

	JURNAL NASIONAL TERAKREDITASI SINTA 2
JUDUL ARTIKEL	Diabetes Duration and Tyroid Stimulating Hormone Levels in Children With Type 1 Diabetes Melitus
JURNAL	Paediatrica Indonesia; Indonesian Pediatric Society
PENULIS	Nur Rochmah ; Muhammad Faizi
No	Perihal
1	Bukti Submit
2	BUkti Copy Editing
3	Bukti Review
4	Bukti respon dari author

Surabaya, 7 Agustus 2023



Dr. NUR ROCHMAH dr., Sp.A(K)



UNIT KERJA ENDOKRIN ANAK <endokrin.ilmiah@gmail.com>

Fwd: [PI] Submission Acknowledgement

1 pesan

nur rochmah <drnurrochmah@gmail.com>
Kepada: endokrin ilmiah PPDS <endokrin.ilmiah@gmail.com>

6 Agustus 2023 pukul 14.34

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Dari: <enquiry@paediatricaindonesiana.org>
Date: Sel, 9 Jan 2018 14.06
Subject: [PI] Submission Acknowledgement
To: nur rochmah <drnurrochmah@gmail.com>

nur rochmah:

Thank you for submitting the manuscript, "Association Between Diabetes Duration and Thyroid Stimulating Hormone in Type 1 Diabetes Mellitus Children" to Paediatrica Indonesiana. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL:

<https://paediatricaindonesiana.org/index.php/paediatrica-indonesiana/author/submission/1760>

Username: drnurrochmah

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

Anna Dewiyana
Paediatrica Indonesiana

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UNIT KERJA ENDOKRIN ANAK <endokrin.ilmiah@gmail.com>

Fwd: [PI] Submission "1760" Author Form

1 pesan

nur rochmah <drnurrochmah@gmail.com>
Kepada: endokrin ilmiah PPDS <endokrin.ilmiah@gmail.com>

6 Agustus 2023 pukul 14.33

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Dari: <enquiry@paediatricaindonesiana.org>
Date: Jum, 2 Feb 2018 09.11
Subject: [PI] Submission "1760" Author Form
To: nur rochmah <drnurrochmah@gmail.com>
Cc: <enquiry@paediatricaindonesiana.org>

Dear Author,
Please make sure to complete the Author Form and upload it as a
Supplementary file in your submission or email it to
enquiry@paediatricaindonesiana.org, so we can process your manuscript
accordingly.

Your cooperation is very much appreciated.

Thank you.

Regards,
Anna Dewiyana

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UNIT KERJA ENDOKRIN ANAK <endokrin.ilmiah@gmail.com>

Fwd: [PI] Copyediting Review Request "1760"

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nur rochmah <drnurrochmah@gmail.com>

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Kepada: endokrin ilmiah PPDS <endokrin.ilmiah@gmail.com>

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Dari: <enquiry@paediatricaindonesiana.org>

Date: Rab, 4 Apr 2018 09.10

Subject: [PI] Copyediting Review Request "1760"

To: nur rochmah <drnurrochmah@gmail.com>

Cc: <enquiry@paediatricaindonesiana.org>

nur rochmah:

Your submission "Association Between Diabetes Duration and Thyroid Stimulating Hormone in Type 1 Diabetes Mellitus Children" for Paediatrica Indonesiana has been through the first step of copyediting, and is available for you to review by following these steps.

1. Click on the Submission URL below.
2. Log into the journal and click on the File that appears in Step 1.
3. Open the downloaded submission.
4. Review the text, including copyediting proposals and Author Queries.
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Username: drnurrochmah

This is the last opportunity to make substantial copyediting changes to the submission. The proofreading stage, that follows the preparation of the galleys, is restricted to correcting typographical and layout errors.

If you are unable to undertake this work at this time or have any questions, please contact me. Thank you for your contribution to this journal.

Partini Pudjiasuti Trihono
Department of Child Health, University of Indonesia Medical School/Dr. Cipto Mangunkusumo, Jakarta
partinip@yahoo.com

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UNIT KERJA ENDOKRIN ANAK <endokrin.ilmiah@gmail.com>

Fwd: [PI] Editor Decision - Revision Required "1760"

1 pesan

nur rochmah <drnurrochmah@gmail.com>
Kepada: endokrin ilmiah PPDS <endokrin.ilmiah@gmail.com>

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Dari: <enquiry@paediatricaindonesiana.org>
Date: Sen, 26 Feb 2018 10.27
Subject: [PI] Editor Decision - Revision Required "1760"
To: nur rochmah <drnurrochmah@gmail.com>
Cc: <enquiry@paediatricaindonesiana.org>

nur rochmah:

We have reached a decision regarding your submission to Paediatrica Indonesiana, "Association Between Diabetes Duration and Thyroid Stimulating Hormone in Type 1 Diabetes Mellitus Children".

Please revise the manuscript based on editor's comment that you can find on REVIEW page/EDITOR DECISION section/EDITOR VERSION, dated today February 26, 2018. Kindly do the revision on the file as we did language editing on it.

The revised version should be uploaded as AUTHOR VERSION on REVIEW page/EDITOR DECISION, or emailed to enquiry@paediatricaindonesiana.org, before March 5, 2018.

Your cooperation is very much appreciated.

Thank you.

Regards,

Partini Pudjiastuti Trihono
Department of Child Health, University of Indonesia Medical School/Dr. Cipto
Mangunkusumo, Jakarta
partinipt@yahoo.com

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<http://paediatricaindonesiana.org/index.php/paediatrica-indonesiana>



UNIT KERJA ENDOKRIN ANAK <endokrin.ilmiah@gmail.com>

Fwd: reviso naskah jurnal OK

1 pesan

nur rochmah <drnurrochmah@gmail.com>
Kepada: endokrin ilmiah PPDS <endokrin.ilmiah@gmail.com>

6 Agustus 2023 pukul 14.33

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Dari: **nur rochmah** <drnurrochmah@gmail.com>
Date: Sel, 27 Feb 2018 09.30
Subject: Re: reviso naskah jurnal OK
To: Paediatrica Indonesiana <enquiry@paediatricaindonesiana.org>

assalamualaikum
mohon diterima revisi kami
terima kasih

On Feb 27, 2018, at 7:22 AM, Paediatrica Indonesiana <enquiry@paediatricaindonesiana.org> wrote:

Dear Dr. Nur,

Dok mohon paragraf pertama Discussion berikut disusun ulang kalimatnya karena kurang dapat dipahami:

The mean TSH concentration in our subjects was 3.76 (SD 8.48) mIU/L. The International Society for Pediatrics and Adolescent Diabetes Mellitus recommends that screening of thyroid function by measuring thyroid stimulating hormone (TSH) and anti-thyroid peroxidase antibodies at the time of diabetes diagnosis and, thereafter, every second year in asymptomatic individuals without goiter, or in the absence of thyroid autoantibodies. More frequent assessment is indicated otherwise.¹³ Autoimmune thyroiditis reported in 2.9-3.4%,^{14,15} Greek 4.6%.¹⁶ Subclinical hypothyroidism was found in 7-20%[A1]^{5,7} compared to adults with rates of 1-10%,^{7,8} and 2-6% in the general population of children.⁹

[A1]7-20% dari apa?

Untuk kalimat dalam hihgliht hijau, maksudnya bagaimana? Autoimmune thyroiditis reported in 2.9-3.4%,^{14,15} Greek 4.6%.¹⁶

trimakasih,
Anna

On 26/02/2018 14:30, nur rochmah wrote:

assalamualaikum
mohon diterima revisi naskah jurnal kami
atas perhatiannya kami sampaikan terima kasih
wassalam

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Diabetes duration and thyroid stimulating hormone levels in children with type 1 diabetes mellitus

Nur Rochmah, Muhammad Faizi

Abstract

Background Children with type 1 diabetes mellitus (T1DM) are at risk of thyroid dysfunction. An association between diabetes duration and thyroid stimulating hormone level remains inconclusive.

Objective To assess for a possible association between diabetes duration and thyroid stimulating hormone levels in children with T1DM.

Methods We conducted a cross-sectional study from January to June 2017 in the Pediatric Endocrine Outpatient Clinic at Dr. Soetomo Hospital. Subjects were children with T1DM aged 7 to <18 years. Exclusion criteria were children with diabetic ketoacidosis, previously diagnosed thyroid problems, and hospitalization in the PICU.

Results From the 55 regular patients in our outpatient clinic, 34 patients were included in the study. Nineteen (54.3%) subjects were male, and the overall mean age was 11.3 years. Subjects' mean duration of diabetes was 3 years and their mean thyroid stimulating hormone concentration was 3.76mIU/L. Pearson's correlation test revealed no significant association between duration of diabetes and thyroid stimulating hormone level ($r_s = -0.068$; $P = 0.703$).

Conclusion There was no significant association between duration of diabetes and thyroid stimulating hormone levels in children with T1DM.

Keywords: diabetes duration, thyroid stimulating hormone, type 1 diabetes mellitus children

From the Department of Child Health, Airlangga University Medical School/Dr. Soetomo Hospital, Surabaya, East Java, Indonesia.

Reprint requests to: Nur Rochmah, Department of Child Health, Airlangga University Medical School/Dr. Soetomo Hospital. [Jl Prof Dr Moestopo 6-8, Surabaya. Phone 031-5501748. Email: \[drnurrochmah@gmail.com\]\(mailto:drnurrochmah@gmail.com\)](#) ADDRESS. PHONE NUMBER. EMAIL

Comment [A1]: Tambahkan alamat, no telp, email

According to the World Health Organization and the International Diabetes Federation, the prevalence of diabetes is on the rise.^{1,2} Data from the Pediatric Endocrine Working Group showed that 1,153 patients suffered from T1DM until April 2016.³ Thyroid dysfunction is reportedly higher among T1DM patients.⁴³⁻⁹⁸ Among diabetic adult populations, 15-30% reported autoimmune thyroiditis compared to 5-22% in children.⁸⁷ In the non-diabetic population, 2-10% adults and 1-4% children reportedly have the condition.^{9,10,11} To date, serum thyroid stimulating hormone levels in T1DM patients have rarely been studied in Indonesia. Therefore, the objective of this study was to assess for a possible association between diabetes duration and thyroid stimulating hormone concentration in children with type 1 diabetes mellitus.

Methods

This cross-sectional study was carried out from January - June 2017 in the Pediatric Endocrine Outpatient Clinic at Dr Soetomo Hospital. Subjects were children with T1DM aged 7 to <18 years. Exclusion criteria were diabetic ketoacidosis, previously diagnosed thyroid problems, and hospitalization in the PICU. Blood specimens were processed by an ADVIA Centaur immunoassay system, using an electrochemilluminescence immunoassay (ECLIA) method to measure TSH levels. Statistical analysis was done with Pearson's correlation test. Results with P values <0.05 were considered to be statistically significant. FT4 levels were obtained for subjects with abnormal TSH levels.

The normal limits for FT4 were 1.0-2.1 ng/dL in 2 to 7-year-olds and 0.8-1.9 ng/dL in 8 to 20-year-olds. The normal TSH limits were 0.7-5.7 mIU/L in 2 to 7-year-olds and 0.7-5.7 mIU/L in 8 to 20-year-olds. The diagnosis of primary hypothyroidism was made in those with low FT4 and high TSH. Subclinical hypothyroidism was diagnosed in those with high TSH and normal FT4; hyperthyroidism in those with low TSH and high T3 and T4; and subclinical hyperthyroidism in those with normal TSH and high T3 and T4.¹² (De Boer, 2007)

Results

There were 55 T1DM patients who regularly visited our OPC. Thirty-four patients met the inclusion criteria and were included in the study.

Comment [A2]: 'until April 2016' maksudnya yg terdiagnosis sampai bulan April 2016? Mulai dari kapan? ..ini data UKK yang belum dipublikasi..dari data registri Data ini utk daerah mana? ...Data nasional secara umum dari teaching hospital di Indonesia..kami cross cek lagi ke UKK
Tambahkan referensi

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Table 1. Baseline characteristics of subjects

Characteristics	(N=34)
Male sex, n (%)	19 (55.94)
Mean body weight (SD), kg	33.34 (12.6)
Mean height (SD), cm	136.6 (16.63)
Mean body mass index (SD), Z-score	-0.68 (1.58)
Mean age (SD), years	11.3 (3.5)
Mean duration of diabetes mellitus (SD), years	3 (1.98)
Mean TSH (SD), mIU/L	3.76 (8.48)

Comment [A4]: Tambahkan 'Mean TSH (SD)' ke dalam Table 1

Comment [A5]: 19/34=55.9%, mohon cek ulang

There were 2 male patients with high TSH levels, 25 and 45 mIU/L, respectively. These patients were subsequently found to have normal FT4 levels, hence, they were diagnosed with subclinical hypothyroidism. Mean TSH was 3.76 (SD 8.48) mIU/L, ranging from 0.033 to 45 mIU/L. Pearson's correlation test revealed no significant association between duration of diabetes and thyroid stimulating hormone concentration ($r_s=-0.068$; $P=0.703$).

Comment [A6]: 'mean TSH' dari seluruh subjek (34) atau setelah dikurangi 2 subjek dng TSH yg tinggi?
...Hasil ini mean dari semua TSH

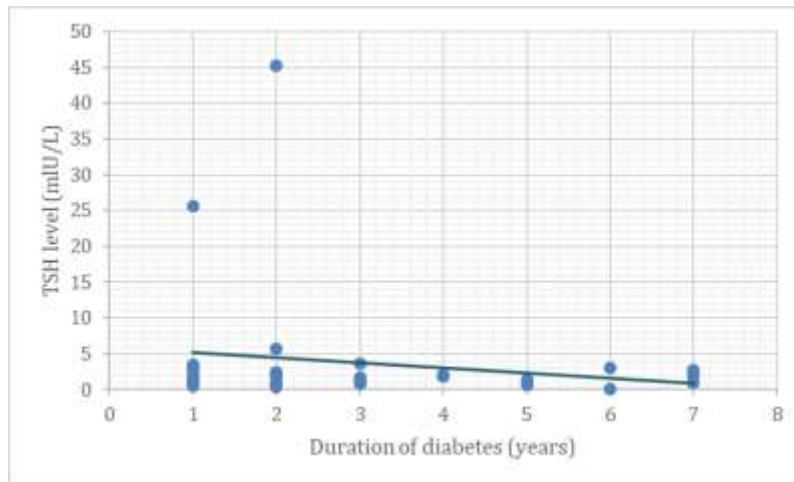


Figure 1. Association between duration of diabetes and TSH levels in children with T1DM

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There were 2 patients with high TSH, one with duration of illness 1 year with TSH 25 mIU/L and one patient 2 years 45 mIU/L (figure1).

Discussion

The mean TSH concentration in our subjects was 3.76 (SD 8.48) mIU/L. The International Society for Pediatrics and Adolescent Diabetes Mellitus recommends that screening of thyroid function by measuring thyroid stimulating hormone (TSH) and anti-thyroid peroxidase antibodies at the time of diabetes diagnosis and, thereafter, every second year in asymptomatic individuals without goiter, or in the absence of thyroid autoantibodies. More frequent assessment is indicated otherwise.¹¹⁻³ Kabelitz (2003) and Loviselli (2001) reported the prevalence of autoimmune thyroiditis in population was 2.9-3.4%,^{14,15} while Kalaoumenou (2007) reported 4.6% in Greek population.¹⁶ Autoimmune thyroiditis reported in 2.9-3.4%,^{14,15,21,3} Greek 4.6%.¹⁶⁻⁵ Subclinical hypothyroidism was found in 7-20%^{7,7} compared to adults with rates of 1-10%,^{7,8} and 2-6% in the general population of children.⁹

In our study, subjects' mean duration of diabetes was 3 years and mean age was 11.3 years, in which in the periode of puberty. Thyroid dysfunction apparent at diabetes onset^{10,124} or years thereafter.^{10,142,195} Peak of autoimmune thyroiditis incidence in the early until mid puberty.^{174,18}

Two of our male patients were diagnosed with subclinical hypothyroidism. Females have been reported to be at risk for autoimmune thyroiditis.^{419,20,5,16} Sharifi *et al.* and Araujo *et al.* stated that gender predisposition of patients suffered from thyroid dysfunction was varied varies between genders.^{21,217,18} Subclinical hypothyroidism is frequently observed in T1DM.^{134,21-2749}

We found no significant association between duration of diabetes and TSH levels in children with T1DM. Past studies have shown that the longer the duration of diabetes, the higher the prevalence of autoimmune thyroiditis.²²⁻⁰⁻²⁶² A previous study reported that prevalence of autoimmune thyroiditis in T1DM patients increased post-puberty.²³³ Another study stated that the peak prevalence of thyroid antibody was observed after the age of 15 years or a duration of diabetes of 3.5 years.²⁴

Thyroid stimulating hormone is a sensitive method to detect thyroid dysfunction. Normal TSH has a high negative predictive value to exclude thyroid

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Comment [A10]: 7-20% dari apa?

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Comment [A11]: Mohon klarifikasi kedua kalimat ini. Bagaimana pendapat penulis mengenai hal tsb? Apa kaitan pernyataan tsb dng temuan dari studi ini?
...Usia 11 tahun merupakan fase pubertas pada anak

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Sharifi=18, Araujo=19

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di kordonouri

disease and TSH changes can be detected earlier than FT4 changes. Ramasamy *et al.* stated that TSH >2.2mIU/L was predictor of hypothyroidism in T1DM, with 83% sensitivity and 72% specificity.²⁸⁵ However, TSH is of limited value for diagnosing hypothyroidism in central hypothyroidism and acute illness. The TSH needs to be rechecked after the acute illness to distinguish between non-thyroidal illness syndrome and actual hypothyroidism.²⁹⁶ In addition, the TSH examination is less expensive than the thyroid antibody test. Screening once every 2 years is safe, effective, cost-efficient, as well as useful for avoiding the trauma of unnecessarily frequent blood sampling.¹³

In conclusion, there was no significant association between duration of diabetes and thyroid stimulating hormone in children with T1DM.

Acknowledgement

We would like to thank all the medical staff of the Pediatric Endocrine Outpatient Clinic at Dr. Soetomo Hospital for their assistance in our study.

Conflict of Interest

None declared.

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Comment [A16]: Mohon di cek ulang penomoran sitasi di bagian Discussion

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9. Canaris CJ, Manowitz NR, Mayor G, Ridgway EC. The Colorado thyroid disease prevalence study. *Arch Intern Med.* 2000;160:526-34.

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Comment [A17]: Mohon di cek ulang penomoran sitasi di bagian Discussion

Comment [A18]: Tambahkan halaman

Comment [A19]: Tambahkan tanggal/bulan/tahun men-sitasi

10. Wu T, Flowers JW, Tudiver F, Wilson JL, Punyasavatsut N. Subclinical thyroid disorders and cognitive performance among adolescents in the United States. *BMC Pediatr.* 2006;6:12.
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