

LAMPIRAN-LAMPIRAN**Lampiran 1. Pernyataan Persetujuan unggah E-Repository****SURAT PERNYATAAN**

Yang bertanda tangan dibawah ini:

Nama : Deby Rahmayanti

NPM : 20700016

Program Studi : Pendidikan Dokter

Menyatakan dengan sesungguhnya bahwa hasil penelitian saya dengan judul:

“Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo”

Bersedia untuk diunggah dalam *e-repository* Universitas Wijaya Kusuma Surabaya dan dimanfaatkan untuk masyarakat luas.

Surat pernyataan persetujuan ini digunakan sebagaimana diperlukan.

Surabaya, 10 Juli 2023

Yang membuat pernyataan



Deby Rahmayanti

NPM: 20700016

Lampiran 2. Pernyataan Keaslian Tulisan

PERNYATAAN KEASLIAN TULISAN

Yang bertanda tangan di bawah ini saya:

Nama : Deby Rahmayanti;
NPM : 20700016;
Program Studi : Pendidikan Dokter
Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya;

Menyatakan dengan sebenarnya bahwa Skripsi yang saya tulis dengan judul “Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD Negeri Keboharan Kecamatan Krian Kabupaten Sidoarjo”, benar-benar hasil karya saya sendiri, bukan merupakan pengambilalihan tulisan atau pikiran orang lain yang saya akui sebagai tulisan atau pikiran saya sendiri. Apabila kemudian hari dapat dibuktikan bahwa Skripsi ini adalah hasil jiplakan, maka saya bersedia menerima sanksi atas perbuatan tersebut.

Surabaya, 10 Juli 2023
Yang membuat pernyataan,


(Deby Rahmayanti)
NPM : 20700016



Lampiran 3. Pernyataan Persetujuan unggah Majalah/Jurnal

SURAT PERNYATAAN

Yang bertanda tangan dibawah ini:

Nama : Deby Rahmayanti

NPM : 20700016

Program Studi : Pendidikan Dokter

Menyatakan dengan sesungguhnya bahwa hasil penelitian saya dengan judul:
"Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD
Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo"

Bersedia untuk dimuat di dalam majalah atau jurnal ilmiah atas nama pembimbing
dengan tetap mencantumkan nama saya sebagai peneliti.

Surabaya, 10 Juli 2023


Yang membuat pernyataan













Deby Rahmayanti

NPM: 20700016


Lampiran 4. Kartu Bimbingan Skripsi



YAYASAN WIJAYA KUSUMA
UNIVERSITAS WIJAYA KUSUMA SURABAYA
FAKULTAS KEDOKTERAN
UNIT PENELITIAN, PENGABDIAN MASYARAKAT DAN PUBLIKASI
 Jln. Dukuh Kupang XXV/54, Surabaya Telp/Fax. 5686531-5614001

Bulan :	Topik pembahasan VI	Tanda Tangan Dosen Pembimbing		Bulan :	Topik pembahasan	Tanda Tangan Dosen Pembimbing		
Tanggal	Metode penelitian/Studi Literatur			Tanggal				
	Metode penelitian/Studi Literatur							
	Metode penelitian/Studi Literatur							
Bulan :	Topik pembahasan VII	Tanda Tangan Dosen Pembimbing		Bulan :	Topik pembahasan VII	Tanda Tangan Dosen Pembimbing		
Tanggal	Pengumpulan data			Tanggal				
	Pengumpulan data							
	Pengumpulan data							
Bulan :	Topik pembahasan VIII	Tanda Tangan Dosen Pembimbing		Bulan :	Topik pembahasan VIII	Tanda Tangan Dosen Pembimbing		
Tanggal	Hasil penelitian/Studi Literatur dan pembahasan			Tanggal				
	Hasil penelitian/Studi Literatur dan pembahasan							
	Hasil penelitian/Studi Literatur dan pembahasan							
Bulan :	Topik pembahasan IX	Tanda Tangan Dosen Pembimbing		Bulan :	Topik pembahasan IX	Tanda Tangan Dosen Pembimbing		
Tanggal	Kesimpulan, saran dan daftar pustaka			Tanggal				
	Kesimpulan, saran dan daftar pustaka							
	Kesimpulan, saran dan daftar pustaka							
Bulan :	Topik pembahasan X	Tanda Tangan Dosen Pembimbing		Bulan :	Topik pembahasan X	Tanda Tangan Dosen Pembimbing		
Tanggal	Artikel hasil penelitian/Studi Literatur untuk publikasi			Tanggal				
	Artikel hasil penelitian/Studi Literatur untuk publikasi							
	Artikel hasil penelitian/Studi Literatur untuk publikasi							

Lampiran 5. Keterangan Kelaikan Etik



KOMISI ETIK PENELITIAN KESEHATAN
FAKULTAS KEDOKTERAN
UNIVERSITAS WIJAYA KUSUMA SURABAYA

KETERANGAN KELAIKAN ETIK
“ETHICAL CLEARANCE”

No. 43 /SLE/FK/UWKS/2023

KOMISI ETIK PENELITIAN KESEHATAN

PENELITIAN BERJUDUL:
HUBUNGAN POLA TIDUR DENGAN TUMBUH KEMBANG ANAK
USIA SEKOLAH DI SD NEGERI KEBOHARAN KECAMATAN KRIAN
KABUPATEN SIDOARJO


PENELITI UTAMA:
DEBY RAHMAYANTI

UNIT / LEMBAGA / TEMPAT PENELITIAN:
SEKOLAH DASAR NEGERI KEBOHARAN KECAMATAN KRIAN
KABUPATEN SIDOARJO


MENYATAKAN:
“ LAIK ETIK ”

Surabaya, 25 Maret 2023


Mengetahui,
Dekan



Prof. Dr. Kuntaman, dr. MS., Sp.MK(K)



Ketua Unit,



Dr. Erny, dr., Sp.A (K)

Lampiran 6. Pernyataan Publikasi

FORMULIR PERNYATAAN PUBLIKASI

Nama Mahasiswa : Deby Rahmayanti
 NPM : 20700016
 Dosen Pembimbing Utama : Dr. dr. Candra Rini Hasanah Putri, M.Kes.
 Dosen Pembimbing Pendamping : dr. Widjaja Indrachan, Sp. OG.
 Dosen Penguji : Dr. Sri Lestari Utami, S.Si., M.Kes.
 Judul Naskah/Artikel : Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia
 : Sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten
 : Sidoarjo
 Nama Jurnal Tujuan : Jurnal Ilmiah Kedokteran Wijaya Kusuma
 Username Akun : debyrahmayanti
 Password Akun : povzak42
 Kesepakatan penulis atas tahapan rencana publikasi artikel yang akan dicapai¹⁾:
 1. Submit
 2. Publish

Surabaya, 20 Juli 2023

Mahasiswa

 Deby Rahmayanti

Menyetujui,

Dosen Pembimbing Utama



Dr. dr. Candra Rini Hasanah Putri, M.Kes.
 NIK. 197511102002122001

Dosen Pembimbing Pendamping

dr. Widjaja Indrachan, Sp. OG.
 NIK. 99296-ET

Dosen Penguji



Dr. Sri Lestari Utami, S.Si., M.Kes.
 NIK. 99289-ET

Lampiran 7. Pengantar Kuesioner

PENGANTAR KUESIONER

Judul penelitian : Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD Negeri Keboharan Kecamatan Krian Kabupaten Sidoarjo.

Peneliti : Deby Rahmayanti;
(Nomor telepon yang dapat dihubungi: 081310892695)

Pembimbing : Dr. Candra Rini Hasanah Putri, dr., M.Kes., dan dr. Widjaja Indrachan, Sp.OG.

Wali siswa/siswi SDN Keboharan yang terhormat,

Saya adalah Mahasiswa Semester V Fakultas Kedokteran Universitas Wijaya Kusuma Surabaya. Untuk menyelesaikan Skripsi, saya bermaksud untuk mengadakan penelitian dengan judul “Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD Negeri Keboharan Kecamatan Krian Kabupaten Sidoarjo”.

Saya berkeyakinan bahwa penelitian ini memiliki manfaat yang sangat berguna untuk mengetahui adakah gangguan tidur pada anak yang mempengaruhi tinggi badan dan berat badan anak. Oleh sebab itu saya berharap kesediaan orang tua/wali untuk menjadi responden dalam penelitian ini.

Apabila orang tua/wali sekalian bersedia kami mohon kesediaannya untuk menandatangani persetujuan menjadi subyek penelitian.

Atas perhatian dan kerjasama orang tua/wali saya ucapkan terima kasih.

Surabaya, 4 April 2023

Peneliti,

(Deby Rahmayanti)

NPM : 20700016

Mengetahui :

Pembimbing Utama

Pembimbing Pendamping

(Dr. Candra Rini Hasanah Putri, dr.,
M.Kes)

NIK: 197511102002122001

(dr. Widjaja Indrachan, Sp.OG)
NIK: 99296-ET

Lampiran 8. Surat Persetujuan Menjadi Responden/Subyek Penelitian

Surat Persetujuan Menjadi Responden/Subyek Penelitian

(Informed Consent)

Kami meminta persetujuan Anda untuk turut menjadi bagian sebagai subyek/responden dalam suatu penelitian berjudul “Hubungan Pola Tidur Dengan Tumbuh Kembang Anak Usia Sekolah di SD Negeri Keboharan Kecamatan Krian Kabupaten Sidoarjo”. Penelitian ini bertujuan untuk mengetahui adakah hubungan antara pola tidur dengan tinggi dan berat badan anak usia sekolah di SD Negeri Keboharan kecamatan Krian Kabupaten Sidoarjo.

Siswa/siswi akan diukur tinggi badan dan berat badan dengan menggunakan meteran dan timbangan berat badan apabila Anda bersedia untuk terlibat dalam penelitian ini. Selain itu, wali murid diharapkan untuk mengisi lembar kuesioner skala gangguan tidur pada anak.

Catatan mengenai data penelitian akan di rahasiakan, dan kerahasiaannya akan dijamin. Informasi mengenai identitas siswa/siswi maupun wali murid tidak akan ditulis pada instrumen penelitian atau tidak dipublikasikan dan akan tersimpan secara terpisah di tempat yang aman.

Untuk menjadi bagian dari penelitian ini adalah hak pribadi dan tidak ada unsur paksaan, karena Anda berhak menolak untuk berperan sebagai responden atau mengundurkan diri setiap saat tanpa adanya sanksi atau kehilangan hak-hak Anda. Penelitian ini tidak memungut biaya apapun dari Anda.

Saya telah membaca atau dibacakan apa yang tertera di atas dan saya telah diberi kesempatan untuk mengajukan pertanyaan berkaitan dengan proyek penelitian ini kepada peneliti. Saya memahami tujuan, prosedur, dan risiko penelitian ini. Dengan membubuhkan tandatangan saya di bawah ini, saya menegaskan keikutsertaan saya secara suka rela dalam proyek penelitian ini. Saya menerima tembusan surat persetujuan ini.

Setelah mendengar dan memahami penjelasan tentang prosedur penelitian, dengan ini saya/mewakili keluarga saya*) menyatakan:

SETUJU/TIDAK SETUJU*)

Untuk ikut sebagai responden/subyek penelitian.

Sidoarjo,

Saksi:

Nama terang :

Nama terang. :

Alamat :

Alamat :

Tanda tangan :

Tanda tangan :

Keterangan:

*) Coret salah satu (mewakili keluarga apabila subyek penelitian adalah anak).

***) Coret salah satu.

Lampiran 9. Kuesioner *Sleep Disturbances Scale of Children (SDSC)*

Name: _____

Age: _____

Date: _____

1. How many hours of sleep does your child get on most nights.	① 9-11 hours	② 8-9 hours	③ 7-8 hours	④ 5-7 hours	⑤ less than 5 hours
2. How long after going to bed does your child usually fall asleep	① less than 15'	② 15-30'	③ 30-45'	④ 45-60'	⑤ more than 60'

	⑤ Always (daily)				
	④ Often (3 or 5 times per week)				
	③ Sometimes (once or twice per week)				
	② Occasionally (once or twice per month or less)				
	① Never				
3. The child goes to bed reluctantly	①	②	③	④	⑤
4. The child has difficulty getting to sleep at night	①	②	③	④	⑤
5. The child feels anxious or afraid when falling asleep	①	②	③	④	⑤
6. The child startles or jerks parts of the body while falling asleep	①	②	③	④	⑤
7. The child shows repetitive actions such as rocking or head banging while falling asleep	①	②	③	④	⑤
8. The child experiences vivid dream-like scenes while falling asleep	①	②	③	④	⑤
9. The child sweats excessively while falling asleep	①	②	③	④	⑤
10. The child wakes up more than twice per night	①	②	③	④	⑤
11. After waking up in the night, the child has difficulty to fall asleep again	①	②	③	④	⑤
12. The child has frequent twitching or jerking of legs while asleep or often changes position during the night or kicks the covers off the bed.	①	②	③	④	⑤
13. The child has difficulty in breathing during the night	①	②	③	④	⑤
14. The child gasps for breath or is unable to breathe during sleep	①	②	③	④	⑤
15. The child snores	①	②	③	④	⑤
16. The child sweats excessively during the night	①	②	③	④	⑤
17. You have observed the child sleepwalking	①	②	③	④	⑤
18. You have observed the child talking in his/her sleep	①	②	③	④	⑤
19. The child grinds teeth during sleep	①	②	③	④	⑤
20. The child wakes from sleep screaming or confused so that you cannot seem to get through to him/her, but has no memory of these events the next morning	①	②	③	④	⑤
21. The child has nightmares which he/she doesn't remember the next day	①	②	③	④	⑤
22. The child is unusually difficult to wake up in the morning	①	②	③	④	⑤
23. The child awakes in the morning feeling tired	①	②	③	④	⑤
24. The child feels unable to move when waking up in the morning	①	②	③	④	⑤
25. The child experiences daytime somnolence	①	②	③	④	⑤
26. The child falls asleep suddenly in inappropriate situations	①	②	③	④	⑤
Disorders of initiating and maintaining sleep (sum the score of the items 1,2,3,4,5,10,11)					
Sleep Breathing Disorders (sum the score of the items 13,14,15)					
Disorders of arousal (sum the score of the items 17,20,21)					
Sleep-Wake Transition Disorders (sum the score of the items 6,7,8,12,18,19)					
Disorders of excessive somnolence (sum the score of the items 22,23,24,25,26)					
Sleep Hyperhydrosis (sum the score of the items 9,16)					
Total score (sum 6 factors' scores)					

Lampiran 11. Kuesioner Skala Gangguan Tidur Pada Anak

Petunjuk:

Kuesioner ini dapat membantu mengetahui pola tidur anak Bapak/Ibu dengan lebih baik. Selain itu, juga dapat mengetahui adanya gangguan tidur pada anak Bapak/Ibu. Jawablah semua pertanyaan yang diajukan dengan mempertimbangkan kebiasaan tidur anak Bapak/Ibu dalam 6 bulan terakhir, saat anak Bapak/Ibu dalam keadaan sehat. Perubahan kebiasaan tidur karena anak sakit tidak termasuk. Jawablah dengan melingkari atau memberi tanda silang ada salah satu kolom dari nomor 1-5 yang dianggap mewakili kebiasaan tidur anak Bapak/Ibu.

Atas partisipasi Bapak/Ibu, saya ucapkan terima kasih.

Nama : Jenis Kelamin :
 Tanggal Lahir : Tinggi/Berat Badan :
 Umur : Persentil :

1.	Berapa lama anak Bapak/Ibu tidur pada malam hari	1. 9-11 jam	2. 8-9 jam	3. 7-8 jam	4. 5-7 jam	5. Kurang dari 5 jam
2.	Berapa lama waktu yang dibutuhkan anak Bapak/Ibu untuk jatuh sejak ia pergi ke tempat tidur	1. Kurang dari 15 menit	2. 15-30 menit	3. 30-45 menit	4. 45-60 menit	5. Lebih dari 60 menit

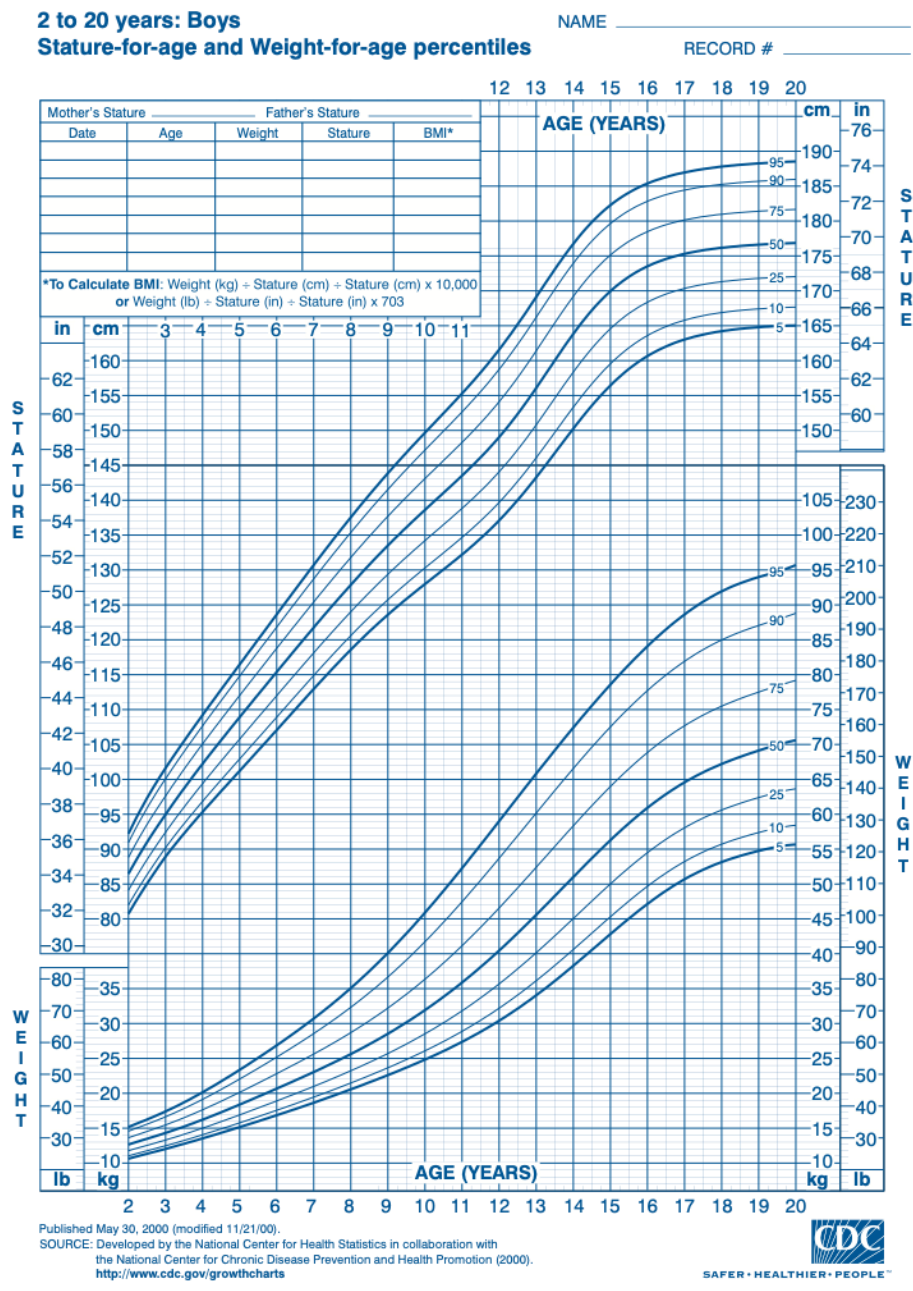
		Tidak pernah	Jarang (1-2 kali setiap ≤ 1 bulan)	Kadang-kadang (1-2 kali /minggu)	Sering (3-5 kali /minggu)	Selalu (setiap hari)
3.	Anak Bapak/Ibu enggan atau menolak untuk tidur	1	2	3	4	5
4.	Anak Bapak/Ibu sulit untuk tidur pada malam hari	1	2	3	4	5
5.	Ada rasa takut pada anak Anda ketika mau tertidur	1	2	3	4	5

6.	Bagian tubuh anak tampak tersentak ketika jatuh tertidur	1	2	3	4	5
7.	Anak melakukan gerakan berulang-ulang ketika jatuh tertidur (seperti menggerakkan atau menggelengkan kepala)	1	2	3	4	5
8.	Anak merasa mimpi seperti nyata ketika jatuh tertidur	1	2	3	4	5
9.	Anak banyak berkeringat ketika jatuh tertidur	1	2	3	4	5
10.	Anak terbangun dari tidur lebih dari 2 kali tiap malam	1	2	3	4	5
11.	Setelah terbangun pada malam hari, anak susah untuk tidur kembali	1	2	3	4	5
12.	Kaki anak sering tersentak ketika tertidur atau sering berubah posisi ketika malam atau sering menendang seprei tempat tidur	1	2	3	4	5
13.	Anak mengalami kesulitan bernapas pada malam hari	1	2	3	4	5
14.	Anak sering terengah-engah saat bernapas atau tidak mampu untuk bernapas ketika tidur	1	2	3	4	5
15.	Anak mendengkur atau mengorok ketika tidur	1	2	3	4	5
16.	Anak berkeringat banyak pada malam hari	1	2	3	4	5
17.	Bapak/Ibu pernah menyaksikan anak berjalan dalam tidur	1	2	3	4	5
18.	Bapak/Ibu pernah menyaksikan anak mengigau ketika sedang tidur	1	2	3	4	5
19.	Bapak/Ibu pernah mendengar gigi anak gemeretak/berbunyi ketika tidur	1	2	3	4	5
20.	Anak terbangun dari tidur dengan berteriak-teriak	1	2	3	4	5

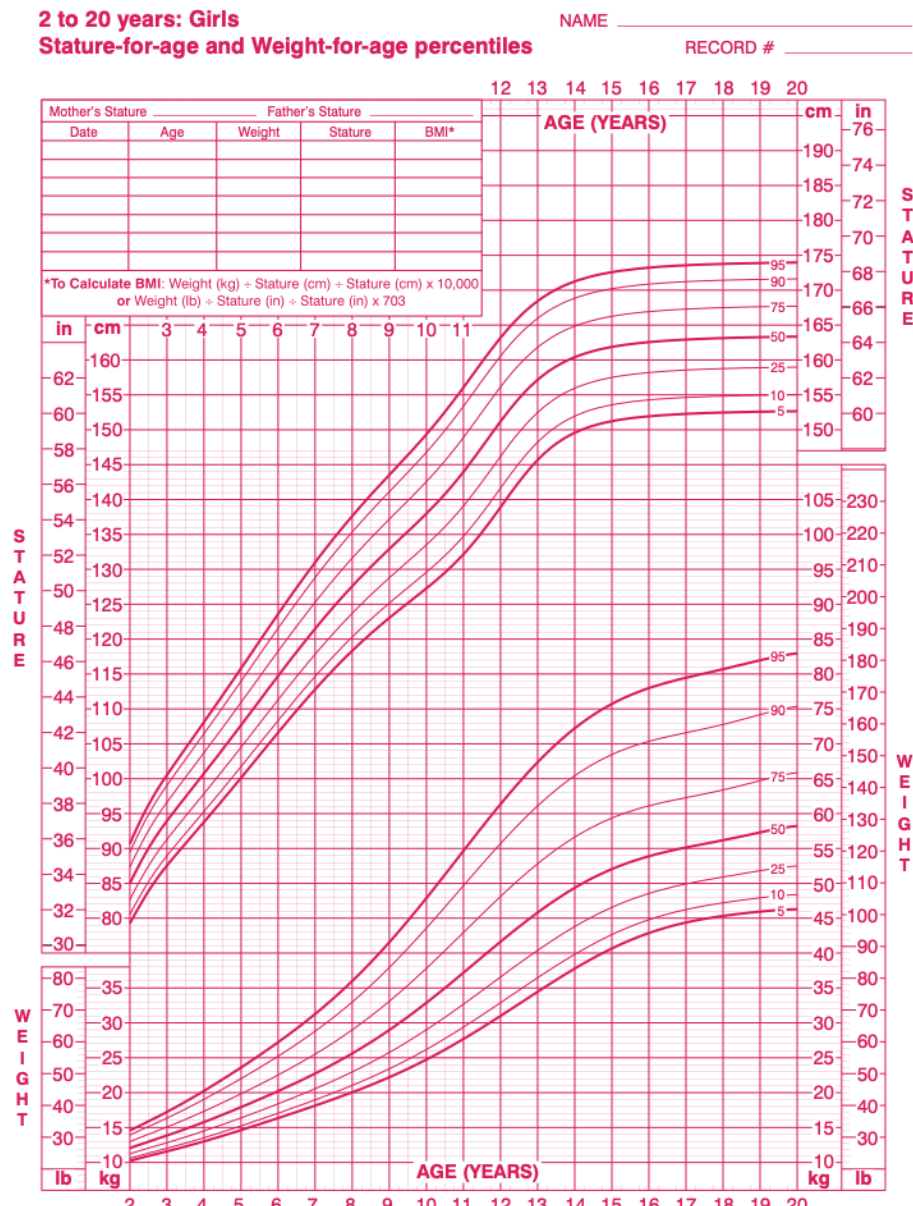
	atau bingung, dan susah untuk disadarkan, akan tetapi tidak bisa ingat ketika pagi hari					
21.	Anak mengalami mimpi buruk dan tidak bisa ingat kembali keesokan harinya	1	2	3	4	5
22.	Anak sangat sulit untuk bangun tidur	1	2	3	4	5
23.	Anak bangun pada pagi hari dan merasa lelah	1	2	3	4	5
24.	Anak merasa tidak bisa untuk bergerak ketika bangun tidur pada pagi hari (ketidihan)	1	2	3	4	5
25.	Anak merasa mengantuk pada siang hari	1	2	3	4	5
26.	Anak tiba-tiba jatuh tertidur pada situasi yang tidak seharusnya (misalnya: Ketika makan, berada dalam toilet, dan lain-lain)	1	2	3	4	5

Gangguan memulai dan mempertahankan tidur (Jumlah 1, 2, 3, 4, 5, 10, 11)	
Gangguan pernapasan saat tidur (Jumlah 13, 14, 15)	
Gangguan kesadaran (Jumlah 17, 20, 21)	
Gangguan transisi tidur-bangun (Jumlah 6, 7, 8, 12, 18, 19)	
Gangguan somnolen berlebihan (Jumlah 22, 23, 24, 25, 26)	
Hiperhidrosis saat tidur (Jumlah 9, 16)	
Skor Total: Jumlah 6 skor tiap faktor	

Lampiran 12. Stature-for-age and Weight-for-age percentiles (for Boys)



Lampiran 13. *Stature-for-age and Weight-for-age percentiles (for Girls)*



Published May 30, 2000 (modified 11/21/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>

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Lampiran 14. Hasil Analisis Deskriptif

JK

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	L	24	40.0	40.0	40.0
	P	36	60.0	60.0	100.0
	Total	60	100.0	100.0	

Umur_saat_ini

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 Tahun	17	28.3	28.3	28.3
	7 Tahun	18	30.0	30.0	58.3
	8 Tahun	16	26.7	26.7	85.0
	9 Tahun	9	15.0	15.0	100.0
	Total	60	100.0	100.0	

Kategori_TB_6_bulan_lalu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	31	51.7	51.7	51.7
	Pendek	3	5.0	5.0	56.7
	Sangat pendek	26	43.3	43.3	100.0
	Total	60	100.0	100.0	

Kategori_BB_6_bulan_lalu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Buruk	15	25.0	25.0	25.0
	Kurang	8	13.3	13.3	38.3
	Lebih	1	1.7	1.7	40.0
	Normal	36	60.0	60.0	100.0
	Total	60	100.0	100.0	

Kategori_TB_saat_ini

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	24	40.0	40.0	40.0
	Pendek	10	16.7	16.7	56.7
	Sangat pendek	26	43.3	43.3	100.0
	Total	60	100.0	100.0	

Kategori_BB_saat_ini

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Buruk	21	35.0	35.0	35.0
	Kurang	9	15.0	15.0	50.0
	Lebih	1	1.7	1.7	51.7
	Normal	29	48.3	48.3	100.0
	Total	60	100.0	100.0	

Kategori_SDSC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-	19	31.7	31.7	31.7
	+	41	68.3	68.3	100.0
	Total	60	100.0	100.0	

Kategori_Perubahan_TB

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Naik	1	1.7	1.7	1.7
	Tetap	42	70.0	70.0	71.7
	Turun	17	28.3	28.3	100.0
	Total	60	100.0	100.0	

Kategori_Perubahan_BB

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Naik	1	1.7	1.7	1.7
	Tetap	38	63.3	63.3	65.0
	Turun	21	35.0	35.0	100.0
	Total	60	100.0	100.0	

Umur_6_bulan_lalu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 Tahun	5	8.3	8.3	8.3
	6 Tahun	10	16.7	16.7	25.0
	7 Tahun	14	23.3	23.3	48.3
	8 Tahun	16	26.7	26.7	75.0
	9 Tahun	15	25.0	25.0	100.0
	Total	60	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TB_6_bulan_lalu	60	106.00	142.00	119.4833	7.03139
BB_6_bulan_lalu	60	16.00	40.00	23.1667	5.75832
TB_saat_ini	60	107.00	145.00	120.9833	7.35421
BB_saat_ini	60	15.00	43.00	23.5833	6.37073
Skor_SDSC	60	28.00	69.00	45.4333	9.82796
Valid N (listwise)	60				

Lampiran 15. Hasil Analisis Korelasi

Your temporary usage period for IBM SPSS Statistics will expire in 4569 days.

One-Sample Kolmogorov-Smirnov Test

		Gangguan Tidur	Perubahan Persentil TB	Perubahan Persentil BB
N		60	60	60
Normal Parameters ^{a,b}	Mean	1.6667	1.3000	1.3667
	Std. Deviation	.47538	.46212	.48596
Most Extreme Differences	Absolute	.425	.442	.408
	Positive	.253	.442	.408
	Negative	-.425	-.258	-.270
Test Statistic		.425	.442	.408
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c	.000 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Correlations

			Perubahan Persentil TB	Perubahan Persentil BB
Spearman's rho	Gangguan Tidur	Correlation Coefficient	.309*	.318*
		Sig. (2-tailed)	.016	.013
		N	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

Lampiran 16. Jurnal

Original Research Article

THE RELATIONSHIP BETWEEN SLEEP PATTERNS AND THE GROWTH AND DEVELOPMENT OF SCHOOL-AGE CHILDREN AT KEBOHARAN PUBLIC ELEMENTARY SCHOOL, KRAN DISTRICT, SIDOARJO REGENCY

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ABSTRACT

Growth hormone works optimally during sleep, so it is important to get enough and quality sleep to optimize height growth in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency. The purpose of this study was to determine the relationship between sleep patterns and the growth and development of school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency. This research is descriptive analytic with Spearman Correlation (r) to test the hypothesis. The study population consisted of 235 children with a sample of 60 children who were taken at simple random sampling, and the parents of each child acted as respondents. The tier variable consists of sleep pattern as the independent variable, and change in percentile height and weight as the dependent variable. The results showed that there was a significant relationship between sleep patterns and changes in height percentile ($p = 0.016$). And there is also a significant relationship between sleep patterns and changes in body weight percentiles ($p = 0.013$) in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency. From the results of the analysis it can be concluded that sleep patterns affect changes in height percentile and changes in weight percentile of school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency.

Keywords: *Sleep Patterns, Growth and Development, Children*

ABSTRAK

Hormon pertumbuhan bekerja secara optimal selama tidur, maka penting untuk mendapatkan tidur yang cukup dan berkualitas untuk mengoptimalkan pertumbuhan tinggi badan pada anak usia sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo. Tujuan penelitian ini adalah untuk mengetahui hubungan pola tidur dengan tumbuh kembang anak usia sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo. Penelitian bersifat deskriptif analitik dengan Korelasi *Spearman* (r) untuk menguji hipotesis. Populasi penelitian sejumlah 235 anak dengan sampel sejumlah 60 anak yang diambil secara acak sederhana, dan yang berperan sebagai responden adalah wali murid dari masing-masing anak. Variabel terdiri dari pola tidur sebagai variabel bebas, dan perubahan persentil tinggi badan dan berat badan sebagai variabel terikat. Hasil penelitian menunjukkan bahwa ada hubungan yang signifikan antara pola tidur dengan perubahan

persentil tinggi badan (TB) ($p = 0,016$). Dan juga ada hubungan yang signifikan antara pola tidur dengan perubahan persentil berat badan (BB) ($p = 0,013$) pada anak usia sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo. Dari hasil analisis dapat disimpulkan bahwa pola tidur berpengaruh terhadap perubahan persentil tinggi badan (TB) dan perubahan persentil berat badan (BB) anak usia sekolah di SD Negeri Keboharan, Kecamatan Krian, Kabupaten Sidoarjo.

Kata Kunci: *Pola Tidur, Tumbuh Kembang, Anak*

INTRODUCTION

A child is a male or female human who has not reached the stage of maturity physically or mentally, or at least has not reached puberty. Over time, children experience growth towards development. Child development refers to the biological, psychological, and emotional changes that occur in humans between birth and late adolescence, as individuals progress from dependence to increasing autonomy (Mardiyah *et al.*, 2016).

According to WHO (World Health Organization, 2010), school children are children aged between 7 and 10 years, while in Indonesia they are generally aged between 6 and 12 years. School age is the age when children start learning in groups, also called the adaptive age (Hurlock, 2020). School-age children are marked by their participation in the school environment and the development of their relationships with others. School-age children experience a lot of progress from the preschool period. At this time, children are experiencing biological, psychological, social, cognitive, moral, and spiritual changes from the previous period of growth and development (Perry *et al.*, 2021).

The aspect of child development is currently one of the aspects that are in great demand by medical professionals, because growth and development is an aspect that describes the process of personality formation. The prevalence of sleep disorders in children includes several categories with varying prevalence. Approximately 1-3% of children have Obstructive Sleep Apnoea Syndrome (OSAS) and 5-27% of children have primary snoring disorders. More than 5% of school-age children experience behavioural insomnia, which includes sleep disturbances and night-time awakenings. In 5-35% of children also experience parasomnias, but it depends on the type of disorder and the age of the child. It is estimated that around 2-8% of children experience sleep disturbances with abnormal body movements (restless leg syndrome and periodic limb disturbances). Although 50% of adult patients report symptoms before the age of 20 years, the prevalence of narcolepsy in children cannot be determined (adult prevalence 1:2000) (Meltzer *et al.*, 2010).

Sleep patterns are patterns, forms or patterns of sleep over a relatively long period of time and include sleep and wake schedules, sleep rhythms, frequency of sleep per day, maintenance of sleep conditions and sleep satisfaction (Widiyanto, 2016). Examination of sleep disturbances in children can be carried out using the Sleep Disturbances Scale for Children (SDSC) questionnaire. The results of a research test by Natalita *et al.*, (2016) showed that the SDSC's ability to detect sleep

disturbances was 71.4% (Natalita *et al.*, 2016). Assessment of sleep disturbances was carried out using a modified SDSC questionnaire translated into Indonesian and has been validated and evaluated for reliability (Natalita *et al.*, 2016).

Growth hormone works optimally during sleep, so it is important to get enough and quality sleep to optimize height growth. The release of growth hormone (Growth Hormone / GH) during sleep is 75%. High GH levels affect a child's physical condition by stimulating the growth of bones and tissues and regulating the child's metabolism (Hense, 2011). Sleep disorders in children are very common, with a prevalence ranging from 25% to 40%, which is a constant number (Mindell & Owens, 2015).

At SD Negeri Keboharan, Krian District, Sidoarjo Regency, the writer often encounters students who are short. Therefore, the authors are interested in conducting research with the title "The Relationship between Sleep Patterns and the Growth and Development of School-Age Children at SD Negeri Keboharan, Krian District, Sidoarjo Regency".

MATERIALS AND METHODS

This research is a descriptive analytic method with a cross-sectional approach which aims to analyze the relationship between sleep patterns and the growth and development of school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency through changes in height and weight percentiles. At SD Negeri Keboharan there is a community relations team, which in this study played a role in helping connect researchers and respondents in conducting research.

This research requires a sample of 60 respondents. This research was conducted by collecting data directly by measuring height and weight, as well as interviewing the parents of students at SD Negeri Keboharan by filling in the Sleep Disturbances Scale for Children (SDSC) questionnaire, followed by assessing the percentiles for height and weight using a grow chart from the Centers for Disease Control and Prevention (CDC). Furthermore, the data were analyzed using the Spearman correlation test (r).

RESULTS AND DISCUSSION

The results of the relationship between sleep patterns and the growth and development of school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency are as follows:

Table 1 Analysis of the characteristics of the respondents

Characteristics	Category	Frequency	Percent (%)
Gender	Male	24	40.0
	Female	36	60.0
Age (6 Months Ago)	6 years old	10	16.7
	7 years old	14	23.3

	8 years old	16	26.7
	9 years old	15	25.0
	10 years old	5	8.3
Age (Now)	7 years old	18	30.0
	8 years old	16	26.7
	9 years old	9	15.0
	10 years old	17	28.3

Source: Research results processed, 2023

Table 1 shows that from a total of 60 respondents in this study, it was found that the majority of respondents were female, namely 60.0% and the remaining 40.0% of respondents were male.

In terms of age 6 months ago, it is known that most of the respondents were 8 years old, namely 26.7%. 25.0% of respondents aged 9 years. Then 23.3% of respondents aged 7 years. The remaining 16.7% of respondents are 6 years old and 8.3% of respondents are 10 years old.

In terms of current age, it is known that most of the respondents are 7 years old, namely 30.0%. 28.3% of respondents aged 10 years. Then 26.7% of respondents aged 8 years. The remaining 15.0% of respondents are 9 years old.

Table 2 Analysis of the description of the research variables

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Height 6 Months Ago (Cm)	60	106.00	142.00	119.4833	7.03139
Weight 6 Months Ago (Kg)	60	16.00	40.00	23.1667	5.75832
Height Now (Cm)	60	107.00	145.00	120.9833	7.35421
Weight Now (Kg)	60	15.00	43.00	23.5833	6.37073
SDSC Score	60	28.00	69.00	45.4333	9.82796

Source: Research results processed, 2023

Based on Table 2 above, the results of the descriptive analysis it was found that the lowest height of the 60 elementary school student respondents aged 7-10 years 6 months ago was 106 cm and the highest was 142 cm. Then it is known that the average height of elementary school students aged 7-10 years 6 months ago was 119.4833 cm with a standard deviation value of 7.03139. Then the lowest height of the 60 elementary school student respondents aged 7-10 years is currently 107 cm and the highest is 145 cm. Then it is known that the average height of elementary

school students aged 7-10 years is currently 120.9833 cm with a standard deviation value of 7.35421.

Furthermore, from table 2 it is known that the lowest SDSC score of 60 elementary school student respondents aged 7-10 years is 28 and the highest is 69. It is then known that the average SDSC score of elementary school students aged 7-10 years is 45.4333 with a standard deviation value of 9.82796.

Table 3 Results of Research Variable Category Analysis

Variable	Category	Frequency	Percent (%)
Sleep Patterns	Sleep Disorders	41	68.3
	No Sleep Disorders	19	31.7
Height 6 Months Ago	Very tall	0	0.0
	Tall	0	0.0
	Normal	31	51.7
	Short	3	5.0
	Very short	26	43.3
Height Now	Very tall	0	0.0
	Tall	0	0.0
	Normal	24	40.0
	Short	10	16.7
	Very short	26	43.3
Weight 6 Months Ago	Obesity	0	0.0
	Excess	1	1.7
	Normal	36	60.0
	Deficiency	8	13.3
	Poor	15	25.0
Weight Now	Obesity	0	0.0
	Excess	1	1.7
	Normal	29	48.3
	Deficiency	9	15.0
	Poor	21	35.0
Height Percentile Changes	Increase	1	1.7
	Stay	42	70.0
	Decrease	17	28.3
Weight Percentile Changes	Naik	1	1.7
	Tetap	38	63.3
	Turun	21	35.0

Source: Research results processed, 2023

Based on Table 3 above, it is known that from a total of 60 respondents in this study, it was found that the majority of respondents had sleep disorders, namely 68.3% and the remaining 31.7% of respondents did not have sleep disorders.

Based on the results of height 6 months ago and now it can be concluded that most of the respondents in this study had a change in height in the fixed category, namely 70.0%, then 28.3% of respondents had a change in height in the down category. And only 1.7% of respondents have a change in height in the rising category.

Next, from the results of body weight 6 months ago and at this time, it can be concluded that most of the respondents in this study had a change in weight in the fixed category, namely 63.3%, then 35.0% of respondents had a change in weight in the down category. And only 1.7% of respondents had weight changes in the rising category.

Table 4 Relationship between sleep patterns and changes in percentile height and weight

Relationship	Correlation Coefficient (r)	Significance (p)
Sleep Patterns with Changes in Height Percentiles	0.309	0.016
Sleep Patterns with Changes in Weight Percentiles	0.318	0.013

Source: Research results processed, 2023

Based on Table 4 above, the results of Spearman's correlation analysis (r) presented, it was found that there was a significant relationship between sleep disturbances and changes in height percentiles and changes in weight percentiles in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency.

The results of Spearman's correlation coefficient (r) between sleep disturbance and change in height percentile is 0.309 with a significance value of 0.016 (p-value <0.05). This shows that there is a positive and moderate relationship between sleep disturbances and changes in height percentiles, then H₀ is rejected and H₁ is accepted, which means that there is a relationship between sleep patterns and changes in height percentiles in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency. This means that the higher the level of sleep disturbance experienced by children, the greater the possibility of changes in height percentiles.

Furthermore, the Spearman correlation coefficient (r) between sleep disturbances and changes in weight percentile was 0.318 with a significance value of 0.013 (p-value <0.05). This also indicates a positive and moderate relationship between sleep disturbances and changes in body weight percentiles, then H₀ is rejected and H₁ is accepted, which means that there is a relationship between sleep patterns and changes in weight percentiles in school-age children at SD Negeri

Keboharan, Krian District, Sidoarjo Regency. The higher the level of sleep disturbance experienced by children, the greater the possibility of changes in weight percentiles. Even though the relationship level is sufficient, there is a significant relationship indicating that sleep disturbance has an influence on changes in percentile height and weight in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency.

In the aspect of growth and development, growth hormone (Growth Hormone/GH) is an important component in regulating somatic growth. GH affects the development of height. GH has a “diurnal cycle” with increased activity at night while sleeping. Melatonin is secreted with a strong circadian rhythm during the night in humans and most diurnal mammals, with maximum plasma levels occurring around 3 to 4 am (Khullar, 2014). During sleep, growth hormone secretion increases by about 75% and is released 3 (three) times more than when awake, the largest phase of growth hormone production occurs during sleep, especially during the NREM stage (Sherwood, 2015).

High levels of growth hormone affect the physical condition of children, because growth hormone functions to stimulate bone and tissue growth, and plays a role in regulating fat metabolism. Therefore, if the production of growth hormone is not optimal, it will affect the child's growth to be not optimal (Hall, 2019). Sleep patterns that support height development are deep sleep for 7-8 hours per day without distractions and anxiety (Hense et al., 2011).

Cleanliness of sleep (sleep hygiene) is one of the factors that affect the quality of sleep. Sleep hygiene can be defined as a daily behavior that contributes to achieving good sleep quality, adequate sleep time, and maximum concentration levels during the day. These behaviors include avoiding naps that are late and of short duration (< 1 hour); Avoid consuming alcohol, cigarettes, and caffeine before going to bed; maintaining good sleep duration; avoid activities that are physiologically, cognitively, and emotionally stimulating; sleeping alone; not use the bed for other activities besides sleeping; sleep in a comfortable environment, quiet and free of toxins; and maintain a consistent sleep schedule, namely going to bed and waking up at the same time every day (Kliegman, 2020).

CONCLUSIONS AND ADVICE

Conclusion

Based on the results of the research and discussion above, the researcher concluded the following:

1. Most of the respondents had sleep disorders, namely 68.3% and the remaining 31.7% of respondents did not have sleep disorders.
2. Most of the respondents in the past 6 months had normal height. However, currently most of the respondents are in the very short category. In terms of body weight, it is known that most of the respondents both 6 months ago and now have a weight in the normal category. Based on the results of their height 6 months ago and now it can be concluded that most of the

respondents in this study had a change in the percentile height and weight in the fixed category.

3. Based on the results of Spearman's correlation analysis (r) presented in the table, it was found that there was a significant relationship ($p = 0.016$) between sleep disturbances and changes in height percentiles with a moderate level of relationship strength ($r = 0.309$) in school-age children at SD Negeri Keboharan , Krian District, Sidoarjo Regency.
4. Based on the results of Spearman's correlation analysis (r) presented in the table, it was found that there was a significant relationship ($p = 0.013$) between sleep disturbances and changes in weight percentile (BB) with the level of moderate relationship strength ($r = 0.318$) in school-age children at SD Negeri Keboharan, Krian District, Sidoarjo Regency.

Advice

Based on the above conclusions, the researcher suggests the following:

1. As input for researches, the weakness of this study is the short research time (6 months), so it is necessary to extend the research time to get a clearer picture of the effect of sleep patterns on children's growth. It is necessary to carry out further research on the relationship between sleep patterns and the growth and development of school-age children with other indicators, such as body mass index, nutritional status, psychological factors, and so on.
2. The research results can be used as input to pay attention to children's sleep patterns. Because it is proven to affect the height of elementary school-age children.
3. Similar research developments can be carried out by adding indicators of child growth and development, not only physically but also psychologically. So that more varied results can be obtained.

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Lampiran 17. Bukti Submit/Publikasi Jurnal

