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Research Paper

Nutritional status and nutritional anaemia among adolescent girls: a study of adolescent beneficiaries of SABLA/SAG scheme under ICDS of Banka district of Bihar

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■ **ABSTRACT :** 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, Services 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% are underweight whereas 67 % stunted. The nutritional status of 85% is undernourished *i.e.* according to the BMI only 15 % girls are in normal range. 78% AGLs are anaemic in which 24% moderate and 9 % are severe anaemic *i.e.* Hb level <7g/dl. More than 80% AGLs under SABLA at Banka district are undernourished whereas 85 % are anaemic. It may be concluded that this scheme at studied area is not being implemented in a proper way.

■ **KEY WORDS:** Nutrition, Adolescent girls, Anaemia, Undernutrition, Iron folic acid

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The prevalence of undernutrition and anaemia among adolescent girls in India is alarmingly high. Global and national evidence was used to advocate for the need to implement large scale programmes for the control of anaemia in adolescent girls. As a result model programmes were initiated in a selected number of districts and states between 2000 and 2005 to assess the cost and effectiveness of strategies

to reduce the prevalence and severity of anaemia among adolescent girls. Once the effectiveness and low cost of these interventions were established, the Adolescent Girls Anaemia Control Programme was scaled up in 13 states of India with state government funds, and over 27 million adolescent girls were reached by the end of 2011 through the Education, ICDS and SABLA platforms. As the main partner of state governments on Maternal and Child Nutrition, the role of UNICEF has evolved from intense programme support (design, implementation, monitoring and evaluation) to a technical advisory role in the consolidation and expansion phases. Collaboration and convergence among the Ministry of Health and Family Welfare, the Ministry of Women and Child Development and the Ministry of Human Resource Development at the national and state level have been critical for going to scale. The lessons learned from this decade of programme experience suggest that the Adolescent Girls Anaemia Control Programme has the potential to become an important platform for intersectoral convergence among key government departments and UNICEF programmes to empower adolescent girls, reduce gender and social inequities, and break the inter-generational cycle of undernutrition and deprivation in India.

Weekly iron folic acid supplementation (WIFS) programme:

Iron deficiency aneamia adversely affects transport of oxygen tissues and results in diminished work capacity and physical performance. During adolescents, iron deficiency anaemia can result the impaired physical growth, poor cognitive development, reduce physical fitness and work performance and lower concentration on daily tasks. Iron defiency in adolescents' girls influence the entire life cycle. Anaemic girls have lower pre pregnancy stores of iron and pregnancy is too short period to build iron stores to meet the requirements of the growing fetus. Anemic adolescents girls have a higher risk of preterm delivery and having babies with low birth weigh. Regular consumption of iron folic acid supplements along with a diet rich in micro nutrients is essential for prevention of iron deficiency anemia in adolescent girls and boys.

The weekly iron folic acid supplementation is an evidence based programmatic response to the prevailing aneamia situation amongst adolescents' girls and boys through supervise ingestion of IFAs and bi-annual deworming. The programme envisages benefiting all adolescents' girls and boys enroll in all government and government aided schools including students from class 6-12, besides out of schools girls. The long term goal of the programme is to break the inter-generational cycle of anaemia and long term impact on the health of the young people and the short term benefits is of nutritionally improved human capital. The success of the programme depends on the adherence of the programme protocol, appropriate linkages and mechanisms for utmost intersectoral convergence with the school education department and social welfare department in the state. (WIFS-NRHM-2015).

Objectives:

The main objective of the research study were to assess the Nutritional status and nutritional anemia of adolescents girls the age group of 11-14 yrs, enrolled at AWCs under SABLA Scheme of Banka district.

■ RESEARCH METHODS

The study was carried out using both Qualitative and Quantitative instruments. A cross sectional random sampling study was designed to collect the data. For this study, Demographic Profile of the respondents, Anthropometric Parameters, Haemoglobin test, tools were used. The qualitative instrument was used to understand the service and system of the of the SABLA Scheme. The Information was collected by a pre-designed and pre-tested questionnaire developed for this purpose taking account of in-depth information to achieve the research objectives.

■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Nutritional status:

Fig. 1 shows the Nutritional status of AGls according to the New WHO Growth Standards, 2006. The Nutritional Status is classified into three groups *i.e.* Weight for Age, Height for Age and Weight for Height. The data of AGLs shows that in the calculation of Weight for Age, only 4 per cent adolescent girls was normal whereas most of the AGLs *i.e.* 95% AGLs were moderately underweight and only 1% AGLs was severely

underweight. The data calculated in Height for Age indicates that only 2% AGLs were normal whereas 94% moderately stunted and 4% severely stunted. In the category of Weight for Height, when analysed, 22% were normal whereas 71% moderately wasting and 7 % severely wasting. The result shows that most of the AGLs were underweight, stunted and wasted *i.e.* 96% underweight, 98% stunted and 78% wasted. This result shows that most of the AGLs were undernourished which is a very huge threat to their healthy life and to become healthy mothers in future.

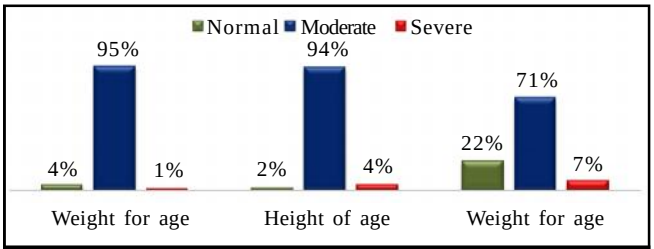

Fig. 1 : Nutritional status of AGLs

Body mass index:

Fig. 2 and 2a show the Body Mass Index (BMI) of the AGLs. BMI is one of the best indicators to assess the nutritional status of different age group. According to WHO recommended cut off levels of the Body Mass Index, only 20% girls were normal in 1st reading and after six month interval 24 % were normal *i.e.* ≥20.0 - <25.0, whereas 28% AGLs were Low normal *i.e.* ≥18.5 - <20.0 in first reading, in second reading it was 32%. Most of the AGLs in both groups were below the normal range *i.e.* up to 52% in the range of <18.5. Neither any AGLs was overweight nor obese *i.e.* in range of ≥25.0 - <30.0. and above the >30. The data of BMI shows that most of the AGLs (80%) were undernourished, in which 52% were severely undernourished *i.e.* <18.5. Only 28-32% were normal in range of BMI *i.e.* ≥20.0 -<25.0. The curve of BMI indicates the growth of BMI in interval of six month however it is not a standard growth indicator.

Fig. 3 and 3a shows the Haemoglobin level of AGLs. Haemoglobin level in blood is the best indicator to assess the anaemia in AGLs or women. Haemoglobin level of AGLs reflects that only 8% were normal in first reading of blood sample of AGLs whereas in second reading the graph of normal were very low *i.e.* only 2% were normal (≥ 11g/dl). When the data was analysed it was found that in the range of 7-9 g/d it was 36% moderate in first reading and after six months, it was 32%. The range of

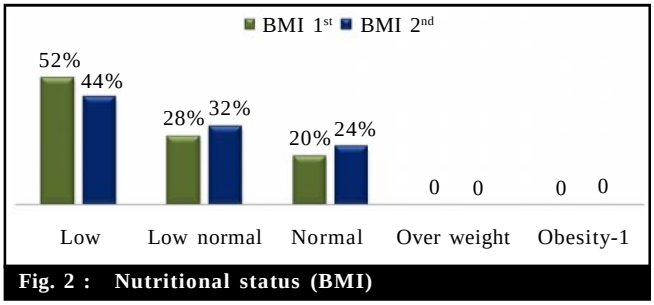

Fig. 2 : Nutritional status (BMI)

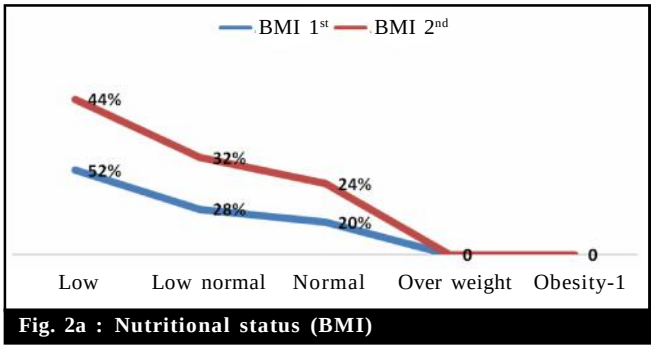

Fig. 2a : Nutritional status (BMI)

Table 1 : Haemoglobin Level (Anaemic Status) of AGLs

Hb mg	Anaemia Grade	1st n=600, No. (%)	2nd n=600, No.(%)
≤ 7.0	Severe	0	0
≥7.0 – < 9.0	Moderate	216(36%)	192(32%)
≥9.0 – < 11.0	Mild	336(56%)	396(66%)
≥11- <13	Normal	48(08%)	12(02%)
≥13	Normal	0	

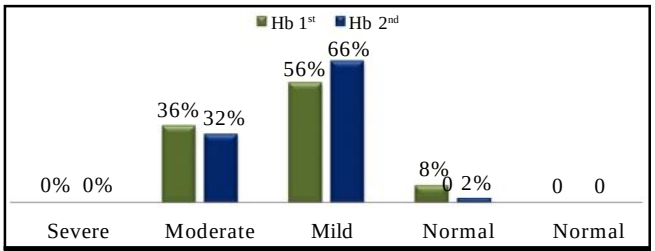

Fig. 3 : Haemoglobin level (Anaemia)

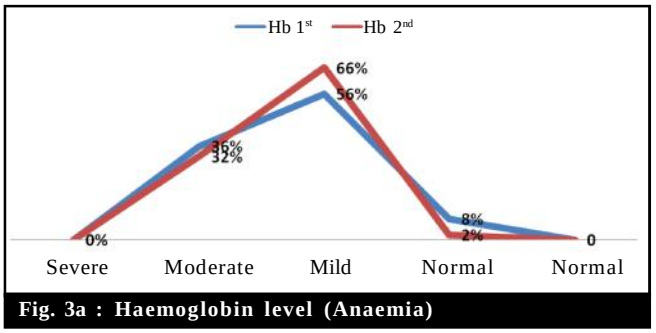

Fig. 3a : Haemoglobin level (Anaemia)

9-11g/d indicates that 66% AGLs were mild anaemic in first reading whereas in second reading it was 56%. Neither any AGL was found in severe condition according to haemoglobin level *i.e.* ≤ 7 g/dl nor any AGL was found above the 13g/d haemoglobin level. The above data shows that 92% AGLs were anaemic in which 56% mild and 36% were moderately anaemic and only 8% were normal. The data shows the most of the AGLs were suffering from anaemia which indicates that they were not getting adequate iron rich food or IFA supplementation which is to be provided by the ICDS in SABLA scheme.

Iron folic acid supplementation:

The Fig. 4 shows the Iron folic supplementation of AGLs. IFA supplementation is one of the services of SABLA scheme for fulfilment of IFA requirements and reduction of the anaemia in Adolescent girl. The norms of Iron supplementation under the SABLA scheme with the convergence of Health dept. pilot project of govt. of India WIFS (weekly iron folic acid supplementation) is to be provided weekly IFA Tablets for each AGLs. The Figure shows that out of 50 AWCs only 2AWCs were providing weekly supplementation of IFA and 42AWCs were providing it monthly whereas 6 AWCs annually or rarely. During the collection of the data the reason of irregular distribution of IFA supplementation was informed by AWWs, The irregular supply or shortage of pills or short date of expiry were the main reasons of irregularity of IFA supplementation resulting sustainable anaemia in Adolescent Girls.

Interval	IFA Supplementation Status AWC=50
Weekly	2(04%)
Monthly	42(84%)
Yearly	06(12%)

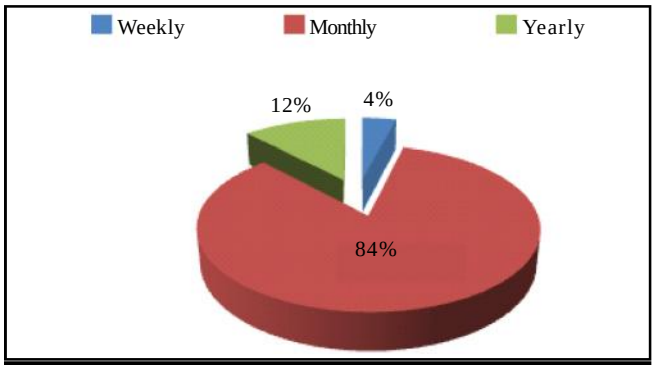

Fig. 4 : IFA Supplementation

Deworming tablet supplementation:

The norms of SABLA and WIFS programme of Govt. of India provide deworming tablets as a Albendazole tablets in the interval of every six months to all AGLs. But no one centre was found having deworming tablets. The AWWs informed that there is no regular supply.

Conclusion:

The research study of Nutritional Status and Nutritional Anaemia among Adolescent Girls: A Study of adolescent beneficiaries of SABLA/SAG Scheme under ICDS of Banka district of Bihar shows that, the status of the Adolescent girls of rural anganwadi centre nutritional anaemia and nutritional and health status was quite worrying. This result shows that most of the AGLs were undernourished which is a very huge threat to their healthy life and to become healthy mothers in future. The data of BMI shows that most of the AGLs (80%) were undernourished, the curve of BMI indicates the growth of BMI in interval of six month however it is not a standard growth indicator. The data of Haemoglobin level shows that 92% AGLs were anaemic in which 56% mild and 36% were moderately anaemic and only 8% were normal. The data shows the most of the AGLs was suffering from anaemia which indicates that they were not getting adequate iron rich food or IFA supplementation which is to provide by the ICDS in SABLA scheme. For the better health of adolescent girls, there is a need to be aware of the availability of adequate and balanced nutritious foods and to take iron tablets regularly. We can improve the nutritional status of adolescent girls by making them aware of personal hygiene and nutrition education.

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