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Research Article

KNOWLEDGE ON NUTRITIONAL ANEMIA AMONG THE SCHOOL GOING ADOLESCENT GIRLS IN SOME RURAL AND URBAN AREAS OF SRIKAKULAM DISTRICT, ANDHRA PRADESH, INDIA

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ABSTRACT
The purpose of the present study is to investigate the Knowledge on Nutritional Anemia among the School Going Adolescent Girls in Some Rural and Urban Areas of Srikakulam District, Andhra Pradesh, India. In the present study in rural area, 425(52.27%) of respondents were belongs to vegetarian, 248(30.50%) were belongs to Non-vegetarians and 140(17.22%) were belongs to both categories. Whereas in urban area 92(49.20%) of respondents were belongs to non-vegetarians, 67(35.83%) were belongs to both the categories and 28(14.97%) of respondents were belongs to vegetarians. In the present study rural adolescent girls (n=105) (12.91%) have severe anemic conditions than urban adolescent girls (n=15) (8.02%).

Keywords: *Knowledge, Nutritional Anemia, Adolescent Girls*

INTRODUCTION
Kumar *et al.,* (2018) conducted a prospective study to know the percentage prevalence of anemia with reference to 340 adolescent girls and 500 serving adults. In this study they have recorded anemia prevalence of 39% in adolescent girls (0.5%-with severe anemia, 10.6% with moderate anemia and 27.9% with mild anaemia) and only 8% (1.8% with severe anemia, 2.8% with moderate anamia and 3.4% with mild anemia) in serving soldiers. Mehrotra *et al.,* (2018) conducted a cross-sectional study to correlate the anemia with socio-demographic variables of the respondents. This study was conducted over a period of six months in 786 pregnant women. 12-40 years age group respondents were selected for this study. The data was collected with pre-designed questionnaires and the blood parameters were studied in the laboratory. The recorded haemoglobin levels of the participants were ranged from 4.4 to 15.0 g/dl. According to them prevalence of anemia was 50.9%. Upadrasta *et al.,* (2019) conducted an observational study to assess the knowledge, attitude and practices towards iron deficiency anemia. A total of 111 adolescent girls were selected for this study from Chandragiri, Andhra Pradesh, India. The data related to knowledge and practices of personal hygiene and demographic information was collected. Nutritional information was also collected from the adolescent girls. Based on this study, 55.9% of the respondents were found to be anemic. Anemic girls had less knowledge and practices towards personal hygiene when compared to non-anemic girls. In concluding remarks they have stated that high prevalence of anemia was due to less intake of iron rich food. Mengistu *et al.,* (2019) conducted a cross-sectional study from March 5 to April 15, 2017 in rural areas of Bahir Dar City, Ethiopia. 443 adolescent school girls were selected for this study. Blood samples were collected to estimate the haemoglobin values of the participants. According to their observation the prevalence of anemia was 11.1%. They have concluded that anemia was mild health problem in rural adolescent girls of Bahir Dar City.

MATERIALS AND METHODS
Selection of area
The study was carried out to assess the Knowledge on nutritional anemia among the School Going Adolescent Girls in Some Rural and Urban Areas of Srikakulam District, Andhra Pradesh, India.

Adolescent girls aged 11 to 16 years were living in rural and urban areas of Bandapalli, Meliaputti, Pathapatnam, Nelabonthu, Saravakota, Hiramandalam in Srikakulam District were selected for this study.

Selection of the samples

A total of one thousand samples, including eight hundred and thirteen (813) rural adolescent girls of Bandapalli (217), Pathapatnam (133), Nelabonthu (163), Saravakota (100), Hiramandalam (200), and random urban samples (187) of Srikakulam District were selected by random sampling method. The selected adolescent girls belonging to the lower middle class of age between 11 to 16 years were chosen for the investigation.

RESULTS AND DISCUSSION

Table 1: Type of food

Type of food	Number of Respondents (Rural)	%	Number of Respondents (Urban)	%
Non Vegetarian	248	30.50	92	49.20
Vegetarian	425	52.27	28	14.97
Both	140	17.22	67	35.83
Total	**813**	**100**	**187**	**100**

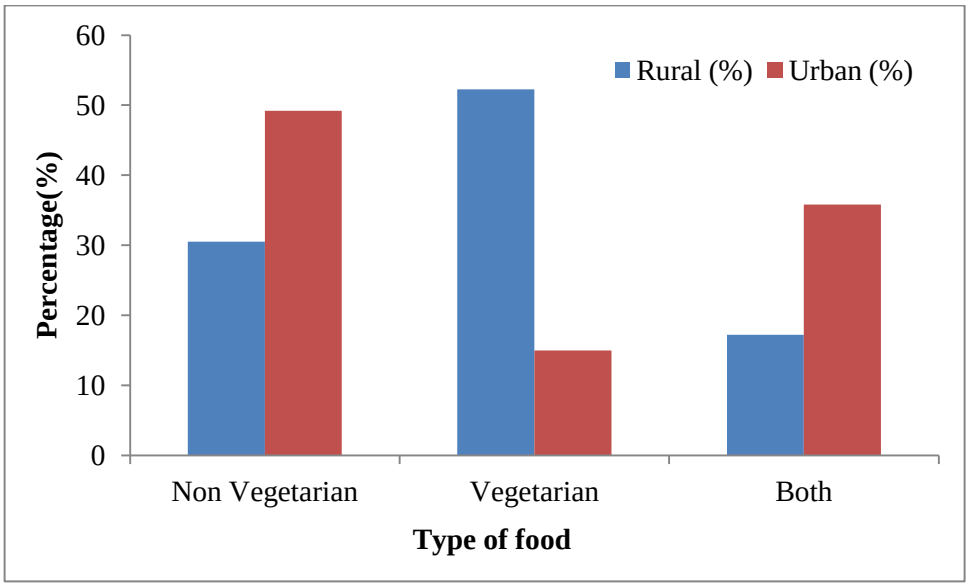

Figure 1: Type of food

Chaturvedi *et al.*, (2017) recorded that majority of the respondents 183(61%) were belongs to Non Vegetarian and 117(37%) of the respondents were belongs to Vegetarian. Reshmi *et al.*, (2020) reported that 68.1% of the prevalence was recorded with joint family and least prevalence (56.1%) was found in nuclear families. Kumar *et al.*, (2018) recorded that majority of the respondents 202(59.5%) were belongs to Non Vegetarian and 138(40.5%) of the respondents were belongs to Vegetarian. Similarly in the present study in rural area, 425(52.27%) of respondents were belongs to vegetarian, 248(30.50%) were belongs to Non-vegetarians and 140(17.22%) were belongs to both categories. Whereas in urban area 92(49.20%) of respondents were belongs to non-vegetarians, 67(35.83%) were belongs to both the categories and 28(14.97%) of respondents were belongs to vegetarians.

Table 2: Meal Timing

Meal Timing	Number of Respondents (Rural)	%	Number of Respondents (Urban)	%
One time	58	7.13	05	2.67
Two times	450	55.35	22	11.76
Three times	275	33.82	147	78.61
Four times	30	3.69	13	6.95
Total	**813**	**100**	**187**	**100**

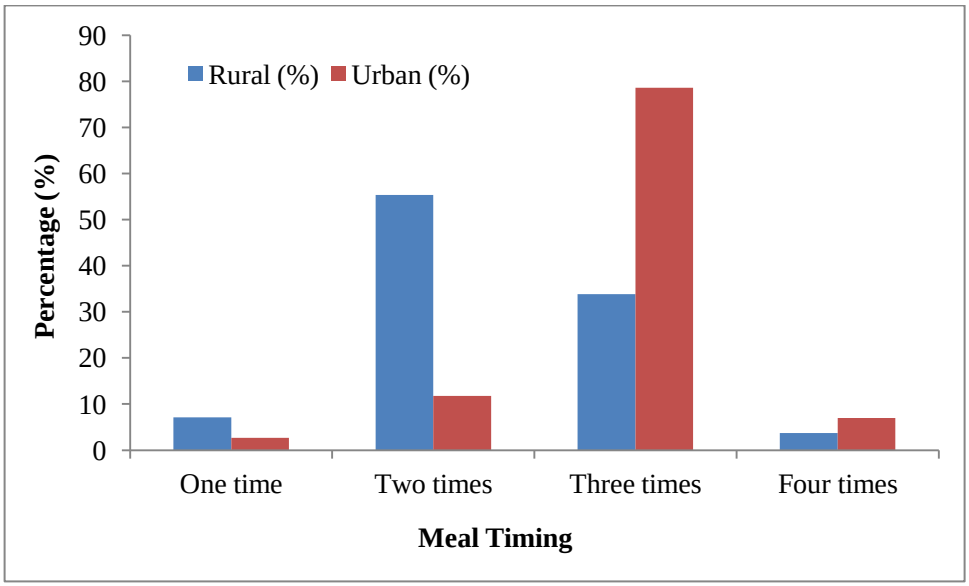

Figure 2: Meal Timing

Wolde *et al.*, (2014) recorded 29(13.7%) of the respondents have two times/day meal, 144(68.3%) have three times/day meal, 36(17.0) have four times/day meal, 2(1%) have greater than 5 times/day meal. Joshi *et al.*, (2018) recorded 167(74.55%) of the respondents have three times/day meal, 46(20.54%) have two times/day meal, 11(4.91%) have four times/day meal. Similarly in the present study in rural area, 450(55.35%) of the respondents have two times/day meal, 275(33.82%), 58(7.13%) and 30(3.69%) have three times/day, one time/day, and four times/day meal respectively. Whereas in urban areas, 147(78.61%) of the respondents have three times/day meal, 22(11.76%), 13(6.95%) and 05(2.67%) two times/day, four times/day, and one time/day meal respectively.

Table 3: Type of vegetables

Type of vegetables	Number of Respondents (Rural)	%	Number of Respondents (Urban)	%
Roots & Tubers	175	21.52	12	6.42
Leafy vegetables	70	8.61	120	64.17
Other vegetables	568	69.86	55	29.41
Total	**813**	**100**	**187**	**100**

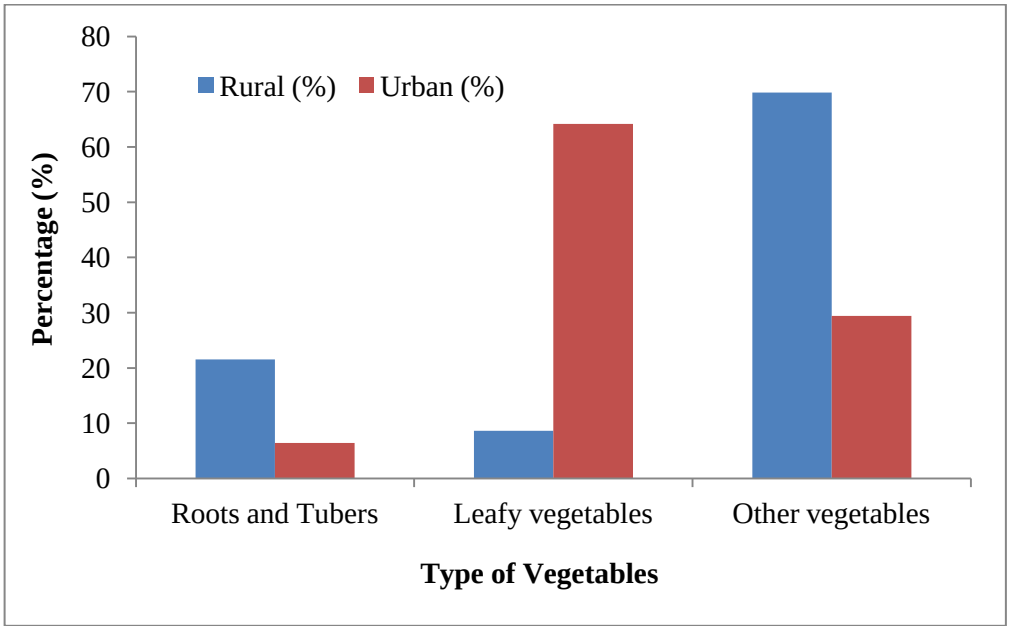

Figure 3: Type of vegetables

Begum *et al.*, (2017) recorded 40(37.7%) (n=106) of the respondents have vegetables in their regular diet. Deepika and Reddy (2019) recorded that urban respondents have high percentage of green leafy vegetables, fruits and other vegetables in their diets when compared to rural adolescent girls. Joshi *et al.*, (2018) recorded 187(83.48%) of the respondents have vegetables in their diet (2-3 times in a week), 37(16.52%) of the respondents have daily intake of the vegetables was observed. Similarly in the present study in rural area, 568(69.86%) of the respondents have other vegetables in their diet, 175(21.52%) and 70(8.61%) have Roots and tubers and leafy vegetables in their diet respectively. Whereas in urban area, 120(64.17%) of the respondents have leafy vegetables in their diet, 55(29.41%) and 12(6.42%) have other vegetables and roots and tubers in their diet respectively.

Table 4: Hb levels

Hb	Number of Respondents (Rural)	%	Number of Respondents (Urban)	%
< 7 Severe	105	12.91	15	8.02
7.1–10 Moderate	215	26.44	53	28.34
10.1–12 Mild	370	45.51	35	18.71
>12	123	15.12	84	44.91
Total	**813**	**100**	**187**	**100**

According to Reshmi *et al.*, (2020) 80.2% of the respondents have mild anemia, 19.2 % have moderate anemia and 0.6% have severe anemia. They have selected 10 to 19 years age group adolescent girls from rural Telangana. Shedole *et al.*, (2017) reported that rural adolescent girls (96.88%) have severe anemic conditions than urban adolescent girls (72.42%) (n=177). They have selected 12–15 years age group adolescent girls for this study. Similarly in the present study rural adolescent girls (n=105) (12.91%) have severe anemic conditions than urban adolescent girls (n=15) (8.02%). Kumar *et al.*, (2018) reported 39% of the respondents (n=133) has anemic conditions in which 37% (n=49) was due to deficiency of iron. 0.5%, 10.6% and 27.9% of the respondents have severe, moderate and mild anemia respectively.

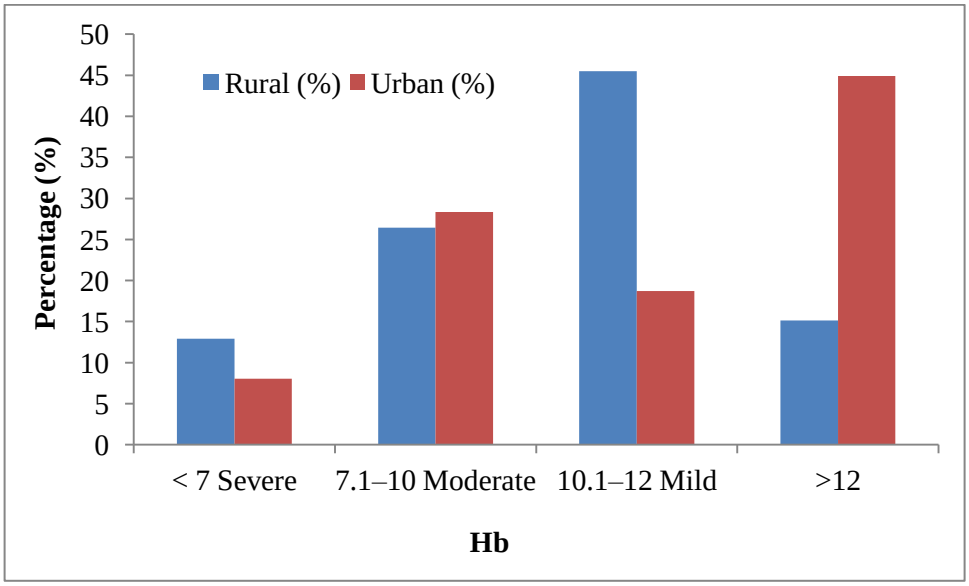

Figure 4: Hb Levels

Table 5: Age Groups

Age	Number of Respondents (Rural)	%	Number of Respondents (Urban)	%
Age 11-12	205	25.21	32	17.11
Age 12-13	97	11.93	20	10.69
Age 13-14	198	24.35	58	31.01
Age 14-15	227	27.92	47	25.13
Age 15-16	86	10.58	30	16.04
Total	**813**	**100**	**187**	**100**

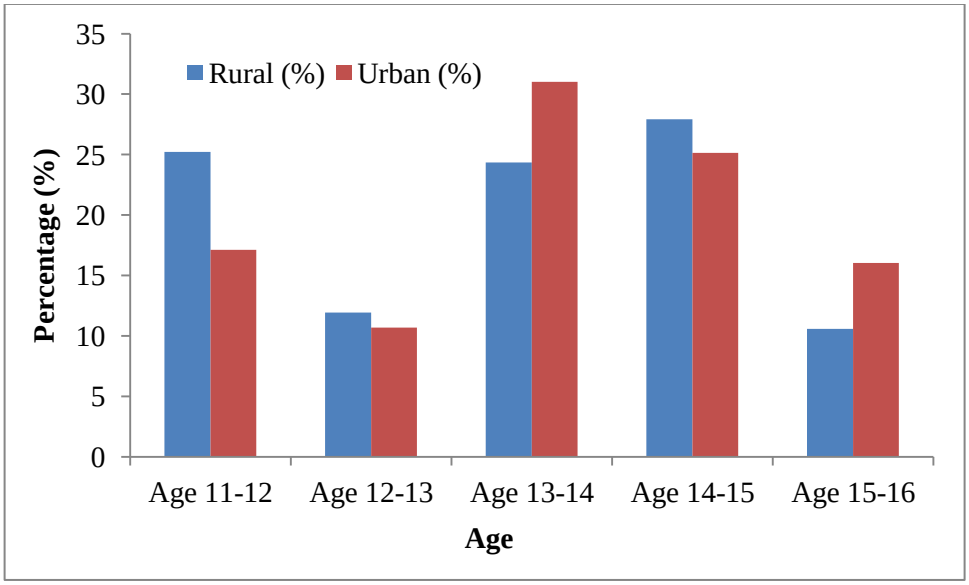

Figure 5: Age Groups

Reshmi *et al.,* (2020) studied on the prevalence of anemia among different age groups (10-19 years) of adolescent girls from rural Telangana. Highest percentage of prevalence (69%) was recorded for 18-19 years age group and lowest percentage of prevalence (37.5%) was recorded for 16 to 17 years age group. Shedole *et al.,* (2017) selected 13 to 16 years age group adolescent girls for their study. According to them highest and lowest percentage of prevalence was observed for both rural and urban areas as 123 (38.44%); 111 (33.64%); 6 (1.88%) 57(17.27) respectively. Gupta *et al.,* (2017) recorded highest percentage of prevalence 71 (51.08%) for 14-16 years age groups and lowest percentage of prevalence 47 (50.54%) for 17-19 years age group adolescent girls. Similarly in the present study the highest and lowest percentage of prevalence was observed for both rural and urban areas as 227 (27.92%); 58(31.01%); 86(10.58%) 20(10.69) respectively.

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