

# Adolescents

## The Problem

Adolescence (10 to 19 years) is the transitional period of physical, physiological and psychological development from puberty to adulthood. More than 1.2 billion people worldwide are adolescents; this indicates that roughly one in every six people is an adolescent. About 21 percent (243 million) of India’s total population is in the age group of 10 to 19 years (Census of India, 2011). This share is slightly higher in Rajasthan at 23 percent (15.7 million). Adolescents face challenges like poverty, lack of access to healthcare services, unsafe environments, etc., and have specific needs that vary with gender, life circumstances and socioeconomic conditions. The key issues affecting the development of adolescents in India as well as Rajasthan include high rate of child marriage, high prevalence of anaemia, especially among females and various problems related to mental health.

This study has looked into three critical problems that affect adolescents in the context of Rajasthan. These problems are: prevalence of girl child marriage, prevalence of anaemia among adolescent girls, and mental health problems among the adolescent population in schools.

## Solutions

Interventions	BCR	Benefit (INR Crores)	Cost (INR Crores)
Delaying child marriage via direct incentives	3.4	6,728	2,000
Preventing anemia among adolescent girls	9.2	766	83
School based behavioral screening and further mental health services for the adolescents	1.4	264	189

Total costs and benefits are discounted at 5%

The full paper by **SD Gupta, Md Mahbub Hossain, Neeraj Sharma, PR Sodani and DK Mangal** of IIMR University, Jaipur is available on [www.rajasthanpriorities.com/adolescents](http://www.rajasthanpriorities.com/adolescents)

## Delaying child marriage in Rajasthan by providing incentives

### The Problem

As per NFHS-4 (2015-16), 35.4 percent of women in the age group of 20-24 years in Rajasthan were married before 18 years of age, making them a victim of child marriage. In rural areas of Rajasthan, the prevalence is even higher at 40.5 percent (NFHS-4) Apart from health-related issues, child marriage primarily affects the educational and economic opportunities of adolescent girls in their adulthood.

All major states and the Union Government in India have different schemes encouraging the protection and education of the girl child. Most of these schemes provide for cash incentives on the condition that the girl child is not married off before the legal age of marriage, which is 18 years in India. However, various studies have shown these schemes have not been able to yield the desired results.

### The Solution

The proposed intervention will provide incentives to households in rural areas in the form of a consumable on the condition that their girl children are not married before 18 years of age. The decision on the

consumable can be taken by policy makers depending on local needs. The consumable is transferred at regular intervals in a year to the eligible household on the condition that the girl is not married off in this period.

This intervention aims to target around 6.9 lakh 14-year-old girls who are both in school and out of school and follow this cohort for next the 4 years till they reach 18 years of age.

It is proposed that this will be implemented through the Panchayati Raj Government by the department in charge of women and child development in the state.

**Costs**

The cost estimation is based on an analysis of a similar successful program in Bangladesh. This comes to around Rs. 2,239 per beneficiary, which is 2.4 percent of per capita income of the state, for a total cost of 457 crore over four years.

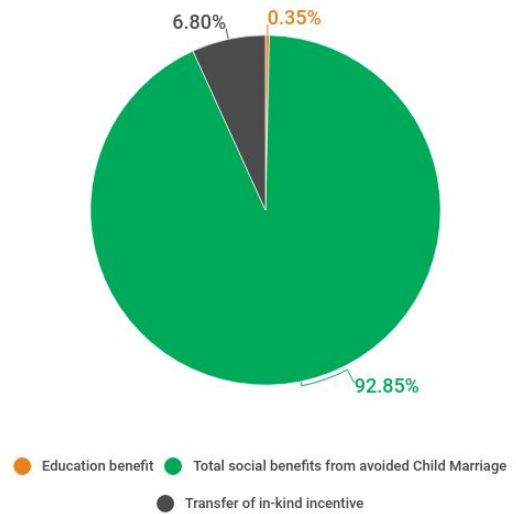
Reduction in child marriage also results in higher enrolment in schools. The marginal cost of education due to increased schooling resulting from the intervention is estimated at 13 crores. And lastly, the implementation cost of the program that includes transport, staff and other program-related expenses is estimated at 1,530 crores. Total cost of this intervention is Rs. 2,000 crores over a period of four years with a discount rate of 5 percent.

**Benefits**

The intervention is expected to reduce the child marriage rate from the existing 35 percent to 26.6 percent, a reduction of 25 percent. This translates to around 61,000 fewer child marriages in the state in four years due to the intervention. The averted social costs of child marriage and incremental benefits in wages with increased years of schooling have also been factored.

Finally, the amount of incentives provided to each beneficiary within the program has been included. as this is a transfer and hence also a benefit for the household. The total of benefits from the intervention for one cohort amounts to Rs 6,728 crores after discounting at 5 percent.

**Benefits from delayed child marriage**



**Preventing anaemia among the adolescent girls through iron and folic acid supplementation**

**The Problem**

During 2015-16 in India, the prevalence of any anaemia (hemoglobin level <12 gm/dl) among women aged 15 to 49 years was 53 percent (NFHS-4). Anaemia is another critical adolescent health issue. In Rajasthan, 47 percent women in age group 15 to 49 years are anaemic as of 2015-16. This includes 35 percent with mild anaemia, 11 percent with moderate anaemia and 1 percent with severe anaemia (NFHS-4). At the current prevalence rate, around 60 lakh adolescent girls are suffering from any type of anaemia, of which 1.2 lakh are suffering from severe anaemia.

The immediate impact of iron deficiency is reduced physical fitness, which affects academic performance. In the long run, this affects maternal and child health and further increases the burden of the disease.

**The Solution**

The proposed intervention aims to provide weekly iron and folic acid supplementation and biannual deworming with an aim of covering all adolescent girls

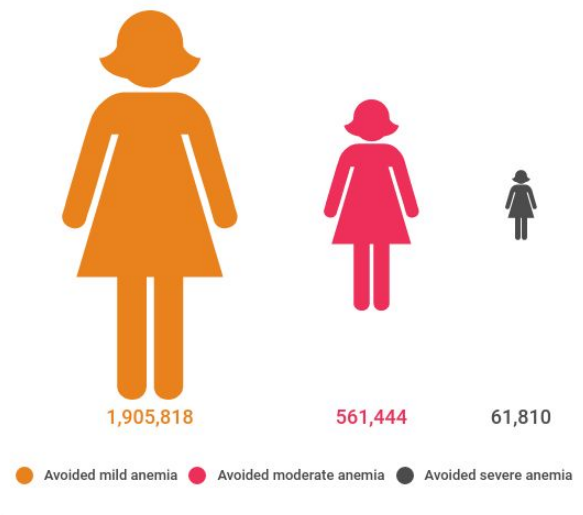
aged 10 to 19 years. For school-going girls, the intervention will be implemented through the existing educational set up, where teachers can act as supervisors and spread awareness about the efficacy of this program. For out-of-school adolescent girls, monthly counselling sessions by healthcare providers at the community level will be conducted for awareness generation. This intervention is in line with the existing weekly iron and folic acid supplementation (WIFS) program.

**Costs**

The costs of providing iron and folic acid supplements and of facilitating counselling sessions for the program are considered as direct costs. The opportunity cost of time spent by out-of-school girls for attending counselling sessions has also been included in the cost and has been valued on the basis of the existing wage rate for the given education level in the state. Adding these two components, the total annual cost of the intervention is Rs 83 crore.

**Total anemia cases averted**

Anemia in adolescent girls averted due to the proposed intervention



**Benefits**

The intervention is expected to bring down the prevalence rate from existing 81 percent to 47 percent, a reduction of 42 percent averting 25 lakh cases of anaemia in the target group. The benefit from

this intervention is the averted number of cases in different categories and the total value of averted YLDs after excluding the impact of side-effects suffered by some beneficiaries during the course of the program. The estimated total value of benefits per annum is Rs. 766 crores at 5 percent discounting.

**School-based behavioural screening and further mental health services for the adolescents**

**The Problem**

Adolescent mental illness is a growing area of public health concern and a leading cause of disability in young people around the globe. The National Mental Health Survey of India (2015-16) has reported that the prevalence of mental disorders is 7.3 percent among children aged 13 to 17 years in India, including depressive disorders (2.6 percent), disabilities affecting intellectual status (1.7 percent), agoraphobia (2.3 percent), autism (1.6 percent), psychotic disorders (1.3 percent) and phobic anxiety disorders (1.3 percent).

The prevalence among children in urban metros is nearly double (13.5 percent) compared to rural children (6.9 percent).

**The Solution**

This intervention will consider adolescents from classes VI to XII enrolled in both private and public schools, which roughly covers the 11-17 years age group of the state’s school-going population. It comprises screening the mental health status of adolescents, referring them to appropriate care providers and treating them for respective disorders. The participation will be voluntary and require the consent of the adolescent and their parent or guardian. The screening will be carried out through a self-administered questionnaire based on three scales - mood and feeling questionnaire, youth self-report aggression scale and 3-point Likert scale.

The students screened positive for illnesses will be scheduled for clinical behavioural health evaluation. Positive cases found at that stage will be referred for specialized mental healthcare services with adequate

follow-ups to ensure that the child is linked to a facility for proper treatment.

**Costs**

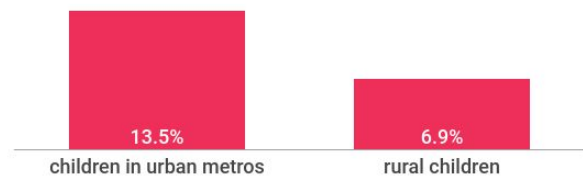
The cost of human resources dedicated to different stages of screening, material development and dissemination for the screening, and other costs related to the intervention are calculated. Additionally, the proportional cost for clinical assessment and to prepare the students for referral, cost for successful linkage to specialized care providers and the average cost of mental health services for each adolescent is calculated as the cost per beneficiary. The total annual cost of the intervention amounts to Rs. 189 crores at 5 percent discounting.

**Benefits**

The number of years of life lost (YLL) and years lived with disabilities (YLD) due to mental illness among the adolescents is calculated from the Global Burden of Diseases data. Further, the number of averted YLL and YLD is calculated following the intervention and it is multiplied with the respective values of statistical life years and disability adjusted life. The sum of annual

benefit of the intervention at 5 percent discount rate is Rs. 264 crores.

Mental disorders in the age group 13-17



Source: Authors paper National Mental Health Survey of India - 2016