ganglia involvement. Pediatric Neurol 1989; 5: 311-313.

4. Roig M, Macaya A, Munell F, Capdevila A. Acute neurologic dysfunction associated with destructive lesions of the basal ganglia: A benign form of infantile bilateral striatal necrosis. J Pediatr 1990; 117: 578-581.
5. Yasukohchi S, Akabane T, Mori T, Tamagawa K, Morimatsu YA. Case report of infantile striatal necrosis with acute onset. Brain Dev 1986; 8: 609-613.
6. Kellermann K, Heuser L, Mertens T. Stammganglien-enzephalitis nah mumps. Monatsschr Kinderheilkd, 1982; 130: 624-627.
7. Northam RS, Singer HS. Postencephalitic acquired Tourette-like syndrome in child. Neurology 1991; 41: 592-593.
8. Mathieson G, Olszewski J. Central pontine myelinolysis with other cerebral changes. Neurology 1960; 10: 345-354.

Hawke WA, Donohue WK. Bilateral symmetrical necrosis of the corpora striata. Report of a fatal case and reference to a possible syndrome of the corpora striata. J Nerv Ment Dis 1951; 113: 20-39.

10. Friede RL. Developmental Neuropathology. Vienn, Springer-Ver-lag. 1975; pp 88-89.
11. Wright G, Laureno R, Victor M. Pontine and extra pontine myelinolysis. Brain 1979; 102: 361-385.
12. Gocht A, Colmant HJ. Central and extra pontine myelinolysis a report of 58 cases. Clin Neuropathol 1987; 6: 262-270.
13. Okeda R, Kitano M, Sawabe M, Yamada I, Yamada M. Distribution of demyelinating lesions in pontine and extra pontine myelinolysis-three autopsy cases including 1 devoid of central pontine myelinolysis. Acta Neuropathol 1986; 69: 259-266.

Dietary Practices and Beliefs in Adolescent Girls

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Adolescence is a period of rapid growth in which optimal nutritional practices play a critical role. Earlier works(l,2) from the northern part of the country have indicated a deficit in caloric intake even amongst well to do adolescent girls and also suboptimal dietary beliefs. These factors may play an important part in determining the nutritional profile of adolescents and obviously remedial steps are desirable. Information on this aspect is lacking from the state of Bihar which has a high prevalence of malnutrition. The present questionnaire based study was, therefore, conducted to evaluate the dietary practices and beliefs in adolescent girls of Patna.

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Subjects and Methods

The study was undertaken in 1000 adolescent girls between the age group of 10 to 13 years studying in classes VI to XII in different School of Patna Municipal Corporation. School selection was done in a manner to include different strata of society. Both English and Hindi Medium school were

therefore, selected. Out of fifty five schools in the Patna Municipal Corporation six were visited and one section of each class was taken up on one day.

A questionnaire was prepared with pretested structured schedule and close ended questions. A single printed questionnaire was given to each girl student. Each question was first explained in Hindi and then English and queries clarified before seeking written responses, either in Hindi or English. The questionnaire took about 50 minutes to answer for one class and was administered in the second period of prelunch session so that the girls were fresh. Information from the questionnaire was statistically evaluated. Chi square test was utilized to determine the differences between groups.

Results

There were 400 students between the age group 10-13 years, 400 between 13-16 years and 200 between 16-18 years. Out of 1000 girl students, 300 belonged to high socioeconomic group (HSE), 350 were of middle socioeconomic group (MSE) and 350 were of low socioeconomic status (LSE). The basis of socioeconomic classification was occupational classification: HSE- Class I workers, MSE-Class II and III workers and LSE- Class IV workers.

The dietary practices are summarized in *Table I. A* vast majority of respondents were consuming three major meals in the day. This practice was nearly universal in the HSE and MSE (92% to 100%) whereas in the LSE a substantial proportion (23.4% to 32%) were eating only two or lesser meals per day. The practice of snacks interspersed between the major meals was also almost universal, being less frequent in the LSE. Qualitative differences in the nature of food consumption were also evident; the intake of expensive nonvegetarian items regularly was more common in the HSE (53% to 56%) in comparison to LSE (2.6% to 4%). A higher percentage of LSE (16% to 22%) opined that discrimination was being done in comparison to their brothers for the food provided. The major cited reason for this was that boys were expected to do more work and hence required more food.

The common dietary beliefs asked for are summarized in *Table II.* It was evident that the responses were sub-optimal and significantly lower in the LSE.

Discussion

The present results were compared with the data of similar nature from this state, available only from the rural areas(3). In the rural areas about half (54.5%) the subjects were consuming only two or less major meals per day, regular non-vegetarian intake was documented in only 4.5%, snacks were taken by about one-third (36.8%), and boys were given a preference for milk and non-vegetarian foods(3). The dietary practices in the current study from an urban area were better and may be related to rural-urban differences and /or economic profile of the population. Although the caloric intake was not assessed in the present study, extrapolation from the practices indicated a substantial caloric gap from the recommended dietary allowances, particularly in the LSE. This could possibly be related to poverty and lack of adequate knowledge. The observed gender discrimination with respect to dietary practices in the LSE was in consonance with earlier reports(3-5). Obviously urgent efforts are required to uplift the status of girls.

The dietary beliefs were sub-optimal particularly in the LSE. Similar findings were reported from North India, but the correct responses were slightly higher(2). However, that study was conducted mainly in affluent population. It is obvious that

TABLE I - *Summary of Dietary Practices*

Dietary Practices	HSE,(n=300)			MSE (n=350)			LSE (n=350)		
	10-13 yr (n=100)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=150)	16-18 yr (n=50)
No. of main meals taken daily									
One	Nil	Nil	Nil	Nil	Nil	Nil	2 (1.3)	3 (2)	1 (2)
Two	Nil	4 (3.2)	5 (6.6)	3 (2)	7 (5.6)	6 (8)	33 (22)	36 (24)	15 (30)
Three	100 (100)	121 (96.8)	70 (93.4)	147 (98)	118 (94.4)	69 (92)	115 (76.6)	111 (74)	34 (68)
Snacks									
Rarely	Nil	Nil	1 (1.3)	Nil	Nil	1 (1.3)	3 (2)	3 (2)	2 (4)
Sometimes	Nil	3 (2.4)	3 (4)	5 (3.3)	7 (5.6)	5 (6.6)	32 (21.3)	36 (24)	14 (28)
Quite Often	100 (100)	122 (97.6)	71 (94.6)	145 (96.7)	118 (94.4)	69 (92)	115 (76.6)	111 (74)	34 (68)
Foods taken for main meal									
Only Cereal	Nil	Nil	Nil	Nil	Nil	Nil	Nil	2 (1.3)	1 (2)
Cereal+Pulses	Nil	Nil	Nil	Nil	Nil	Nil	3 (2)	5 (3.3)	2 (4)

(Contd.)

TABLE I (*Contd.)-Sutnmary *of Dietary Practices*

Dietary Practices		HSE (n=300)			MSE (n=350)			LSE (n=350)		
		10-13 yr (n=100)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=150)	16-18 yr (n=50)
	Cereal+Pulses+ Vegetables	Nil	Nil	Nil	5 (3.3)	4 (3.2)	2 (2.6)	60 (40)	60 (40)	2 (38)
	Cereal+Pulses+ Vegetables+Milk	12 (12)	13 (10.4)	7 (9.3)	45 (30)	35 (28)	21 (28)	60 (40)	60 (40)	18 (36)
	Cereal+Pulses+ Vegetables+Milk+Eggs	35 (35)	43 (34.4)	26 (34.6)	53 (35.3)	44 (35.2)	27 (36)	22 (14.6)	19 (12.6)	8 (16)
	Cereal+Pulses+ Vegetables+Milk+Eggs+ Meat or Fish	53 (53)	69 (55.2)	42 (56)	47 (31.3)	42 (33.6)	25 (33.3)	5 (3.3)	4 (2.6)	2 (4)
Gender discrimi-nation in food quality/quantity	Yes	2 (2)	4 (3.2)	4 (5.3)	15 (10)	15 (12)	11 (14.6)	24 (16)	30 (20)	11 (22)
	No	98 (98)	121 (96.8)	71 (94.6)	135 (90)	110 (88)	64 (85.3)	126 (84)	120 (80)	39 (78)

Figures in parentheses indicate percentages.

TABLE II - *Summary of Dietary Beliefs*

Dietary beliefs	Expected correct response	Correct Response									Comaprison between HSE & LSE
		HSE (n=300)			MSE (n=350)			LSE (n=350)			
		10-13 yr (n=100)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=125)	16-18 yr (n=75)	10-13 yr (n=150)	13-16 yr (n=150)	16-18 yr (n=50)	p value
Sick child requires less food than healthy	No	20 (20)	35 (28)	27 (36)	27 (18)	33 (26.4)	24 (32)	23 (15.3)	30 (20)	13 (26)	<0.05
Cooking in iron vessel increases iron content	Yes	23 (23)	40 (32)	30 (40)	33 (22)	37 (29.6)	28 (37.3)	28 (18.6)	36 (24)	16 (32)	<0.05
Nonvegetarian foods provide more strength compared to vegetarians	No	24 (24)	43 (34.4)	32 (42.6)	33 (22)	40 (32)	29 (38.6)	30 (20)	39 (26)	17 (34)	<0.05
Oil & ghee should be avoided by obese	Yes	78 (78)	103 (82.4)	66 (88)	108 (72)	99 (79.2)	64 (85.3)	96 (64)	117 (78)	41 (82)	<0.01
Obesity is due to excess intake of calories than required	Yes	85 (85)	110 (88)	69 (92)	120 (80)	107 (85.6)	67 (89.3)	117 (78)	123 (82)	43 (86)	<0.05
Low iron content and poor bio-avai lability of iron from food is a major cause of anemia	Yes	65 (65)	86 (68.8)	57 (76)	93 (62)	84 (67)	53 (70.6)	78 (52)	90 (60)	33 (66)	<0.05

Figures in parentheses indicate percentages.

efforts should be directed to impart proper knowledge to adolescent girls to remedy this situation.

In conclusion, in Patna the dietary practices and beliefs in adolescent girls, particularly in the LSE are sub-optimal and their education on nutritional aspects needs improvement.

REFERENCES

1. Kapil U, Manocha S, Bhasin S. Dietary intake amongst "well to do" adolescent boys and girls in Delhi. Indian Pediatr 1993; 30: 1017-1019

2. Kapil U, Bhasin S, Manocha S. Knowledge among adolescent girls about nutritive value of food and diet during diseases, pregnancy, and lactation. Indian Pediatr 1991; 28:1135-1139.

3. Sinha N, Srivastava M, Ranjan R. A research cum action project on the girl child and family. Bihar Center for Women's Development Studies, 1990; p 49.

4. Ghosh S. Discrimination begins at birth. Indian Pediatr 1986; 23: *5-7.*

5. Prasad KR, Nath LM. A controlled study of socio-culturally determined child feeding habits in relation to protein calorie malnutrition. Indian Pediatr 1976; 13:169-171.