

## Prevalence of Goitre in a Girls' School in Rajshahi

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To find out the prevalence of goitre in Girls' school going students in Rajshahi a total of 77 students were surveyed. Goitre was detected in 8 (10.4%). Four had grade 1 goitre and four had grade 2 goitre. It was similar with the National Goitre Prevalence Study of 1981-82 (10.5%). The prevalence of goitre in our study was nearly half of the East Pakistan Nutrition Survey of 1962-64 (20%) and nearly one fifth of the National Iodine Deficiency Disorders Survey in Bangladesh – 1993 (47.1%). In our study it is observed that 61% consumed non-iodized salt, 20.8% consumed both iodized and non-iodized salt, and 18.2% consumed iodized salt. None of the students who always consumed iodized salt had goitre. Those who never consumed iodized salt had goitre in 12.8%. Those who consumed both iodized salt and non-iodized salt had goitre in 12.5%. Awareness of consuming iodized salts to reduce goitre among High school going girls should be increased..

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**Key words:** Goitre, School, Girls

### Introduction

Goitre is the enlargement of the thyroid gland. Simple goitre is common in the puberty, especially in the female. It is due to growth spurt at puberty. Thyroid gland synthesizes thyroxin and tri-iodothyronin from iodine. In iodine deficiency there is less synthesis of thyroxin and tri-iodothyronin which in turn stimulate the pituitary gland to secrete more thyroid stimulating hormone. This high level of thyroid stimulating hormone stimulates the growth of the thyroid gland to produce goitre. This study was designed to find out the prevalence of goitre among school going girls in Rajshahi.

### Methods

We surveyed in a girl's high school in Rajshahi. All students were included for survey. They were examined for the presence of enlarged thyroid gland, i.e. goitre in sitting posture. At first the students were inspected from the front. In our study we graded goitre as grade 0 - normal thyroid with no goitre, grade 1 - palpable goitre and grade 2 - visible goitre. If a swelling is visible in the neck, then

she was asked to swallow. If the swelling moved up, then it was grade 2 goitre. If no visible swelling in front of the neck, then the neck of the student was examined from back to feel the thyroid gland. If the thyroid gland was palpable, then the student was asked to swallow. If the swelling moved up, then it was grade 1 goitre. If no thyroid gland was palpable, then it was designated as grade 0 goitre. Ages of all the students were noted. We also asked whether they consume iodized salt.

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## Results

A total of 77 students had been studied. Their age ranged from 12 to 16 years. Two cases of age 12 years, 15 of age 13 years, 39 of age 14 years, 18 of age 15 years and 3 of age 16 years. Eight students had goitre (10.4%); four were of grade 1 goitre (5.2%) and four were of grade 2 goitre (5.2%) (Table I). Non-iodized salt consumed in 61%, 20.8% consumed both iodized and non-iodized salt, and 18.2% consumed iodized salt. None of the students who always consumed iodized salt had goitre. Those who never consumed iodized salt had goitre in 12.8% (6 out of 47 students). Those who consumed both iodized salt and non-iodized salt had goitre in 12.5% (2 out of 16 students).

Table I: Prevalence of goitre in relation of salt intake

Goitre	Grade 0			Grade 1			Grade 2		
	0	±	+	0	±	+	0	±	+
Age									
12	2								
13	10	2	2	1					
14	16	10	10	1			2		
15	11	2	1	1	1		1	1	
16	2		1						
Total	41	14	14	3	1		3	1	
Goitre	69 (89.6%)			4 (5.2%)			4 (5.2%)		

### Salt:

- + = always consumed iodized salt.
- ± = who consumed both iodized salt and non-iodized salt.
- 0 = who never consumed iodized salt.

Table II: Prevalence of goitre in 1962-64 and 1975-76.<sup>4</sup>

Year	Male		Female	
	5-14 years	15 years plus	5-14 years	15 years plus
1962-64	23.4	13.8	25	40.5
1975-76	8.4	2.2	13.4	31.3

## Discussion

In our study the prevalence of goitre was 10.4% which was similar with the National Goitre Prevalence Study of 1981-82 (10.5%). The prevalence of goitre in our study was nearly half of the East Pakistan Nutrition Survey of 1962-64 (20%) and nearly one fifth of the National Iodine Deficiency Disorders Survey in Bangladesh – 1993 (47.1%).<sup>1</sup> Alam and Moslem found goitre in 3.5%.<sup>2</sup> They studied 210 thyroid related disease patients, not in general population. We find no reasonable explanation for this wide variation in goitre prevalence. In our study none of the students who always consumed iodized salt had goitre. Those who never consumed iodized salt had goitre in 12.8%. Those who consumed both iodized salt and non-iodized salt had goitre in 12.5%. In a study by Badaruddin the prevalence of goitre was 22.8%, of which grade 1 goitre was 18.5% and grade 2 goitre was 4.3%.<sup>3</sup> Rahman (1984) quoted the percent prevalence of enlarged thyroid gland in different age and sex groups in 1962-64 and 1975-76 (Table II).<sup>4</sup> Das et al (1996) found that colloid nodule was the commonest form of thyroid nodule in Bangladesh and iodine deficiency was probably the main cause of goitre.<sup>5</sup>

### Conclusion

From our study it is evident that prevalence of goitre is still remaining high among Girls' High School students of Rajshahi. A significant number of students do not consume iodized salts. More awareness should be developed to take iodized salt to reduce the prevalence of goitre among high school going female students.

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