ITEM ANALYSIS AND INTERNAL CONSISTENCY OF CHILDREN'S SLEEP HABIT QUESTIONNAIRE (CSHQ) IN INDONESIAN VERSION

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Abstract
Background: The Children's Sleep Habit Questionnaire (CSHQ) has been utilized for assessing sleep behavior problems in children aged 4-10 years in many countries. However, a proper tool to detect of sleep behavior problems in Indonesian children has not been proven.
Aims: The aim of our study was to test the item analysis and internal consistency of the Children's Sleep Habit Questionnaire (CSHQ) in Indonesian version.
Methods: We used a cross-sectional design and 305 mothers of pre- and primary school children in Yogyakarta Indonesia participated in this study. The Indonesian version of the Children's Sleep Habit Questionnaire was used for assessing the sleep behavior problems in children. Internal consistency was evaluated by using the Cronbach α method. The internal consistency was tested with Cronbach alpha coefficients. Pearson's Product Moment was completed to estimate the correlation between all items of CSHQ with Subscales and total scores of CSHQ.
Results: Internal consistency of all items of the Children's Sleep Habit Questionnaire was 0.80. Internal consistency of subscales ranged from 0.42 (parasomnias) to 0.66 (night wakening). 31 of 33 items had significant positive correlation with total score of Children's Sleep Habit Questionnaire. Inter-subscales with the highest correlation were sleep onset delay with parasomnias, parasomnias with sleeps disordered breathing, and sleep disorder breathing with night waking.
Conclusions: The Indonesian version of the Children's Sleep Habit Questionnaire is suitable for screening sleep behavior problems in Indonesian children aged 4-10 years.

Keywords: item analysis; internal consistency; children's sleep habit questionnaire; Indonesia; sleep behavior problems

INTRODUCTION

The prevalence of sleep problems was estimated approximately 35 to 40% in school-age-children (Fricke-Oerkermann et al., 2007). One recent study mentioned that 37-38% of Indonesian adolescents were suffering from sleep problems in both urban and rural areas (Sofyani, Supriatmo, & Lubis, 2014). Sleep behavior problems in children consists of bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night waking, parasomnias, sleep disordered breathing, and daytime sleepiness (Owens, Spirito, & McGuinn, 2000). Archbold and team reported that the USA children had sleep behavioral problems such as habitual snoring (17%), sleep-disordered breathing (11%), insomnia (41%), and excessive daytime sleepiness (14%) (Archbold, Pituch, Panahi, & Chervin,

2002). While in Japan, delay of sleep phase, reduction of sleep length, and increasing daytime sleepiness were found as sleep problems in some seventh grade children (Shinkoda, Matsumoto, Park, & Nagashima, 2000). Older children were also reported to have more delayed sleep onset time and increased daytime sleepiness (Goldman, Richdale, Clemons, & Malow, 2012; Sadeh, Raviv, & Gruber, 2000).

There are many methods to measure the sleep behavior problems in children. The Children's Sleep Habit Questionnaire (CSHQ) is one method that is commonly used for screening of sleep behavior problems in school-aged children approximately 4 to 10 year-old based on the International Classification of Sleep Disorder Pediatric Diagnoses (American Academy of Sleep, 2005). The CSHQ, developed by Judith Owens, consists of a 33-item, parent-rated questionnaire for assessing the behaviors associated with common pediatric sleep difficulties (Owens et al., 2000). The CSHQ consists of eight subscales which are associated with common sleep behavior problems in children: bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night waking, parasomnias, sleep disordered breathing, and daytime sleepiness. The CSHQ was developed in 2000 in the USA, and has been translated, adapted, and culturally validated to several societies, such as Portugal, China, Germany, and Netherlands (Z. Liu, Wang, Tang, Wen, & Li, 2014; Loureiro, Pinto, Pinto, Pinto, & Paiva, 2013; Schlarb, Schwerdtle, & Hautzinger, 2010; Waumans et al., 2010). Several studies were conducted in the USA, Australia, India, Japan, and Canada to evaluate sleep in larger populations by using CSHQ (Byars, Yeomans-Maldonado, & Noll, 2011; Hoffmire, Magyar, Connolly, Fernandez, & van Wijngaarden, 2014; Iwadare et al., 2013; Joseph & Mathew; X. Liu, Liu, Owens, & Kaplan, 2005; Markovich, Gendron, & Corkum, 2015; Price, Wake, Ukoumunne, & Hiscock, 2012).

During the process of developing this scale, Owens *et al*. assessed the CSHQ validity and reliability in the community and clinical samples, and performed the test-retest reliability measurement in the community samples. The internal consistency of CSHQ was reported as 0.68 for community samples and 0.78 for clinical samples. The test-retest reliability of the subscales ranged from 0.62 to 0.79. The validity of the CSHQ was evaluated by comparing total scores and subscale scores of community and clinical samples. The total scores and subscale scores in the clinical samples were significantly higher compared to the community samples. The sensitivity and specificity of the CSHQ were reported at 0.80 and 0.72, respectively (Owens et al., 2000). Internal consistency of subscales score of CSHQ were reported in Chinese children (0.44 to 0.63), in Portuguese (0.44 to 0.74), and in Dutch children (0.47 to 0.68) (Z. Liu et al., 2014; Waumans et al., 2010). The test-retest reliability was also investigated in Chinese, Dutch, and German children (Chinese children: 0.54 to 0.76, Dutch: 0.47 to 0.93, and German: 0.46-0.81) (Z. Liu et al., 2014; Schlarb et al., 2010; Waumans et al., 2010).

The numbers of Indonesian children who suffer from sleep problems have nearly identical scores with the sample populations of children in many countries. It is necessary to provide a proper tool for assessing the sleep problem in Indonesian children. The validity and reliability of CSHQ have good internal consistency in the USA and other countries; however, it has not been proven in Indonesian children. We believe that the investigation of item analysis of CSHQ in Indonesian version will provide beneficial results contributing to data concerning the global internal consistency of CSHQ, particularly in Indonesia. The aim of this study was to investigate the item analysis and internal consistency of CSHQ in Indonesian version.

METHODS
Study design and participants
We used a cross-sectional design in this study. The participants were the mothers of children aged 4-10 years old attending in kindergarten and primary school. Three hundred and five mothers were enrolled in this study. Participants include 148 (48.5) boys and 157 (51.5) girls aged 4-10 years-old. The mean of age was 7.07±2.36 for children and 35.8±7.40 for mothers (Table 1). 89.5% of mothers were

Muslim, 9.2% were non-Muslim, and 1.3% no answer. Most of mothers had obtained an education level past senior high school (2.3 % primary school; 22.3% junior high school; 55.4% senior high school; 19.3%

undergraduate, and 0.7% did not disclose information). The parents' occupations were as private employees (80.3 %), government employees (10.2 %), seller (6.6 %), and owner (small shop, 2 %).

Table 1 Participants Background (n=305)

Participants	Mean±SD	n (%)
1. Children		
Age	7.04±2.36	
Sex		
Male	148(48.5)	
Female	157(51.5)	
2. Mothers		
Aged		35.8±7.40
Educational background		
Primary school		7(2.3)
Junior high school		68(22.3)
Senior high school		169(55.4)
Undergraduate level		59(19.3)
No answer		2(0.7)
Occupation		
Private employee		245(80.3)
Government employee		31(10.2)
Seller		20(6.6)
Owner Shop		3(1.0)
No answer		6(2.0)
3. Religion		
Muslim		273(89.5)
Non-Muslim		28(9.2)
No answer		4(1.3)

SD, standard deviation

Instrument
The Children Sleep Habit Questionnaire (CSHQ) was utilized to assess sleep behavior problems in children aged 4-10 years. CSHQ was developed by Owens based on the International Classification of Sleep Disorders pediatric diagnoses (Owens et al., 2000). It consists of 33 items, which are divided into 8 subscales (i.e. bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night waking, parasomnias, sleep disordered breathing, and daytime sleepiness). We were asking the parents to recall sleep behaviors of their children in past weeks. Items were assessed on a three-point scale: usually, if the sleep behavior occurred 5-7 times a week; sometimes, for 2-4 times a week; and rarely, for 0-1 time a week (Owens et al., 2000). There were 6 reversed items, which are scored in the opposite direction. We were granted permission from the original author both to utilize and to translate the questionnaire. The questionnaire was translated from English into

Indonesian and then re-translated by another linguist back into English.

Ethical considerations and procedures
The study was conducted in Yogyakarta from August 2014 to August 2015. The study was approved by the Medical and Health Research Ethics Committee (MHREC), Faculty of Medicine, Universitas Gadjah Mada and granted permission by Local government of Yogyakarta Province. The study was conducted in accordance with the Declaration of Helsinki 2008. The questionnaires and written informed consent were distributed to the participants. We provided information on how to fill in the forms and the mothers of the children completed the questionnaires. After the forms were filled, the questionnaires were checked for misplaced information.

Statistical analysis
Statistical analysis was performed using SPSS version 19.0 (IBM SPSS, IBM, New York,

USA). Descriptive analyses were used to calculate participants' characteristics. The internal consistency was tested with Cronbach alpha coefficients. Pearson's Product Moment was completed to estimate the correlation between all items of CSHQ with Subscales and total scores of CSHQ.

RESULTS
Internal consistency of CSHQ
Internal consistency of total of CSHQ was 0.80. Internal consistency of subscales of CSHQ ranged from 0.42 (parasomnias) to 0.66 (night wakening). The other subscales were relatively moderate (bedtime resistance 0.45, sleep duration 0.57, sleep anxiety 0.43, sleep disordered breathing 0.56, and daytime sleepiness 0.49). Table 2 shows the internal consistency of CSHQ.

Table 2 Internal consistency of the Children's Sleep Habit Questionnaire (n=305)

CSHQ	Alpha
Total of CSHQ	0.80
Bedtime resistance	0.45
Sleep onset delay	NA
Sleep duration	0.57
Sleep anxiety	0.43
Night wakening	0.66
Parasomnias	0.42
Sleep disordered breathing	0.56
Daytime sleepiness	0.49

CSHQ, Children Sleep Habit Questionnaire; NA, Not analyzed

Validity of CSHQ
Correlation between items with total score of CSHQ
Most of CSHQ items (31 of 33 items) have significant positive correlation with total score of CSHQ. Correlation between items with total score of CSHQ ranged from 0.11 (falls asleep in 20 minutes) to 0.82 (goes to bed at same time, afraid of sleeping alone, sleeps the right amount, sleeps same amount each day, afraid of sleeping in the dark, awakes once during night, alarmed by scare dream, and snored loudly). There was no significant correlation between falls asleep in 20 minutes (subscale of sleep onset delay) with total score of CSHQ. The range correlation of items in the subscale of bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakening, parasomnias, sleep disordered breathing, and daytime sleepiness with total score of CSHQ were 0.13-0.82, 0.1, 0.22-0.82, 0.26-0.82, 0.31-0.82, 0.16-0.82, 0.48-0.82, and 0.13-0.33, respectively (Table 3).

Table 3 Correlation between items with total score of Children's Sleep Habit Questionnaire (n=305)

Items of CSHQ	R	Items of CSHQ	R
Bedtime resistance		**Parasomnias**	
Goes to bed at same time (1)	0.82***	Wets the bed at night (12)	0.18**
Falls asleep in own bed (3)	0.15**	Talks during sleep (13)	0.30***
Falls asleep in other's bed (4)	0.13*	Restless and moves a lot (14)	0.48***
Needs parent in room to sleep (5)	0.26***	Sleepwalks (15)	0.16**
Struggles at bedtime (6)	0.29***	Grinds teeth during sleep (17)	0.82***
Afraid of sleeping alone (8)	0.82***	Awakens screaming, sweating (22)	0.48***
		Alarmed by scary dream (23)	0.82***
Sleep onset delay			
Falls asleep in 20 minutes (2)	0.10		
Sleep duration		**Sleep Disordered Breathing**	
Sleeps too little (9)	0.22***	Snores loudly (18)	0.82***
Sleeps the right amount (10)	0.82***	Stops breathing (19)	0.48***
Sleeps same amount each day (11)	0.82***	Snorts and gasps (20)	0.82***
Sleep anxiety		**Daytime Sleepiness**	
Needs parent in room to sleep (5)	0.26***	Wakes by himself (26)	0.22***

Items of CSHQ	R	Items of CSHQ	R
Afraid of sleeping in the dark **(7)**	0.82***	Wakes up in negative mood **(27)**	0.24***
Afraid of sleeping alone **(8)**	0.36***	Others wake child **(28)**	0.33***
Trouble sleeping away **(21)**	0.44***	Hard time getting out of bed **(29)**	0.15*
		Takes long time to be alert **(30)**	0.30***
Night wakening		Seems tired **(31)**	0.33***
Moves to other's bed in night **(16)**	0.31***	Watching TV **(32)**	0.13*
Awakes once during night **(24)**	0.82***	Riding in car **(33)**	0.28***
Awakes more than once **(25)**	0.82***		

*, P<0.05; **, P<0.01; ***, P<0.001; CSHQ, Children Sleep Habit Questionnaire

Correlation between items with subscales of CSHQ

The items of CSHQ are divided into 8 subscales (i.e. bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakening, parasomnias, sleep disordered breathing, and daytime sleepiness). Correlation coefficients between items with bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakening, parasomnias, sleep disordered breathing, and daytime sleepiness were 0.43-0.67, 1, 0.51-0.87, 0.43-0.77, 0.47-0.91, 0.24-0.83, 0.71-0.87, and 0.14-0.62, respectively). Table 4 shows correlation between items with subscales of CSHQ. The highest score item correlated with the bedtime resistance scale was goes to bed at same time and afraid if sleeping alone, correlated with the sleep duration was sleeps the right amount, correlated with the sleep anxiety was afraid of sleeping alone, correlated with the night wakening was awakes once during night, correlated with the parasomnias was restless and moves a lot and awakens screaming and sweating, correlated with the sleep disordered breathing was snores and gasps, and correlated with the daytime sleepiness was sleepiness during watching TV.

Table 4 Correlation between items with subscales of the Children's Sleep Habit Questionnaire (n=305)

Items	Subscales	R
Goes to bed at same time **(1)**	Bedtime resistance	0.67***
Falls asleep in own bed **(3)**	Bedtime resistance	0.43***
Falls asleep in other's bed (4)	Bedtime resistance	0.53***
Needs parent in room to sleep (5)	Bedtime resistance	0.45***
Struggles at bedtime (6)	Bedtime resistance	0.45***
Afraid of sleeping alone **(8)**	Bedtime resistance	0.67***
Falls asleep in 20 minutes **(2)**	Sleep onset delay	1***
Sleeps too little **(9)**	Sleep duration	0.51***
Sleeps the right amount **(10)**	Sleep duration	0.87***
Sleeps same amount each day **(11)**	Sleep duration	0.86***
Needs parent in room to sleep **(5)**	Sleep anxiety	0.43***
Afraid of sleeping in the dark **(7)**	Sleep anxiety	0.53***
Afraid of sleeping alone **(8)**	Sleep anxiety	0.77***
Trouble sleeping away **(21)**	Sleep anxiety	0.67***
Moves to other's bed in night **(16)**	Night wakening	0.47***
Awakes once during night **(24)**	Night wakening	0.91***
Awakes more than once **(25)**	Night wakening	0.90***
Wets the bed at night **(12)**	Parasomnias	0.27***
Talks during sleep (13)	Parasomnias	0.55***
Restless and moves a lot **(14)**	Parasomnias	0.83***
Sleepwalks **(15)**	Parasomnias	0.24***
Grinds teeth during sleep **(17)**	Parasomnias	0.65***
Awakens screaming, sweating **(22)**	Parasomnias	0.83***
Alarmed by scary dream **(23)**	Parasomnias	0.65***
Snores loudly **(18)**	Sleep disordered breathing	0.86***
Stops breathing **(19)**	Sleep disordered breathing	0.71***
Snorts and gasps **(20)**	Sleep disordered breathing	0.87***
Wakes by himself **(26)**	Daytime sleepiness	0.48***

Items	Subscales	R
Wakes up in negative mood **(27)**	Daytime sleepiness	0.36***
Others wake child **(28)**	Daytime sleepiness	0.54***
Hard time getting out of bed **(29)**	Daytime sleepiness	0.14*
Takes long time to be alert **(30)**	Daytime sleepiness	0.49***
Seems tired **(31)**	Daytime sleepiness	0.47***
Watching TV **(32)**	Daytime sleepiness	0.62**:
Riding in car **(33)**	Daytime sleepiness	0.61***

*, P<0.05; **, P<0.01; ***, P<0.001; CSHQ, Children Sleep Habit Questionnaire

Correlation between subscales of CSHQ with total scores of CSHQ

All of subscales of CSHQ were positive correlated with total score of CSHQ (Table 5). There was one item (sleep onset delay) where there was no significant correlation with total score of CSHQ. Correlation between subscales with total of CSHQ ranged from 0.49 to 0.85 (except sleep onset delay).

Table 5 Correlation between subscales with total score of the Children's Sleep Habit Questionnaire (n=305)

Subscales of CSHQ	R
Bedtime resistance	0.73***
Sleep onset delay	0.10
Sleep duration	0.82***
Sleep anxiety	0.72***
Night wakening	0.85***
Parasomnias	0.78***
Sleep disordered breathing	0.85***
Daytime sleepiness	0.49***

*, P<0.05; **, P<0.01; ***, P<0.001; CSHQ, Children Sleep Habit Questionnaire

Inter-subscales correlation

Correlations among subscales with the highest correlation were parasomnias with sleep disordered breathing and sleep disorder breathing with night wakening (Table 6).

Table 6 Correlation among CSHQ subscales

	Bedtime resistance	Sleep duration	Parasomnias	SDB	Night wakening	Daytime sleepiness	Sleep anxiety	Sleep onset delay
Bedtime resistance	1	0.61	0.45	0.57	0.66	0.11	0.50	0.01
Sleep duration	0.61	1	0.63	0.79	0.80	0.13	0.57	0.05
Parasomnias	0.45	0.63	1	0.90	0.69	0.25	0.53	0.02
SDB	0.57	0.79	0.90	1	0.84	0.23	0.59	0.01
Night wakening	0.66	0.80	0.69	0.84	1	0.21	0.58	0.01
Daytime sleepiness	0.11	0.13	0.25	0.23	0.21	1	0.17	-0.05
Sleep anxiety	0.50	0.57	0.53	0.59	0.58	0.17	1	0.07
Sleep onset delay	0.01	0.05	0.02	0.01	0.01	-0.05	0.07	1

CSHQ, Children Sleep Habit Questionnaire. SDB, Sleep Disordered Breathing

DISCUSSION

The present study is the first report regarding item analysis and internal consistency of the Indonesian version of Children's Sleep Habit Questionnaire (CSHQ). This finding is important, because the large number of children who are suffering from sleep problems in Indonesia parallels similarly numbers with others countries (Sofyani et al., 2014). Proper scale measurements for assessing sleep behaviors problems has not been proven in Indonesian children. The CSHQ is the International scale to assess sleep behaviors problems in children aged 4-10 years based on the International Classification of Sleep Disorders pediatric

diagnoses. Several studies on its validity and use for assessing sleep behaviors problem have been conducted in USA, Portuguese, in Dutch, China, Australia, and Canada (Z. Liu et al., 2014; Loureiro et al., 2013; Markovich et al., 2015; Owens et al., 2000; Price et al., 2012; Waumans et al., 2010).

We found that the internal consistency of total score of CSHQ was 0.80, with subscales ranged from 0.42 (parasomnias) to 0.66 (night waking). These findings are in accordance with those studies from USA (Cronbach alpha ranged from 0.36-0.70), Netherlands (Cronbach alpha ranged from 0.47-0.68), China (Cronbach alpha ranged from 0.42-0.73), and Portugal (Cronbach alpha ranged from 0.54-0.72) (Z. Liu et al., 2014; Loureiro et al., 2013; Owens et al., 2000; Waumans et al., 2010). Previous study also reported similar findings on internal consistency of total of CSHQ in China (0.80) and Israel (0.81). The subscales with the highest internal consistency in this study were sleep duration, night waking, sleep disordered breathing, and daytime sleepiness. This study replicates the highest measures of internal consistency in USA (bedtime resistance, sleep duration, and daytime sleepiness), China (bedtime resistance, sleep duration, night wakening, and daytime sleepiness), Netherland (bedtime resistance, sleep duration, and daytime sleepiness) and Portugal (bedtime resistance, sleep duration, night wakening, and daytime sleepiness) (Z. Liu et al., 2014; Loureiro et al., 2013; Owens et al., 2000; Tzchishinsky, Lufi, & Shochat, 2008; Waumans et al., 2010). Regarding the internal consistency coefficient of total CSHQ, it is somewhat higher in Indonesia compared to those study from USA (0.68), Chinese (0.73) and 0.77 in Portugal children (Z. Liu et al., 2014; Loureiro et al., 2013; Owens et al., 2000). The differences in reliability of total CSHQ could possibly be explained by age and cultural background differences. There were three sleep problems in Indonesian children in urban areas: disorder of initiation and maintaining sleep, disorder of excessive somnolence, and sleep hyperhidrosis (Sofyani et al., 2014). While sleep problems such as bedtime resistance, sleep onset delay, and nighttime awaking were revealed among elementary school students in USA (Surani et al., 2015). The

most influential factors for sleep disturbances in Indonesian children (urban and suburban area) were environmental noise and consuming beverages that contain caffeine (Sofyani et al., 2014). Mindell, Sadeh, Kohyama & How reported that children's bed share and room share were higher in Asian region (Asian region: China, Hong Kong, India, Indonesia, Japan, Korea, Singapore, Malaysia, Philippines, Taiwan, Thailand and Vietnam, bed share: 64.7%, room share: 87.5%) compared than Caucasian region (Caucasian region: US, Australia, Canada, New Zeeland, and UK, bed share: 11.8%, room share: 22%). Furthermore, outcome showed that children who sleep in a separate room obtain more sleep, wake less at night, have less difficulty at bedtime, fall asleep faster, and are perceived as having fewer sleep problems (Mindell, Sadeh, Kohyama, & How, 2010).

We found that the highest correlations of inter-subscales were parasomnias with sleep disordered breathing, and sleep disorder breathing with night waking. This result was similar with the study from Canada that reported the highest correlation inter-subscales were sleep disordered breathing with night waking (Markovich et al., 2015). However, compared with the study from USA (Owens et al., 2000). There were differences in the highest correlation inter-subscales (bedtime resistance with sleep anxiety, sleep duration with daytime sleepiness, and daytime sleepiness with sleep onset delay). This finding may be due to the differences of children's age and cultural background between Indonesia and USA. In Indonesian society, people commonly live together with their extended families. In some families, aunt, uncles, and caregiver live in the same house. Moreover most of the influential factors for sleep disturbances in Indonesian children were environmental noise and consuming beverage that contain caffeine (Sofyani et al., 2014). Correlation between items, subscales with total score of CSHQ were found that all items (except: falls asleep in 20 minutes) and 7 subscales had strong, positive correlation with total score of CSHQ. These finding are in accordance with the study from China that was reported by Liu et al. (2014), demonstrating that the eight

subscales of CSHQ are statistically acceptable. Several limitations in this study should be mentioned. The studied area was limited in the Java Island. The present study was conducted in the central part of Java Island, because the culture of this area is prevalent in Indonesia. More than 100 million people live on Java Island (Indonesia, 2012). and they share the same history and Javanese culture. People in this area speak both Indonesian and Javanese (in private life). We consider the people who live in this area to be representative of the general Indonesian population. In addition, socio-economic situation of parents was not measured in this study. Moreover, the test retest to conduct reliability was not conducted in this present study.

CONCLUSION
The Indonesian version of the Child Sleep Habit Questionnaire (CSHQ) seems to have adequate internal consistency. Using Product Moment Correlation, seven of eight subscales were found with high and positive correlation with total score of CSHQ. The Indonesian version of the CSHQ is therefore suitable for screening sleep behavior problems in Indonesian children aged 4-10 years.

Conflict of Interest
The authors of this paper have no conflicts of interest to report.

Author Contribution
All authors have materially participated in the present research and/or article preparation.

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Appendix

CHILDREN'S SLEEP HABIT QUESTIONNAIRE (CSHQ)

KEBIASAAN TIDUR ANAK
(Anak Usia Prasekolah dan Usia Sekolah)

A. Identitas Anak
Nama   :
Jenis kelamin   : □ Laki-laki   □ Perempuan
Tanggal lahir   :
Tanggal pengisian kuesioner   :
Riwayat kejang   : □ Ya   □ Tidak
Berat lahir (kg)   :
B. Identitas Ibu
Nama   :
Usia   :
Usia pada saat melahirkan   :
Tingkat pendidikan   : □ SMP   □ SMA   □ PT

Pernyataan berikut adalah tentang kebiasaan tidur anak dan kemungkinan kesulitan tidur anak anda. Pikirkan selama satu minggu terakhir tentang kebiasaan anak anda ketika menjawab pertanyaan ini. Jawaban **"Selalu"** jika terjadi **5 kali atau lebih** dalam seminggu; Jawaban **"kadang-kadang"** jika terjadi **2-4 kali** dalam seminggu; Jawaban **"Jarang atau tidak pernah"** jika terjadi **0-1 kali** dalam seminggu. Silahkan mengindikasikan, apakah anak anda mengalami gangguan tidur atau tidak dengan memberi tanda centang **[√]** pada kolom "Ya" atau "Tidak" atau "Tidak dapat diterapkan"

I.   Waktu tidur
Tulislah waktu tidur anak: _____

Item	Selalu (5-7)	Kadang -kadang (2-4)	Jarang (0-1)	Apakah ada masalah ?		
				Ya	Tidak	Tidak dapat diterap kan
Anak pergi ke tempat tidur pada waktu yang sama setiap malam ® (1)						
Anak tertidur dalam 20 menit setelah berada tempat tidur ® (2)						
Anak tertidur di tempat tidur sendiri ® (3)						
Anak tertidur di tempat tidur orang tua atau saudara (4)						
Anak membutuhkan orang tua di ruangan untuk tertidur (5)						

Item						
Anak berontak pada waktu tidur (menangis, menolak berada di tempat tidur dll) (6)						
Anak takut tidur dalam kegelapan (7)						
Anak takut tidur sendiri (8)						

II. Perilaku tidur

Tulis kebiasaan jumlah tidur anak anda setiap hari : ……. Jam dan …… menit (dengan menggabungkan tidur malam dan siang)

Item	Selalu (5-7)	Kadang-kadang (2-4)	Jarang (0-1)	Apakah ada masalah ?		
				Ya	Tidak	Tidak terkaji
Anak tidur terlalu sedikit (9)						
Anak tidur dalam jumlah yang cukup ® (10)						
Anak tidur dalam jumlah yang sama setiap hari ® (11)						
Anak mengompol pada malam hari (12)						
Anak berbicara pada saat tidur (13)						
Anak gelisah dan banyak bergerak selama tidur (14)						
Anak berjalan saat tidur (15)						
Anak berpindah ke tempat tidur orang lain selama malam hari (orang tua, kakak, adik dll) (16)						
Anak menggeretakkan gigi pada saat tidur (17)						
Anak mendengkur keras (18)						
Anak kelihatan berhenti bernapas selama tidur (19)						
Anak mendengus dan atau terengah-engah pada saat tidur (20)						
Anak memiliki kesulitan tidur jauh dari rumah (mengunjungi kerabat, liburan) (21)						
Anak terbangun pada malam dan menjerit, berkeringat dan minta di hibur (22)						
Anak terbangun dan khawatir dengan mimpi yang menakutkan (23)						

III. Bangun pada malam hari

Item	Selalu (0-1)	Kadang-kadang (2-4)	Jarang (0-1)	Apakah ada masalah ?		
				Ya	Tidak	Tidak terkaji
Anak terbangun sekali dalam semalam (24)						
Anak terbangun lebih dari sekali dalam semalam (25)						

IV. Bangun pagi

Tuliskan waktu terhadap kebiasaan bangun anak di pagi hari:

Item	Selalu (5-7)	Kadang-kadang (2-4)	Jarang (0-1)	Apakah ada masalah ?		
				Ya	Tidak	Tidak terkaji
Anak bangun sendiri ® (26)						
Anak bangun dalam suasana hati yang negative (27)						
Orang lain atau saudara membangunkan anak (28)						
Anak memiliki kesulitan beranjak dari tempat tidur di pagi hari (29)						
Anak membutuhkan waktu yang lama untuk waspada di pagi hari (30)						

V. Kantuk di siang hari

Item	Selalu (5-7)	Kadang-kadang (2-4)	Jarang (0-1)	Apakah ada masalah ?		
				Ya	Tidak	Tidak terkaji
Anak tidur siang						
Anak tiba-tiba tertidur di tengah kegiatan / perilaku aktif						
Anak kelihatan lelah (31)						

Selama minggu terakhir, anak anda terlihat sangat mengantuk atau tertidur selama di bawah ini (Berilah centang)

	Tidak mengantuk (1)	Sangat mengantuk (2)	Tertidur (3)			
Menonton TV (32)						
Perjalanan dengan mobil (33)						