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Better Quality of Sleep among Adolescents by Considering the Intensity of Social Media Utilization

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Abstract

The basic human needs, such as sleep quality, often take for granted that low sleep quality among adolescents could affect various health problems. One of the factors correlated with sleep quality in adolescents is the use of social media. This study aimed to identify the association between social media utilization and sleep quality among adolescents. The study used a descriptive correlation with a cross-sectional design. The Social Networking Time Use Scale and Pittsburgh Sleep Quality Index questionnaires were used based upon validity and reliability test. A Cross-sectional study was used with a convenience sampling frame by recruiting 188 adolescents. The analysis technique used was Chi-Square. The results showed that respondents with a high intensity of social media users who have good sleep quality were 29 (15, 4%) respondents, and those who have low sleep quality were 66 (35.1%) respondents. It revealed a significant association between the intensity of social media use and sleep quality in MAN 4 Tangerang adolescents. It suggests that adolescents should reduce the intensity of social media use to improve their sleep quality.

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INTRODUCTION

The adolescent is one of a large age group in the world, especially in Indonesia. There are 66.3 million adolescents aged 10-24 years out of a total population of 258.7 million, so that one in four populations were adolescents (National Population and Planning Board, 2016). The National Sleep Foundation (2018) stated that adolescents are a population who has a high risk of sleep problems. Based on the study of Short et al. (2013), 23.1% of adolescents in South Australia have sleep problems. Moreover, the National Poll on Children's Health (2018) stated that 43% of parents in the United States have reported that their adolescents have sleep problems. For Indonesia, it was found that 71.1% of adolescents have sleep problems (Riska, 2018). It indicates that sleep quality is one of the necessary problems that need to be concerned with the adolescent's group.

¹³ Sleep is one of the basic human needs and affects the physical and mental health of humans. The recommended sleep time for adolescents is 8-10 hours per day (National Sleep Foundation, 2018). In reality, many adolescents lack sleep every day, which causes a decrease in the quality of sleep among adolescents (Permadi, 2017). Sleep quality in adolescents is necessary as many previous studies have indicated the problems of sleep quality among adolescents. Based on the previous study, 62.4% of high school adolescents have low sleep quality (Lombogia, 2018). A similar study by

Punkasaningtyas (2017) showed that only a few adolescents reported good sleep quality (29.2%). A study by Lutfi (2017) also showed similar results: 69.3% of adolescents have low sleep quality. It indicates that most of the adolescents experienced not satisfied with their sleep. One factor that could affect adolescents' sleep quality is social media use (Berman et al., 2016; Dimitriou, 2015; Owens, 2014).

Nowadays, adolescents are the population with the highest level of dependence on social media around the world. Adolescents spend 1-3 hours per day to use social media (Indonesian Internet Service Provider Association, 2017). Several studies have been conducted to find the relationship between social media usage and sleep quality in adolescents. The study⁵ of Punkasaningtyas (2017) showed a significant relationship between social media usage and sleep quality in adolescents. Most respondents who used social media with high intensity reported low sleep quality (Punkasaningtyas, 2017). The findings are similar to the previous study of Lase (2017), where 48.6% of adolescents are high-level social media users, and 75% have low sleep quality. Inconsistencies in the res¹⁶ found in Aulia's study in 2016, the study results showed that the²¹ was no correlation between the use of social media and sleep quality in the age group of adolescents. It indica¹⁷s that the knowledge about the association between social media intensity and sleep quality is inconclusive.

The present preliminary study on student²⁰ of class XI and several teachers at Islamic Senior High School (Madrasah Aliyah Negeri) MAN 4 Tangerang showed that students are active users of social media, which means they use it every day. The results of an interview with one of the student's parents said that their teenagers always sleep at midnight caused by social media accessing time before going to bed. Moreover, the use of social media until midnight might influence adolescents' difficulty waking up in the morning.

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It is necessary to fill gaps in the literature regarding the high prevalence of low sleep quality in adolescents affected by social media utilization, the inconsistency of the previous studies, and the result¹⁰ of preliminary studies. Therefore, this study aimed to identify the relationship between the intensity of social media utilization and sleep quality among adolescents for providing baseline information for school health nurses to maintain adolescent well-being.

METHODS

This study used a descriptive correlation with a cross-sectional design. The population in this study is 300 students who were students of class XI MAN 4 Tangerang. The sample was 188 respondents who were recruited by Accidental Sampling. The instrument used to measure the intensity of social media use is the Social Networking Time Use Scale

(SONTUS) questionnaire by Olufadi (2015). The reliability value of the SONTUS questionnaire in th⁸ study was 0.852. The instrument used to measure sleep quality is the Pittsburgh Sleep Quality Index (PSQI) questionnaire by Buysse et al. (1989). The reliability value of the PSQI questionnaire in this study was 0.892. Data analysis techniques used univariate and bivariate analysis. The univariate analysis explains the frequency ¹ distribution of each variable. Bivariate analysis was measured using a Chi-Square statistical test to identify the ²² relationship between the intensity of social media use and sleep quality in adolescents at MAN 4 Tangerang.

RESULTS

Table 1

Characteristics of Respondents in MAN 4 Tangerang (N = 188)

Characteristics of Respondents	n	%
Gender		
Male	65	34,6
Female	123	65,4
Age		
16 years old	113	60,1
17 years old	67	35,6
18 years old	8	4,3`
Number of social media account used		
≤ 2 accounts	21	11,2
> 2 accounts	167	88,8

Type of social media account used		
Facebook	95	50,5
Whatsapp	76	40,4
Instagram	17	9,0

1 Table 1 shows that the majority of respondents were female (65.4%), aged 16 years (60.1%), had > 2 social media accounts (88.8%), and Facebook users (50.5%).

4 Table 2
Distribution of Intensity Frequency of Social Media Use in MAN 4 Tangerang (N = 188)

Intensity of Use	n	%
Low Intensity	93	49,5
High Intensity	95	50,5

Based on table 2, from 188 respondents, most respondents were social media users with a high intensity of 95 respondents (50.5%). That is because the intensity of a person's activities has a close relationship with their feelings. Feeling happy about the activity can repeatedly encourage the person concerned to carry out these activities (Yanica, 2014).

Table 3
Distribution of Sleep Quality Frequency in MAN 4 Tangerang (N= 188)

Sleep quality	Frequency (n)	Percentage (%)
Good	93	49,5
Poor	95	50,5

Based on table 3, from 188 respondents, most respondents have low sleep quality; they are 95 respondents (50.5%). Sleep quality can be assessed from various components, including sleep duration, sleep disturbance, sleep latency, sleep efficiency, use of sleeping pills, and dysfunction during the day. Adolescents need time to sleep 8-10 hours per day. If one or more of the above aspects is disturbed, sleep quality can be affected (Buysse, 1998).

Table 4
The Association between The Intensity of Social Media Use and Quality of Sleep among Adolescents in Islamic Senior High School Tangerang (N=188)

Intensity of Media Sosial Utilization	Sleep Quality	
	Good	Poor
Low	64 (34,0 %)	29 (15,4 %)
High	29 (15,4 %)	66 (35,1 %)

Note: $X^2 = 27,564^a$, $df = 1$, $p \text{ value} < 0,05$

The results of data analysis with Chi-Square statistical tests is: $X^2 (1, N = 188) = 27,564$, $p\text{-value} = 0,000$ or $p\text{-value} < \alpha (0,05)$. There is a significant relationship between the intensity of social media use with sleep quality in adolescents in MAN 4 Tangerang.

DISCUSSION

This study found that the majority of respondents have a high intensity of social media use with poor sleep quality are 66 respondents (35.1%). This study supports the results of a study by Punksaningtyas

(2017) ¹¹ that, from the statistical test results, there is a relationship between social media use and sleep quality in adolescents with p-value = 0,000.

Using social media with higher intensity will cause poor sleep quality, as evidenced by the majority of respondents who use social media with high intensity has poor sleep quality. Conversely, respondents who have a low intensity in using social media mostly have a good sleep quality. These results are similar to a study by Woods and Scott (2016), in which the result ²⁴ that is using social media is strongly associated with poor sleep quality. In that study, it was found that social media use at night was more strongly associated with poor sleep. Social media use when going to sleep will disrupt the production of melatonin through exposure to digital light at bedtime, and the notification from social media will disrupt the adolescent's sleep process.

The previous study showed similarities discussing social media use with sleep; the difference, this study further explains how social media can cause sleep disorders (Levenson et al., 2016). This research reveals several possible principles that cause the relationship between social media use and sleep disorders. First, social media will replace sleep; for instance, ³ someone still online with Facebook, so sleep time will be reduced. Second, the use of social media can increase emotional, cognitive ³ and psychological arousal. Third, the bright light emitted by social media devices can delay circadian rhythms.

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CONCLUSION

¹ There is a significant association between the intensity of social media use and sleep quality ²³ in adolescents in MAN 4 Tangerang. This study shows

that social media use with higher intensity will cause sleep quality to get worse. Therefore, adolescents need to control themselves using social media to disturb their sleep schedules and other essential activities. Suggestions for further research can develop further research on other factors that can affect sleep quality in adolescents with different research methods.

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