

Health and nutritional status of adolescent girls: A study of beneficiaries of rural areas of Bihar in India

Kusum Bharti, Manoj Kumar and Pramila Prasad

Adolescent girls are the worst sufferers of the ravages of various forms of malnutrition because of their increased nutritional needs and low social power. Scheme of Adolescent Girls, is an important scheme of the Ministry of Women and Child Development, Govt. of India for the improvement of health and nutritional status of Adolescent Girls under the platform of ICDS. **Objective:** This study aimed at assessing nutritional anaemia of Adolescent girls of rural areas of Banka district receiving the benefits of the nutritional intervention of SABLA/SAG yojna under the ICDS and other related schemes. **Method:** For this study, Anthropometry measurement, 24h dietary recall method including Take Home Ration of SABLA programme, Haemoglobin Level, SABLA Kishori Card Observation and Questionnaire method as tools were used. **Result :** Out of 500 AGLs from SABLA of 50 Rural AWCs, 79 per cent are underweight whereas 67 per cent stunted. The nutritional status of 85 per cent is undernourished *i.e.* according to the BMI only 15 per cent girls are in normal range. 78 per cent AGLs are anaemic in which 24 per cent moderate and 9 per cent are severe anaemic *i.e.* Hb level <7g/dl. When the dietary availability of AGLs was assessed, we found that only 32 per cent AGLs are getting adequate diet according to the RDA, whereas 62 per cent girls are getting THR according to the norms of SABLA scheme. The General appearance of only 28 per cent AGLs is normal, whereas 68 per cent are thin and 4 per cent sickly. Only 32 per cent AGLs maintain the personal hygiene and sanitation. More than 80 per cent AGLs under SABLA at Banka district are undernourished whereas 85 per cent are anaemic. It may be concluded that this scheme at studied area is not being implemented in a proper way.

Key Words : Dietary intake, Nutrition, Adolescent girls, Anaemia, Undernutrition

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INTRODUCTION

The adolescent population aged 10–19 years in India is fast growing and constitutes about one-fourth of India's total population. While one in every ten Indians is an adolescent girl, which accounts for 20 per cent of the world's population of adolescent girls, for many reasons the existence of this group is so far quite invisible. This large cohort of young girls represents a great demographic

dividend with the potential to contribute to India's economic growth and development. It is important to understand that improving the socio-economic outcome of girls and young women is crucial not only for themselves, but also for the community where they live, as well as for nation building process. A World Bank study demonstrated through data simulation for selected 100 countries, that increasing the secondary education of girls by 1% results in annual income increase of 0.3% per capita for any nation. Another study 4 emphasized that societies which do not have preference for investing in girls, pay a price in terms of slower national growth and reduced income.

The adolescent girls of the rural areas of country needs special attention because of the turmoil of adolescence which they faced due to the different stages of development that they undergo, different circumstances that they come across, their different needs and diverse problems. Rural adolescent girls have been considered a low risk group for poor health and nutrition. Despite all these important considerations, adolescent girls did not receive adequate attention in rural areas in our country, and only recently few studies have been carried out in this population group. It is well established that nutritional status is a major determinant of the health and well-being among adolescent and there is no doubt regarding the importance of the study of nutritional status. Nutritional status was evaluated using anthropometric indicators recommended by WHO Expert Committee. During this period, nutritional problems originating earlier in life can be partially corrected, in addition to addressing the current ones. It is also the period to shape and consolidates healthy eating and life style behaviours, thereby preventing the onset of nutrition related chronic diseases in woman hood and prevalence of malnutrition in future generation. Iron deficiency anaemia is the most widespread micronutrient deficiency affecting the vulnerable groups including adolescent girls which reduce the capacity to learn and work, resulting in lower productivity and limiting economic and social development. Anaemia during pregnancy leads to high maternal and neonatal mortality and low birth weight etc. Addressing the health needs of Adolescent Girls will not only lead to a healthier and more productive women force but will also help to break the intergenerational cycle of malnutrition.

The objectives of the SABLA/SAG Scheme are; Enable the AGs for self-development and empowerment,

Improve their nutrition and health status. Promote awareness about health, hygiene, nutrition, Adolescent Reproductive and Sexual Health (ARSH) and family and child care. Upgrade their home-based skills, life skills and tie up with National Skill, Development Programme (NSDP) for vocational skills, Main stream out of school AGs into formal/non formal education Provide information/guidance about existing public services such as PHC, CHC, Post Office, Bank, Police Station, etc.

Services of the scheme:

Each AG will be given Supplementary nutrition (SN) containing 600 calories, 18-20 grams of protein and micronutrients 1, per day for 300 days in a year. The out of school AGs in the age group of 11-15 years attending AWCs and all girls in the age group of 15-18 years will be provided SN in the form of Take Home Ration (THR). However, if hot cooked meal is provided to them, strict quality standards have to be put in place. The THR as provided to Pregnant and Lactating (P and L) mothers may be provided for AGs also, since the financial and calorific norms of SN or both are same.

Objectives:

This study aimed at assessing the health and nutritional status of Adolescent girls of rural areas of Banka district receiving the benefits of the nutritional intervention of SABLA yojna under the ICDS. To assess the nutritional intervention of ICDS is called SABLA/SAG scheme and assess the its impact on health and nutritional status of AGLs under the scheme the main objective.

METHODOLOGY

The study was conducted in Rural ICDS project of Banka district of Bihar. The period of data collection was from July, 2015 to December 2016, *i.e.* approximately twelve months. For this study, 500 AGLs from 50 AWCs were selected, who were enrolled under the scheme of SABLA of ICDS Project of Banka district. The data was collected with the help of Pre designed Questionnaire, Anthropometry measurement, 24h dietary recall method including Take Home Ration of SABLA programme, Haemoglobin Level, Designed Kishori Card and Observation method. The collected data was classified, tabulated and statistically processed with the help of percentage and chi square test.

OBSERVATIONS AND ASSESSMENT

The prime purpose of the present research study, as stated to investigate the effect of Supplementary Nutrition provided by ICDS under the scheme of SABLA/SAG for Adolescent Girls in Banka district and to assess and compare the Health and Nutritional status of School going and non-school AGLs. The study was conducted mainly part in dealt with the Dietary and Nutrition Intake with supplementary nutrition of AWCs, consumption and pattern of diet of of Adolescents Girls and nutritional status of AGLs. A few hypotheses were formulated for verification.

Weight status:

The weight observation Fig. 1 shows that not most of the AGLs do not tally the standard weight growth rate. At the age of 11-11.6, mean wt. of the AGLs were 32 kg and after six months interval it came to 33kg and mean wt. of girls were 33 kg and 2nd reading of wt. after six month of interval it was 33kg. Only one group of 11-11.6 shows normal wt. compared to standard wt. rest all the groups show much less weight growth than WHO growth standards. In the age group of 12-12.6 years, the AGLs wt. in first reading was 35kg and in second reading it was 37 kg, whereas in AGLs it was 35 and at 2nd reading it was 38 kg. The weight growth of this group was nearer to standard wt. *i.e.* 38.7 kg. In the age group of 13-13.6 years, 14-14.6 years and 15-15.6 years more or less average weight of the AGLs was far behind the std. wt. The age group of 16-16.6 years, 17-17.6 years and 18 years also showed the lower the wt. compared to standard wt. The Fig. 1 and 2 make it clear that neither the school going girls nor the non school AGLs matched the std. wt. growth. They all fall far behind the std. wt.

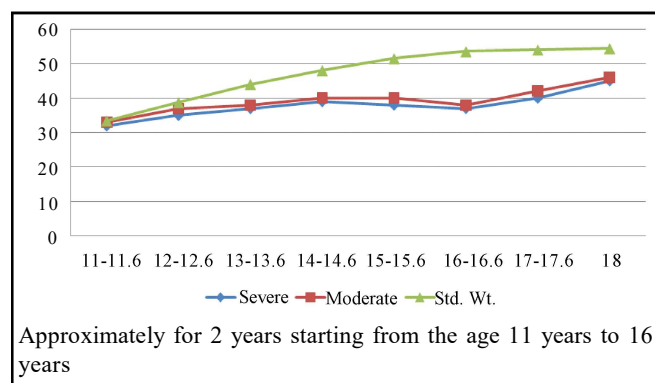


Fig. 1 : Wt. growth of AGLs

growth of six month interval. There was difference between actual weight and std. wt. 1 kg to 7 kg. The result does not confirm the hypothesis *i.e.* most of the AGLs are underweight and thus on the basis of wt. of the AGLs the result does not support the hypothesis.

Height status:

Fig. 2, indicates the height growth of the AGLs. AGLs show the growth in their height. The AGL's average height at the age of 11-11.6 yrs. was 140 cm which grew to 141 cm after the interval of 6 months, whereas the AGLs were 141 cm to 142 cm at the age of 12-12.6- yrs. The growth of height in the age group of 13-13.6 years AGLs was from 141cm to 142 cm. The age group of 14-14.6 showed the growth of height 139 to 140 cm in girls. The age group of 15-15.6, 16-16.6 years and 17-18 years of AGLs showed same condition *i.e.* not proper height according to standard height of AGLs. The height growth curve makes it clear that average height of school going AGLs or non school going AGLs did not tally the WHO std. height of AGLs in the respective age group.

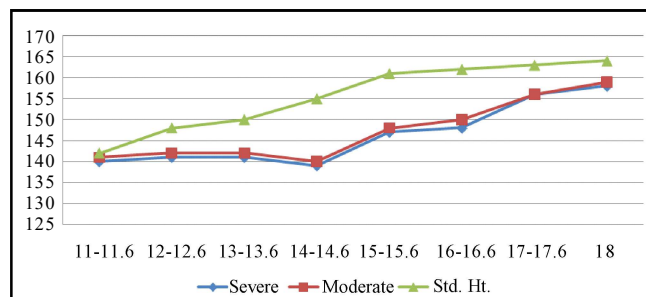


Fig. 2 : Ht. growth of AGLs

Nutritional status:

Nutritional status shows the fact of the adolescents' girls of rural areas (Fig. 3). According to the WHO nutritional indicator, weight for their age 79% girls are underweight in which 73% are moderately underweight and 6% are severely *i.e.* very low weight, only 21 % are normal. The indicators of Height for their age shows 67% girls are stunted in which 56% are moderately and 11% are severely stunted *i.e.* the girls have not achieved their standard height. When the weight for their height analysed, it shows that only 31% AGLs are normal *i.e.* their weight for height are normal whereas 63% are moderately wasted and 6% are severe. The Fig. 3 shows

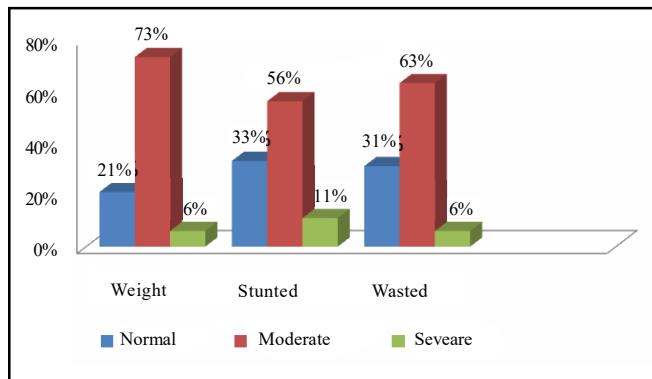


Fig. 3 : Nutritional status

that out of 300 Adolescents girls under the scheme more than 70% are undernourished which is the major threat to their physical and mental development.

Body mass index (BMI):

According to WHO recommended cut off levels of the Body Mass Index only 15% girls are normal *i.e.* ≥ 20.0 - < 25.0 , whereas 61% are Low normal *i.e.* ≥ 18.5 - < 20.0 . 22% AGLs are below the normal range *i.e.* < 18.5 and only 2% are overweight *i.e.* in range of ≥ 25.0 - < 30.0 . No one is obese *i.e.* above the > 30 . The data of BMI shows that more the AGLs are undernourished *i.e.* 83% in which 22% are severely undernourished *i.e.* < 18.5 . Only 15% are normal in range of BMI *i.e.* ≥ 20.0 - < 25.0 .

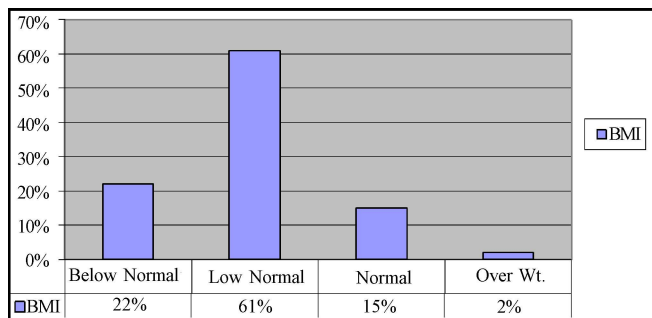


Fig. 4 : Body mass index (BMI)

Dietary intake of AGLs reflects 32% are getting adequate diet compared to RDA /day in K/cal, whereas 68% are not getting adequate diet. When Take Home Ration was analysed which is given by the ICDS under the SABLA scheme in the form of Rice, Pulse and other supplementary nutrition like Soybean, Badam etc. onetime in a month for enrolled Adolescent girls, we found 62% AGLs getting Adequate Quality and Quantity of THR

according to the norms of the scheme whereas 38% not getting the Quality and Quantity of the THR.

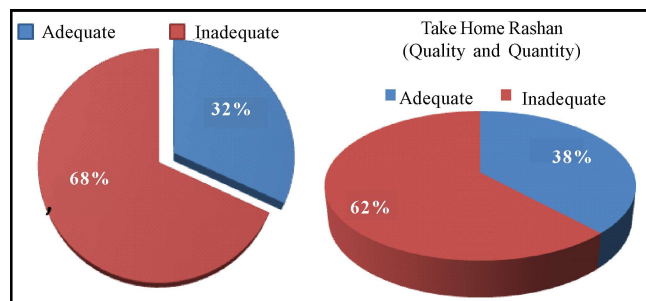


Fig. 5 : Dietary intake

General appearance of AGLs observed on the basis of physical appearance like body figure and compared to anthropometry tools and others parameters which is designed by the WHO guidelines. The result was shows that the shows the general appearance of adolescents girls was found thin *i.e.* 68% whereas 4% sickly and 28% are normal.

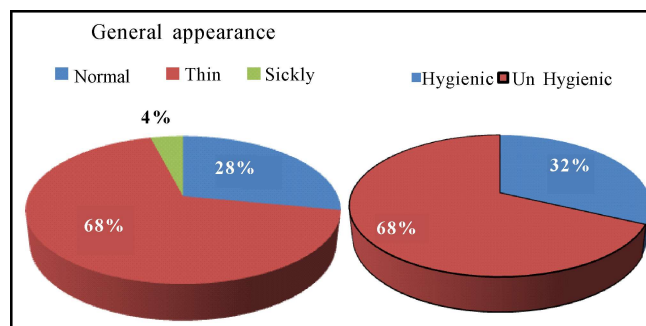


Fig. 6 : General appearance and personal hygiene and sanitation

Personal hygiene and sanitation:

The Adolescents girls of rural areas do not maintain the Personal hygiene and sanitation. Under the assessment of personal hygiene and sanitation covered their status of nail, eye, nose, hand washing practices, bathing, hair, uses of clean napkin/clothes in during menstruation etc. The data shows that 68% girls are aware of hygiene and 32% are not *i.e.* 32% school age girls do not maintain the personal hygiene and sanitation.

Conclusion:

The present study concerning impact of nutritional intervention of scheme and their Nutritional status of AGLs of SABLA Scheme shows that most of the girls

are undernourished. Out of 500 AGLs 79% are underweight whereas 67% are stunted. According to the BMI 85% girls are undernourished in which 22% are below the normal range. The haemoglobin levels of girls show that 78% girls are anaemic in which 11% girls are severely anaemic. 32% girls are getting adequate diet whereas 62% girls are getting quality and quantity of THR. 68% AGLs look thin and 4% sickly. 32% girls do not maintain the personal hygiene and sanitation. According to the result of the study, it may be concluded that more than 70% girls are undernourished and anaemic under the SABLA/SAG scheme. The results show that the intervention of the scheme has not achieved its own objectives *i.e.* improvement of the health and nutritional status of AGLs has been not observed.

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