseline and endline survey data collected from the two districts of Jharkhand. Asterisks (\*) are used to highlight the statistically significant difference at 5 percent level of significance, between baseline and endline data.

### Characteristics of Survey Respondents

**Adolescent girls:** The mean age of adolescent girls interviewed was 16.6 years, both at baseline and endline. However, there were some differences in the characteristics of the sample of adolescent girls between the two surveys. At endline, 78 percent of the girls interviewed were currently attending school compared to 71 percent at baseline. The adolescent girls interviewed at endline were less likely to be engaged in working or earning money.

**Mothers of adolescent girls:** The mean age of mothers of adolescent girls interviewed was around 41 years in both the surveys. Only 28 percent had formal schooling, with the average number of years of schooling being seven years (for both endline and baseline samples). The average number of children was 4.2 per mother at endline, as compared to 4.7 at baseline.

**Community leaders:** Of the 211 community leaders interviewed at endline, about a third were AWWs (31%), followed by *Panchayat* members and other community leaders (28%), *Sahiyyas* (community-level outreach workers

for DHFW, also called ASHAs in Uttar Pradesh) (23%) and Lady Supervisors (9%). Only two teachers could be interviewed at endline, since data collection took place during the summer holidays (April 2012), when schools were closed and teachers were unavailable.

### Improved Knowledge and Attitude Toward Age of Marriage

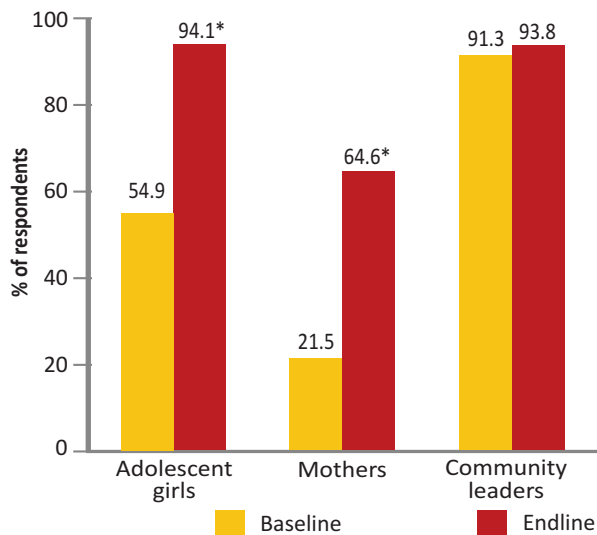
#### Prevalence of marriage among adolescent girls

Only 6 percent of the adolescent girls interviewed at endline were married, compared to 17 percent at baseline suggesting some success in reducing early age of marriage. Among the 6 percent who were married, the average age at first marriage was found to be 16.3 years, the same as at baseline. Both at baseline and endline, the likelihood of early marriage was higher among those who were out-of-school, were engaged in earning activities, came from low standard of living index homes, and belonged to scheduled castes/tribes.

#### Knowledge of legal age of marriage

Adolescent girls, their mothers and community leaders were much more knowledgeable about the legal age of marriage for girls at endline. Among the adolescent girls interviewed, 94 percent knew the correct minimum legal age at marriage at endline, compared to 55 percent at baseline. There was also a significant increase in the number of mothers who were aware that getting a girl married before the legal age is a punishable crime (Figure 1).

Figure 1: Correct knowledge of legal age of marriage



### Awareness of negative effects of early marriage and benefits of delaying marriage

All those surveyed reported increased awareness regarding the negative health aspects of early marriage such as negative psychological effects (challenges in terms of dealing with family matters and child care, and mental stress), increased incidence of domestic violence and denial of education (Table 2).

Table 2: Awareness of negative effects of early marriage and benefits of delaying age at marriage

Negative effects of early marriage of girls	% Adolescent girls		% Mothers		% Community leaders	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Difficulty to rear children	13.5	42.7*	7.6	62.8*	26.5	78.3*
Immature to handle family matters	12.8	65.1*	7.4	65.9*	21.3	76.3*
Deprived of education	13.5	39.0*	6.6	30.5*	16.3	35.5*
Mental stress	5.3	13.3*	3.6	15.9*	22.0	26.5
Domestic violence	4.0	5.9*	2.9	6.3*	4.3	7.1
<b>Benefits of delaying girls' age at marriage</b>						
Physically and mentally stronger	62.8	63.2	48.3	90.7*	86.5	96.2*
Healthier mother results in healthier child	50.6	51.9	39.0	82.8*	74.0	90.0*
Can complete her secondary education	20.3	72.3*	12.0	51.3*	28.5	74.9*
Independent and able to provide financial support to family	14.4	26.7*	6.0	26.6*	18.3	23.7
Decrease in domestic violence	3.7	5.9*	2.2	4.3*	5.5	6.2
Number of respondents	1,899	1,000	904	1,000	400	211

Various benefits of delaying girls' age at marriage are well known across respondent categories (adolescent girls, mothers and community leaders) and were higher at endline than at baseline. The most frequently cited benefit for girls was the opportunity for girls to continue their education.

#### Reasons for marrying girls before the legal age of marriage

The three most common reasons for marrying girls before the legal age of marriage, as stated by adolescent girls, their mothers and community leaders were:

- concern for the girl's protection, as she becomes an adolescent
- the belief that finding a suitable groom is easier if the bride is younger
- less dowry is required for younger brides

Other reasons cited were custom/tradition, a cultural preference for younger brides, and less opportunities for marriage as the girls grow older. The reasons cited were the same at both baseline and endline, though a significantly higher percentage of adolescent girls, mothers and community leaders mentioned these at endline, perhaps indicating increased attention to this issue, and an increased understanding about the causes of early marriage.

### Actions that can be taken to delay marriage

Adolescent girls, mothers and community leaders were asked to spontaneously list actions that can be taken to delay marriages. Allowing girls to complete their education and letting them engage in some meaningful work were the most important actions they mentioned. The percentage of girls, their mothers and community leaders who believe that parents play a significant role in delaying marriage more than doubled at endline.

### Involvement of adolescents in decision-making at marriage

Almost all the never-married adolescent girls believed that they would be consulted by their families regarding decisions related to their marriage, which is a significant increase from the baseline. They felt that their parents would ask them for their consent to the marriage, as well as consult them regarding the choice of groom. Almost three-quarters of the unmarried adolescent girls interviewed at endline also believed that their family would agree to delay the marriage, if the girls requested it. This change in perception was the same across all the girls interviewed, regardless of rural or urban residence, religion, caste/tribe, standard of living index, level of education, or whether they had attended any educational session on this topic (Table 3).

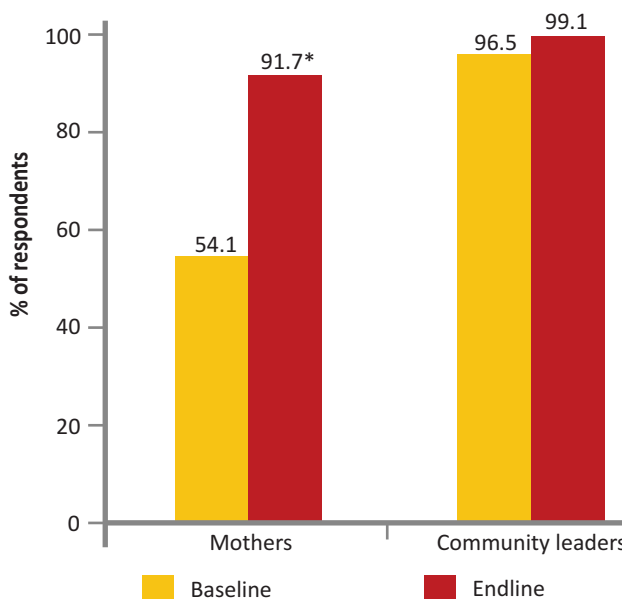
**Table 3: Perceived and actual involvement of adolescents in decision-making regarding marriage**

Perceived involvement reported by unmarried girls	Baseline	Endline
	% Adolescent girls	
Expect to be consulted about the groom	82.8	96.6*
Expect their consent will be taken for marriage	81.9	96.0*
Expect the family will agree to delay marriage, if adolescent girl requests	3.8	72.1*
Number of respondents (unmarried adolescent girls)	1,580	936
Actual involvement reported by married girls		
Consulted about the groom	67.6	73.4*
Consent asked for marriage	63.4	60.0*
Number of respondents (married adolescent girls)	313	64

To gain an insight into the actual practice of involving girls regarding decisions related to their marriage, married adolescent girls were asked if their parents had indeed involved them in the decision-making process. About three-quarters (73%) of the girls interviewed at endline had been consulted by their families about the choice of the groom (somewhat higher than at baseline) and almost two-thirds (60%) were asked for their consent to the marriage (a small reduction from baseline).

Almost all the mothers and community leaders interviewed at endline considered it important to consult with the girl before marriage to ask for her consent regarding the age at which she would like to get married and the timing of her marriage. This represents a significant change in mothers' attitudes compared to baseline (54% to 92%) (Figure 2).

**Figure 2: Intent to take the consent of the girl for marriage**



## Improved Knowledge and Attitude toward Family Planning

### Pregnancy among married adolescents

Of the 64 married adolescents interviewed at endline, 68 percent had ever been pregnant, which is an increase over the baseline (51%). This could be related to the smaller sample size in the endline survey (313 married adolescents at baseline compared to 64 married adolescent girls at endline).

## Awareness and attitude toward family planning

When adolescent girls were asked whether couples should use contraception after marriage to delay pregnancy, 85 percent said that they should, as compared to 65 percent at baseline. The percentage of adolescent girls who felt that the ideal gap between a couple getting married and having their first child should be more than two years increased from 17 percent at baseline to 40 percent at endline. The average ideal gap between successive pregnancies has significantly increased from 27 months at baseline to 40 months at endline. Both at baseline as well as at endline, adolescent girls reported that the ideal number of children that a couple should have is 2.3 (Table 4).

**Table 4: Perception of adolescent girls on healthy timing and spacing of births**

Perceptions	% Unmarried girls		% Married girls		All	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Young couple should use any method to delay pregnancy after marriage	63.9	84.6*	67.3	84.8*	64.5	84.7*
Ideal gap between marriage and before couple should have first child:						
0-1 year	17.1	15.6	19.2	15.5	17.4	15.6
1-2 years	53.4	41.3*	57.6	29.2*	55.2	40.5*
2+ years	19.1	40.4*	12.6	47.0*	16.9	40.8*
Average ideal space between births (in months)	26.4	39.6*	26.9	39.8*	26.5	39.6*
Average ideal number of children (in absolute number)	2.2	2.2	2.3	2.2	2.3	2.2
Number of adolescent girls	1,586	936	313	64	1,899	1,000

Contraceptive education was an element of the technical assistance activities supported by the Project such as LSE in the schools, adolescent health weeks (*Kishori Swasthya Saptah*) and adolescent-friendly health clinics. Endline findings indicate that adolescent girls' knowledge of family planning methods like oral contraceptive pills, condoms, Copper T and injectables had significantly increased at endline. Almost all of the adolescent girls interviewed at endline were interested in receiving more information on contraception (Table 5).

**Table 5: Awareness of adolescent girls about family planning methods**

Methods of family planning	Baseline	Endline
	% Adolescent girls	
Oral contraceptive pills	94.7	98.4*
Copper T	11.7	33.3*
Condom	44.0	68.0*
Injectable contraceptives	8.9	21.9*
Implant / Foam tablets	0.3	0.7
Periodic abstinence / safe period / withdrawal	2.6	1.4
Interested in receiving more information about delaying pregnancy	83.5	97.5*
Number of respondents (adolescent girls aware of family planning methods)	918	859

## Improved Knowledge and Attitude toward Anaemia and Nutrition

### Awareness about anaemia

Awareness of anaemia increased substantially over the intervention period. At baseline, only 39 percent of adolescent girls and 27 percent of mothers knew the local term for anaemia (*khoon ki kami*) and were aware of what it meant. During the endline survey, more than 97 percent of adolescent girls and mothers knew the term and understood what it meant.

### Awareness of symptoms and causes of anaemia

Awareness of the symptoms and causes of nutritional anaemia was quite limited at baseline. However, at endline, a significantly higher percentage of adolescents and mothers mentioned weakness, dizziness, fatigue, pallor, swelling of the hands, feet and face, visual disturbances, and complications during pregnancy as important signs of anaemia. When adolescent girls and mothers were asked about what causes nutritional anaemia in adolescents, more than 90 percent mentioned low intake of food and lack of green leafy vegetables in the diet as reasons. Almost a third of them were also aware that iron supplementation could prevent anaemia in adolescent girls.





At baseline, only 10-12 percent of the adolescents or their mothers could identify girls at risk of anaemia. However, during endline, close to 90 percent of them were aware that girls who have low intake of food and who lack nutritious food in their diet were prone to suffering from anaemia. A significantly higher proportion of adolescent girls and mothers were also aware that girls with menstrual problems and those that married early and those who had early and frequent pregnancies were more likely to be anaemic than at baseline.

### Awareness of preventive measures

Adolescent girls and mothers had more knowledge on how to prevent anaemia at endline than at baseline. When adolescent girls and mothers were asked about the measures that can be taken to prevent anaemia, 95 percent were aware that eating green leafy vegetables would help. In addition, around half the adolescents and one-third of the mothers interviewed were also aware that IFA supplementation could prevent/reduce anaemia, an increase from the baseline (Table 6).

**Table 6: Awareness of anaemia prevention measures**

Preventive measures against anaemia	% Adolescent girls		% Mothers	
	Baseline	Endline	Baseline	Endline
Eat green leafy vegetables	23.2	96.8*	17.4	94.8*
Eat more fruits	19.9	93.6*	14.5	88.9*
Take IFA tablets	2.8	52.5*	0.7	33.2*
Cook in iron pots	0.7	4.5*	0.7	1.4
De-worming	0	0.4*	0.1	0.9*
Number of respondents	1,899	1,000	904	1,000

On probing the girls and mothers further, to gauge their knowledge about the different iron rich foods, over 90 percent mentioned green leafy vegetables at endline, compared to less than a third at baseline. They were also more aware of the nutritional sources of vitamin C (which aids in iron absorption), like tomatoes and other citrus fruits, *amla* (gooseberry), radish, coriander and fenugreek leaves, as compared to those surveyed at baseline, when very few could identify vitamin C rich foods.

At endline, 93 percent of adolescent girls were also aware that anaemia could be treated through IFA supplementation. Over 90 percent of mothers and community leaders were aware of the importance of eating '*tiranga bhojan*' (a concept developed to promote improved diets, using the three colours

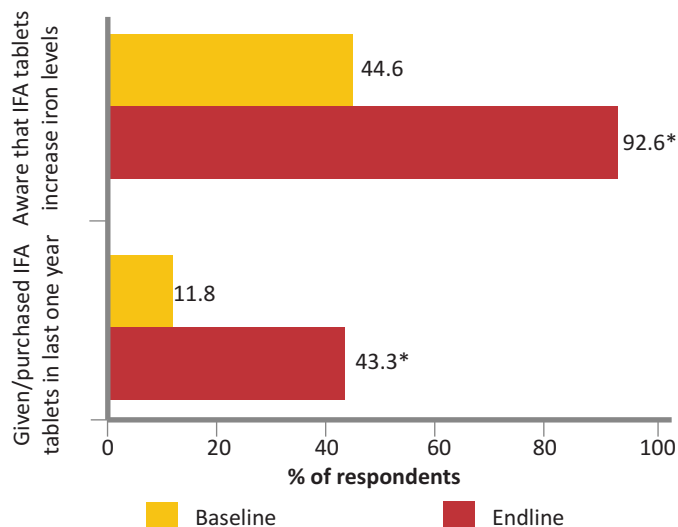
of the Indian national flag to encourage consumption of white foods such as dairy and eggs, green foods such as vegetables, and saffron foods such as fruits for preventing anaemia in girls).



### IFA and anaemia

Almost half the girls interviewed at endline had been given or had purchased IFA tablets within the last year, a significant increase over the baseline (Figure 3).

**Figure 3: Awareness and access to IFA tablets by adolescent girls**



Adolescent girls were also asked about the number of IFA tablets that they had received or bought and how many they had consumed during the one year preceding the endline survey. The adolescent girls had received, on average, 47.3 tablets, and reported that they had consumed most of the tablets (46.3 tablets). As per public health protocol, adolescent girls are recommended to take one IFA tablet weekly (52 tablets in a year) (Table 7).

**Table 7: Consumption of IFA tablets by adolescent girls in last one year**

IFA consumption	Baseline	Endline
Average number of iron tablets given/purchased	10.8	47.3*
Average number of iron tablets consumed	6.1	46.3*
Number of respondents (adolescent girls who consumed IFA tablets)	112	43.3*

### De-worming

Regarding de-worming, 22 percent of the adolescents reported taking tablets to treat intestinal worms at endline, compared to 3 percent at baseline. On average, these girls had taken anthelmintics twice within the one year prior to the endline survey (which aligns with the public health protocol of de-worming once every six months).

### Awareness and utilisation of Village Health and Nutrition Days

During the baseline survey, less than a tenth of the mothers and about half the community leaders interviewed were aware of VHNDs. At endline, however, a significantly higher percentage of mothers (98%) and community leaders (94%) were aware of VHNDs. Over 90 percent also reported that VHNDs were held regularly in their area and that they found VHNDs to be beneficial.

Ninety-nine percent of adolescent girls were aware of VHNDs at endline, although only about half of them could correctly state their frequency. About two-thirds of the girls stated that they themselves, or a family member, had received services during VHNDs. The topmost services received by adolescent girls during VHNDs were: supplementary nutrition, IFA supplementation and counselling.

### Conclusions

The baseline and endline survey data indicate that the collaborative efforts of the Project and GOJH (DHFV, DWCD, and DOE) have contributed to increased levels of knowledge and changed perceptions of adolescent girls, their mothers and community leaders regarding the age at marriage for girls, including the benefits of delaying marriage and negative effects of early marriage. The interventions have increased awareness and changed attitudes towards early pregnancy and use of contraception. The interventions have also increased knowledge about nutritional anaemia and how to

prevent it, as well as increased consumption of iron supplements among adolescent girls. The results can be summarised as follows:

- The proportion of adolescent girls who marry early appears to be declining, as the proportion of married girls reduced from 17 percent in the baseline sample to 6 percent in the endline sample.
- A higher percentage of mothers and community leaders at endline believed that it is important to involve adolescents in decisions regarding the age and timing of their marriage. Actual involvement reported by married girls also increased, although lower than the expected levels reported by adolescent girls.
- More adolescent girls and mothers are now aware that early marriage is a punishable offence and intend to delay marriage.
- The reasons cited for early marriage have not changed.
- There is greater awareness that keeping girls in school and engaging them in earning activities are actions that can help delay age at marriage.



## Vision

IntraHealth International believes in a world where all people have the best possible opportunity for health and well-being. We aspire to achieve this vision by being a global champion for health workers.

## Mission

IntraHealth empowers health workers to better serve communities in need around the world. We foster local solutions to health care challenges by improving health worker performance, strengthening health systems, harnessing technology, and leveraging partnerships.

For more information, visit [www.intrahealth.org](http://www.intrahealth.org)

## The Purpose of the Vistaar Project

To assist the Government of India and the State Governments of Uttar Pradesh and Jharkhand in taking knowledge to practice for improved maternal, newborn, and child health and nutritional status

- Knowledge about family planning methods has increased and adolescent girls show increased support for delaying the first pregnancy, with an increasing number of adolescent girls believing that young couples should use a family planning method.
- Adolescent girls, their mothers and community leaders are more aware of the causes, symptoms and ways to prevent nutritional anaemia. There is increased awareness of the importance of consuming foods rich in iron and vitamin C, and IFA supplementation.
- Adolescent girls are receiving and consuming more IFA supplements, close to the recommended levels.

IntraHealth International, Inc. is the lead agency for the Vistaar Project. For more information on the Vistaar Project, see: [www.intrahealth.org/vistaar](http://www.intrahealth.org/vistaar)

### Technical assistance partners

