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PREVALENCE AND FACTORS ASSOCIATED WITH THYROID DISEASE AMONG CHILDREN WITH DOWN SYNDROME IN TWO TERTIARY HOSPITALS

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INTRODUCTION/BACKGOUND
Children with Down syndrome (DS) have an increased risk of thyroid disease (TD). The study aimed to evaluate the prevalence and profile of TD among children with DS, and examine the association between demographic, clinical, genetic, maternal factors, and TD.

METHODOLOGY
We conducted a retrospective cohort study among patients with DS, aged 0-18 years, under paediatric follow-up at the two hospitals. We retrieved their data from the hospital electronic medical records.

RESULT
There were 299 children (150 boys, 149 girls) with DS with mean age of 8.8 years ± 4.66 years. The majority were Malays (254/299, 84.9%). TD was detected in 49.8% (149/299). Of the 149 patients with TD, 75.8% (113/149) had congenital hypothyroidism (CH) diagnosed within age 6 months. Acquired hypothyroidism (AH), diagnosed after age 6 months, were detected in 22.8% (34/149), only 2 (1.3%) had hyperthyroidism. Subclinical hypothyroidism was the most common TD, detected in 105/113 (92.9%) of CH and 27/34 (79.4%) of AH. Almost half (74/149, 49.7%) were diagnosed in the neonatal period, another 32.9% (49/149) during infancy. Congenital cardiovascular anomalies were present in 221/299 (73.9%) patients. There were significant associations between cardiovascular anomalies ($p = 0.038$), congenital skeletal anomalies ($p = 0.038$) and TD. There were no significant associations between age, gender, ethnicity, birth weight, chromosomal abnormality, maternal age and parity, and TD.

CONCLUSION
TD is prevalent among children with Down syndrome, with subclinical hypothyroidism as the most common TD. These findings highlight the importance of ongoing surveillance and biochemical screening for early detection of TD in children with DS.