



# Child thyrotoxicosis Syndrome: Structure and Characteristics

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**Objective:** To study the structure and characteristics of child thyrotoxicosis syndrome.

**Materials and Methods:** At the 1st stage, medical records of patients treated at the Endocrinology Unit of the Children's Hospital named after Z.A. Bashlyaeva of the City of Moscow in 2014-2018 (n=4530) were analyzed. At the 2nd stage, a primary examination of 106 children 3 to 17 years old with a diagnosis of thyrotoxicosis syndrome was performed. Serum TSH, free T4, free T4, anti-thyroglobulin, -thyroid peroxidase and -TSH receptor antibodies were analyzed in all patients; ultrasound examination of thyroid gland as well as thyroid gland scintigraphy (n=4) and molecular genetic PCR assay with direct sequencing (n=2) were performed as well. Immunological criterion of Graves disease was defined as anti-TSH antibodies values > 1.75 IU/mL.

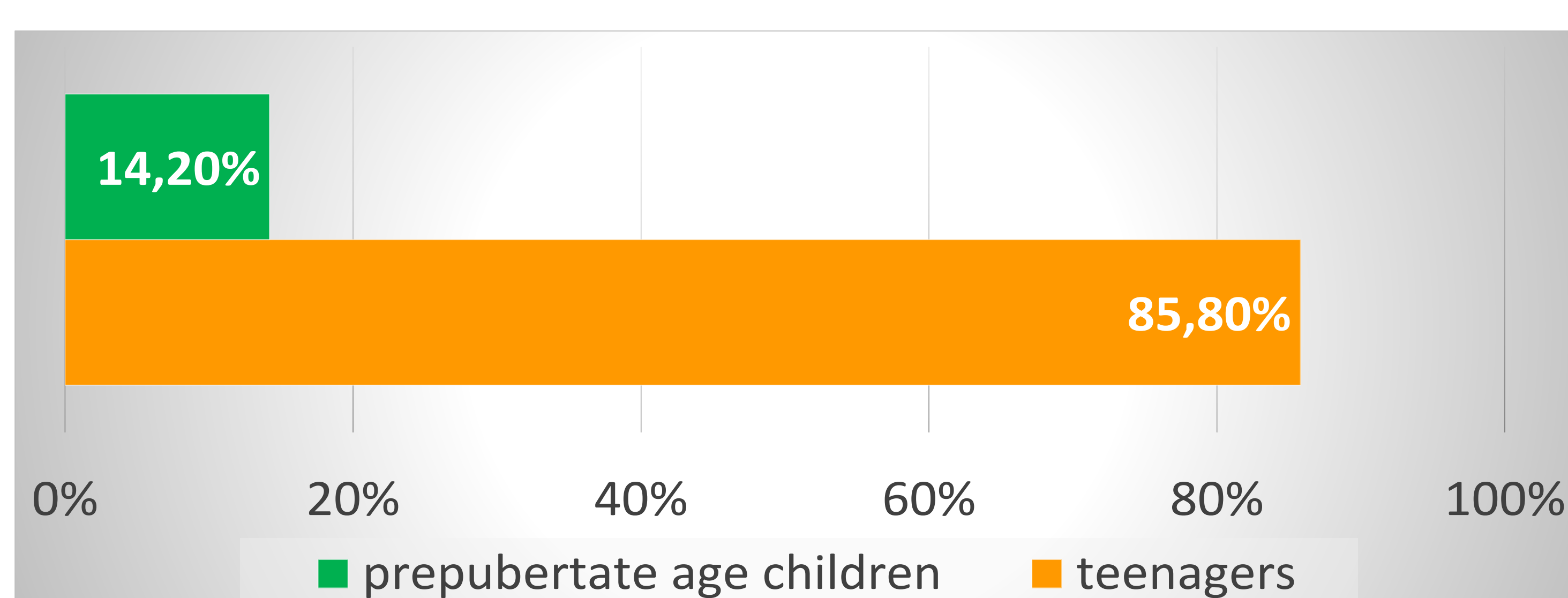
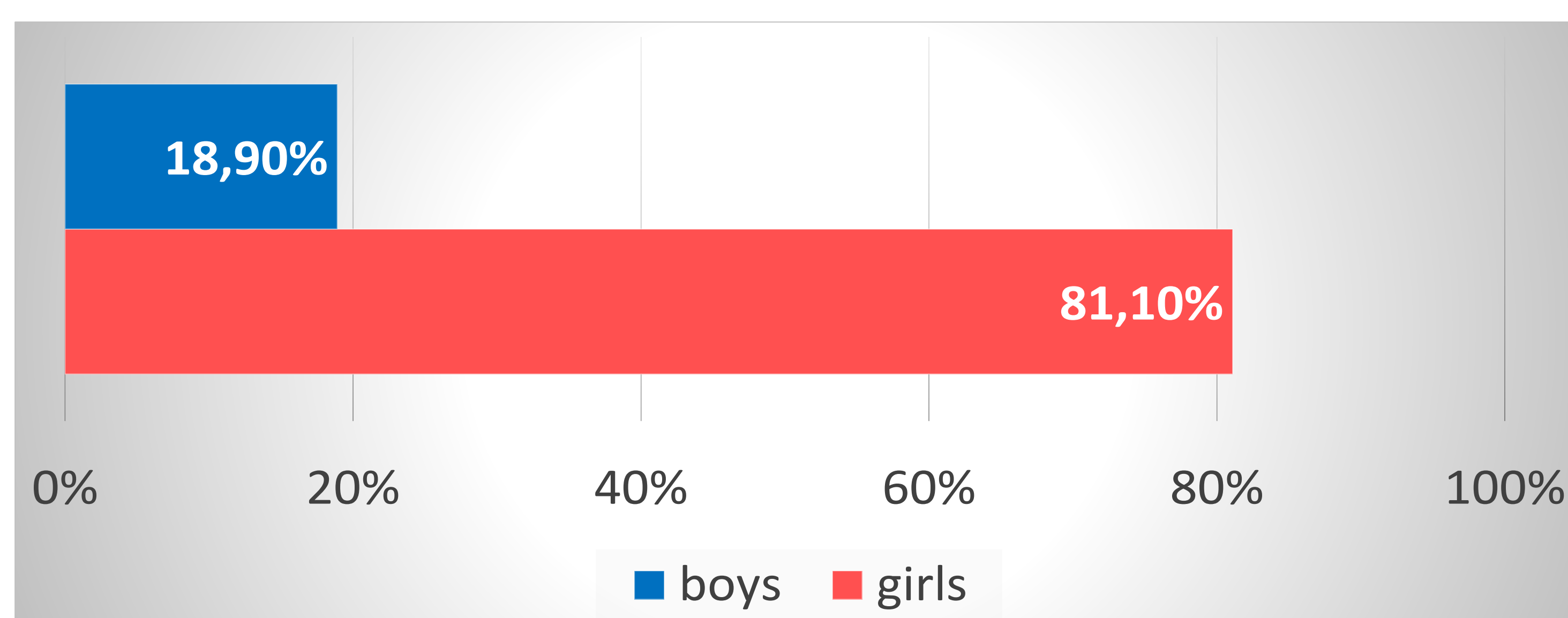
**Results:** Thyrotoxicosis syndrome accounted for 2,3% in the structure of endocrine diseases in children. All the cases were presented with an overt clinical form of the disease. Thyrotoxicosis syndrome was significantly more frequently diagnosed in girls (81,1%) as compared to boys (18,9%, p=0.000) and was more frequent in teenagers (85,8%) as compared to prepubertate age children (14,2%, p=0.000).

Immunogenic forms of thyrotoxicosis syndrome in children were diagnosed in 94,3% of the cases and were represented by Graves disease (87,8 %) and thyrotoxicosis phase of autoimmune thyroiditis (6,6%, p=0.000).

Non-immune forms of thyrotoxicosis were significantly less frequent, 5,6% (p=0.000) and were represented by the following nosologies: single-node toxic goiter – 1,9% (2/106), iodine-induced thyrotoxicosis – 0,9% (1/106), multinodular toxic goiter in 0,9% (1/106), thyrotoxicosis due to TSHR gene activating mutation in 0,9% (1/106), drug-induced thyrotoxicosis in 0,9% (1/106).

**Conclusion:** The structure of thyrotoxicosis syndrome is heterogeneous, including both immune and non-immune forms; this should be kept in mind when considering the diagnostic work-up plan and the choice of the treatment strategy.

**Distribution by sex and age**



**The structure of thyrotoxicosis syndrome**

