# Prevalence of Thyroid Dysfunction and Associated Autoimmune Disorders in Young Children with Down Syndrome (DS); A Cohort Study

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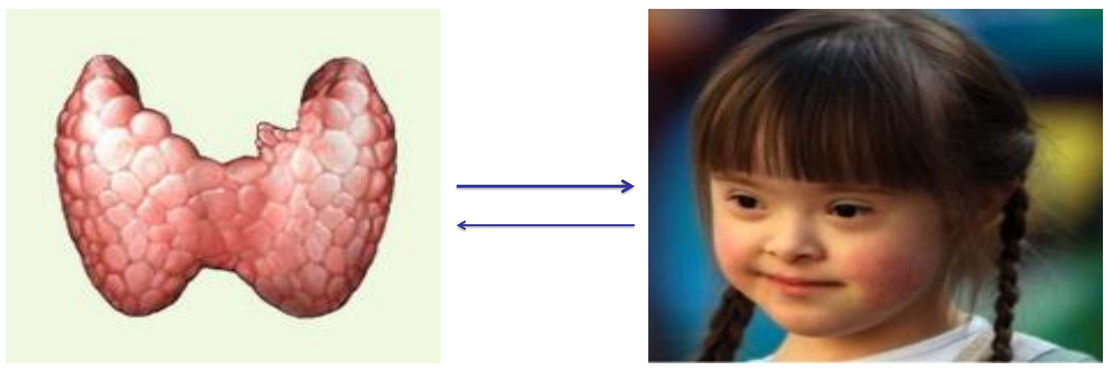
## Introduction

There is an intriguing association between DS and thyroid abnormalities, which include sub-clinical, overt hypothyroidism, hyperthyroidism, and positive thyroid Antibodies.
The prevalence of these abnormalities varies considerably depending on the diagnostic criteria and the selected population which includes sample size and age group.

Our aim was to measure the prevalence of thyroid dysfunction and associated autoimmunity among the children with Down Syndrome in Qatar and compare it with other worldwide studies.



## Methods

A retrospective study for all children (aged 2.3 +/- 3 years) with the diagnosis of DS who were seen in the General Pediatric Clinic of HGH during the year 2018 (n =102) were the subjects of this study.
Their clinical and laboratory investigations were reviewed including TSH, free T4 (FT4), Thyroid antibodies and associated with other autoimmune dysfunction.

## Conclusion

We detected a higher prevalence of subclinical hypothyroidism in our young children with Down

Syndrome compared to international data.

## Results

| | Prevalence in DS- Qatar | Prevalence in DS Horm Res Paediatr. 2017 |
|---|---|---|
| Number | 102 | 508 |
| Age, Mean (years) | 2.3 | 6.5 |
| Central hypothyroidism | 2% | |
| TSH >10 mIU/L (Isolated Hyperthyrotropinemia) | 25.5% | 4.5% |
| TSH > 10 + FT4 <10 (Overt hypothyroidism) | 4% | 1% |
| TSH > 5 and <10 mIU/L (Subclinical Hypothyroidism ) | 30.4% | 10% |
| FT4 > 19 pmol/L (Hyperthyroidism) | 1% | 1.6% |
| Anti Thyroid antibodies | 28.4 % | 46% |
| Other autoimmune disorders/antibodies | 5.9% | -- |
| Type 1 DM | 2% | 0.8% |
| Alopecia areata | 2% | |
| Antiphospholipid antibody | 2% | |
| CHD | 66.6% | 68% |

## Discussion

- A higher prevalence of primary (4%) and secondary (2%) hypothyroidism were found in our young children with DS.
- Subclinical hypothyroidism and positive thyroid antibodies were found in (30.4%, 28.4% respectively).
- The difference between our data and other research results in literature can be explained by the younger age of our patients and early screening for thyroid function.

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Authors have no conflict of interest

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Growth and syndromes (to include Turner syndrome)
Nada Alaaraj
Poster presented at: