Original Article

Sleep Quality among Elderly People in Songkhla Province, Thailand: A Two-Stage Cluster Sampling Study

Warut Aunjitsakul MD[1], Jarurin Pitanupong MD[1], Nisan Werachattawan MSc[1]

[1] Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand

Objective: To evaluate the prevalence of poor sleep quality as well as measure the factors associated with it among the elderly in Songkhla Province, Thailand.

Materials and Methods: A two-stage cluster sampling cross-sectional study was conducted in Songkhla Province between October and November 2015. Six hundred and four participants aged between 65 and 99 years were interviewed to collect demographic data and sleep-related information. Sleep quality was assessed using the Pittsburgh Sleep Quality Index [PSQI] - Thai version. The results were analyzed in terms of descriptive statistics using the R-Epicalc and R-Survey software.

Results: The subjects were predominantly female and married. The young-old age proportion was at 67.6%. A large number (62.4%) of poor sleepers, with a mean PSQI score of 7.3, was detected. Advanced age, being without a partner, living in urban or terrorism-affected areas were significantly associated with poor sleep quality (p-value <0.05).

Conclusion: The proportion of poor sleepers was high. This was similar to the findings of previous studies. Further study is required to explore a wider range of associated psychological and social aspects as well as neurocognitive disorders among this population.

Keywords: Elderly, Insomnia, Prevalence, Sleep quality, Thailand

J Med Assoc Thai 2018; 101 (1): 137-44
Website: http://www.jmatonline.com

In almost every country, the proportion of people aged over 65 years is growing faster than any other age group. The number of people worldwide, aged 65 or older, is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050[1]. Sleep-pattern disturbances are common in older adults, and lead the elderly to report their symptoms. About one-third of the people in the general population complains of sleep difficulties. Approximately 25% of these have frequent or chronic insomnia[2]. In addition, more than 80% of the patients reports suffering from insomnia for 1 to 5 years or longer, which indicates a chronic course[3]. According to the Diagnostic and Statistical Manual of Mental Disorders, fifth Edition, insomnia is defined as reported dissatisfaction with sleep quantity or quality, which causes clinically-significant distress or impairment[4]. Consequently, sleep quality in the elderly is an important matter.

The sleep-wake disturbances can be a result of physiologic changes that accompany normal aging, a primary sleep disorder, a secondary sleep problem resulting from one of a variety of causes, or a combination of factors[5]. Older people generally spend more time in bed, but unable to get good sleep, and easily aroused from sleep. They also experience a reduction in slow wave sleep, increased nighttime wakefulness, and increased fragmentation of sleep by periods of wakefulness[6]. Furthermore, insomnia also increases the risks of both medical and mental disorders such as cardiovascular disease, impaired immune function, anxiety disorders, depressive disorders, suicidality, and alcohol or substance dependence[7].

In Thailand, the prevalence of insomnia in the elderly population has been reported at 46.3%[8]. Studies on sleep quality along with its associated factors, which cause sleep difficulties, among the elderly in Thailand are limited. Moreover, there are geographic, ethnic, and cultural as well as psychosocial stressor differences in sleep patterns and duration between Western and Asian populations[9-11]. Accordingly, there is a strong need for the assessment and exploration of sleep quality coupled with its associated factors in order to fill the existing knowledge gap and understand insomnia within the Thai elderly population better. The purpose of the authors was to evaluate the prevalence

Correspondence to:

Aunjitsakul W. Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Songkhla 90110, Thailand.
Phone: +66-74-451351, **Fax**: +66-74-451353
Email: awarut@medicine.psu.ac.th

How to cite this article: Aunjitsakul W, Pitanupong J, Werachattawan N. Sleep quality among elderly people in Songkhla Province, Thailand: a two-stage cluster sampling study. J Med Assoc Thai 2018;101:137-44.

of poor sleep quality among the elderly of Songkhla Province and assess the factors associated with it.

Materials and Methods

A two-stage cluster sampling of a cross-sectional study, approved by the Ethics Committee, Faculty of Medicine, Prince of Songkla University and conformed to the provisions of the Declaration of Helsinki, was conducted in Songkhla Province between October and November 2015. All of the participants gave their informed consents before being interviewed.

The target population was the elderly aged between 65 and 99 years, who were able to understand the questionnaire and communicate well. These served as the inclusion criteria for participants enrollment in our study. The authors excluded those who declined to join the research because they felt uncomfortable or wanted to quit the study for any reason during its duration. The other excluding criteria were people that 1) were either currently having or had had a physical impairment such as paralysis or bed-ridden, or 2) those in housebound conditions.

The literature review of insomnia in the elderly indicated that a combination of factors like physiologic changes, medical conditions, or mental problems affected one's dissatisfaction with sleep quantity or quality. This means that poor sleep quality is a part of insomniac problems, of which patients often complain. Consequently, the authors chose to investigate the insomnia prevalence with the aim of including all unmeasured conditions related to poor sleep quality in the sample size calculation.

The function 'n.for.survey' in the R program was used to calculate our survey's sample size using cluster sampling (given a prevalence of elderly insomnia 46.3%, delta 0.05, design effect 1.5, and alpha 0.05). The sample size required was at least 573 elderly people.

The Songkhla Provincial Health Office provided the number of the elderly people residing in its province and gave permission to the authors to conduct the research. After that, the hospitals and healthcare centers were directly contacted by the authors before conducting the research in the study field. The interviewers were trained and supervised by the authors before and during the data collection to ensure they effectively conducted the questionnaire with the participants. All participants were interviewed without any intervention provided to them. In cases when clinically-significant insomnia was detected, the authors provided basic suggestions to the participants including informing the local healthcare personnel for proper management.

In accordance with the two-stage cluster sampling protocol, the first stage consisted of the authors using simple random sampling to select 10 districts from the 16 districts in Songkhla Province, which are Mueang Songkhla, Hat Yai, Bang Klan, Chana, Rattaphum, Thepa, Khuan Niang, Sadao, Sathing Phra, and Saba Yoi. Then the number of elderly people targeted was determined considering their proportion to the number of elderly people in that district. In order to make the data collection manageable, the second stage involved applying the random sampling technique on the lists of all of the sub-district health-promoting hospitals and primary healthcare centers to determine the final cluster. About 10 people per final level were included using the convenient sampling method sampled by health personnel.

According to the Office of the Royal Society of Thailand, Mueang Songkhla and Hat Yai districts, which were randomly selected, are classified as municipalities and characterized as urban communities. The criteria for a municipality are 1) having a population of more than 50,000 people, 2) a mean inhabitant density equal or more than 3,000 people per square kilometer, and 3) a population that has adequate income to perform one's required functions and responsibilities in accordance with the social norms.

Moreover, terrorism has been perpetrated by ethnic and religious separatists who have conducted an insurgency in the historical Malay-Patani Region. Most of the southern parts of Thailand, especially Yala, Pattani, Narathiwat, and Songkhla provinces, have been affected since 2005. Five districts, Chana, Sadao, Thepha, Na Thawi, and Saba Yoi, have been particularly affected in Songkhla Province. The three affected areas of Chana, Thepa, and Saba Yoi in the present study, were named as terrorism-affected areas, where terrorism-related situations are common and may be associated with possible risk factors for poor sleep quality in elderly people.

The independent variables were age, sex, marital status, locality, occupation, and religious affiliation, while the dependent variables were the Pittsburgh Sleep Quality Index [PSQI] score and the sleep profiles obtained by means of completed questionnaires.

The data gathered consisted of demographics, sleep-related information, and the score of PSQI developed by Buysse et al[12]. The authors used the Thai version of this index based on the original PSQI. The PSQI is a self-rated questionnaire, which assesses

sleep quality and disturbances over a 1-month time interval. Its 19 items are grouped into seven equally-weighted component scores, 1) Subjective Sleep Quality (1 item), 2) Sleep Latency (2 items), 3) Sleep Duration (1 item), 4) Habitual Sleep Efficiency (3 items), 5) Sleep Disturbances (9 items), 6) Use of Sleeping Medication (1 item), and 7) Daytime Dysfunction (2 items). Higher global scores indicate a poorer sleep quality. The global scores of the Thai-PSQI have revealed an excellent internal consistency (Cronbach's alpha = 0.837) and test-retest reliability (intraclass correlation coefficient = 0.89). An empirically-derived cutoff score greater than 5 distinguishes poor sleepers from good sleepers (p-value <0.001), with a diagnostic sensitivity of 77.78% and a specificity of 93.33%[13].

The results were analyzed using descriptive statistics. The demographic characteristics of the participants were shown in terms of frequency, percentage, mean, and standard deviation. In addition, the weighted prevalence of elderly insomnia and standard error [SE] were calculated. The primary sampling unit was district, whilst the second was the sub-district health-promoting hospital or the primary healthcare center. The sampling weight was calculated by dividing the total number of elderly people in the selected district by the number of the sampled elderly people in that district. Sampling probability at the healthcare-center level was not taken into account because the data from the identified primary health-care centers in the selected districts were not fully available. The number of districts in Songkhla Province (16 districts) was used as a definite population correction. All of the data analysis were conducted by using Epidata 3.1 and analyzed using R software version 2.14.2, 2012 (The R Foundation for Statistical Computing, Austria). The associated factors were analyzed by multiple logistic regression using the backward-stepwise method where a p-value of 0.05 indicated statistical significance.

Results

Demographic data

The population based in Songkhla Province was randomly selected and interviewed (Table 1). The determined population size was 604 people. They were selected from ten districts and it was feasible enough for them to participate in the study. The male to female ratio was about 3:7. The average age was 72.3 (±5.5) years, ranging from 65 to 92 years. The young-old proportion was 67.6%, which was the highest percentage of all three age groups involved. The majority (67.4%) of the elderly were married. Concerning religion, Buddhists were predominant (86.8%), followed by Muslims and others (13.1%). The highest level of educational attainment for the majority of the present study population (67.1%) was primary school. Most of the elderly (37.4%) worked in agriculture, while 32.6% of the population were unemployed and/or housewife. In addition, most of the elderly (61.4%) lived in rural areas, and about 26.5% of the total lived in terrorism-affected areas, i.e., sub-districts where violent insurgent activity is present or continually a threat.

Table 1. Demographic characteristics and associating factors with elderly poor sleepers in Songkhla Province (n = 604)

Demographic characteristics	Total n (%)	PSQI >5 % (SEM)
Sex		
Male	176 (29.1)	60.4 (2.8)
Female	424 (70.2)	62.9 (1.3)
Not available	4 (0.7)	-
Age (years), mean ± SD	72.3±5.5	
65 to 74 (young-old)	408 (67.6)	59.6 (1.2)
75 to 84 (middle-old)	180 (29.8)	66.7 (1.7)
>85 (old-old)	15 (2.5)	87.3 (4.3)
Not available	1 (0.2)	-
Marital status		
Married	407 (67.4)	59.4 (1.6)
Single	33 (5.5)	74.6 (3.2)
Separated/widowed/divorced	163 (27.0)	67.5 (1.3)
Not available	1 (0.2)	-
Religion		
Buddhism	524 (86.8)	62.3 (0.9)
Islam + other	79 (13.1)	62.8 (3.5)
Highest level of education		
Bachelor degree	4 (5.6)	58.1 (2.6)
Above bachelor degree	7 (1.2)	-
No education	75 (12.4)	72.4 (4.4)
Primary school	405 (67.1)	62.0 (1.8)
Junior high school	30 (5.0)	58.6 (5.0)
Senior high school	39 (6.5)	55.9 (4.1)
Vocational certificate	14 (2.3)	-
Current occupation		
Employee	21 (3.5)	65.5 (4.8)
Retired	71 (11.8)	58.0 (2.8)
Agriculture	226 (37.4)	59.1 (1.8)
Unemployed/housewife	197 (32.6)	67.1 (1.3)
Other (self-employed/personal business/ not available)	89 (14.7)	62.6 (1.9)
Area		
Rural	371 (61.4)	61.5 (1.9)
Urban	233 (38.6)	63.5 (0.2)
Terrorism		
Unaffected area	444 (73.5)	60.4 (1.2)
Affected area	160 (26.5)	68.9 (2.2)

PSQI = Pittsburgh Sleep Quality Index; SEM = standard error of mean

Prevalence of poor sleep quality

The PSQI scores ranged from zero to 19, with a median and mean score of 7 and 7.3 (0.1), respectively. A large proportion, 378 people (62.4%), of the present population were poor sleepers (PSQI >5). The categories of the other sleep parameters were also determined as shown in Table 2.

Four hundred forty-four elderly people (73.5%) perceived that they had good sleep quality. The proportion of subjectively-perceived poor sleepers was 41.8%. Most of the elderly (68.7%) reported requiring less than 30 minutes to fall asleep. Moreover, poor sleepers indicated taking 30 minutes or more to fall asleep at a rate of 48.9%. Interestingly, none of the participants reported sleeping for six or more hours. Their sleep quality was reported to be generally effective in 62.6% of cases. A statistical difference between sleep efficiency and sleep quality (p-value <0.001) was observed. The elderly with poor sleep efficiency were more likely to be poorer sleepers than the elderly with good sleep efficiency. Almost all of the good sleepers (96.0%) experienced sleeping disturbances less than once a week. Most of the elderly reported never having used sleep medications or suffering daytime dysfunction in the month prior to the study period.

Associated factors related to sleep quality

Significant associations among age, marital status, habitation within an urban or terrorism-affected area, and poor sleep were found (Table 3). Compared to the young-old age group, people from the middle- and old-old age groups (85 years or more) were about 1.38 (95% CI 1.18 to 1.61) and 4.87 (95% CI 2.15 to 11.05) times more likely to be poor sleepers, after adjusting for sex, marital status, religious affiliation, education, occupation, and area of residence. Compared to those of a married status, being without a partner was associated with poor sleep. Singles were about two times (95% CI 1.48 to 2.56) and those who were separated, widowed, or divorced were 1.39 times (95% CI 1.19 to 1.62) more likely to experience poor sleep. Additionally, rural, and urban areas were compared, and the results showed that those living in urban areas were 1.34 times (95% CI 1.18 to 1.52) more likely to report poor sleep quality than their rural area counterparts. Regarding the terrorism-affected areas, after adjusting for other factors, those living in such areas were 1.78 times (95% CI 1.38 to 2.31) more likely to be poor sleepers compared to those who did not.

Sleep profiles of the elderly

In the general population (Table 4), the mean usual bedtime was 20.47, which was compatible with all other areas except the urban ones. Urban people tended

Table 2. Sleep parameters and number of poor sleepers (PSQI >5) determined using the PSQI score of each category

Sleep parameters	n (%)		
	Total n = 604	PSQI ≤5 n = 226	PSQI >5 n = 378
Subjective sleep quality			
Good (0, 1)	444 (73.5)	224 (99.1)	220 (58.2)
Bad (2, 3)	160 (26.5)	2 (0.9)	158 (41.8)
Sleep latency			
<30 minutes (0, 1)	415 (68.7)	222 (98.2)	193 (51.1)
≥30 minutes (2, 3)	187 (31.0)	2 (0.9)	185 (48.9)
Unspecified	2 (0.3)	2 (0.9)	0 (0.0)
Sleep duration			
≥6 hours (0, 1)	-	-	-
<6 hours (2, 3)	593 (98.2)	220 (97.3)	373 (98.7)
Unspecified	11 (1.8)	6 (2.7)	5 (1.3)
Habitual sleep efficiency			
≥75% (0, 1)	378 (62.6)	214 (94.7)	164 (43.4)
<75% (2, 3)	201 (33.3)	4 (1.8)	197 (52.1)
Unspecified	25 (4.1)	8 (3.5)	17 (4.5)
Sleep disturbance			
<1 time per week (0, 1)	475 (78.6)	217 (96.0)	258 (68.3)
≥1 time per week (2, 3)	129 (21.4)	9 (4.0)	120 (31.7)
Use of sleep medication			
None in one month (0)	542 (89.7)	224 (99.1)	318 (84.1)
Less than once a week (1-3)	62 (10.3)	2 (0.9)	60 (15.9)
Daytime dysfunction			
None in one month (0)	307 (50.8)	173 (76.5)	134 (35.4)
Less than once a week (1-3)	297 (49.2)	53 (23.5)	244 (64.6)

PSQI = Pittsburgh Sleep Quality Index

Table 3. Logistic regression of factors associated with PSQI (score >5) (final model)

Demographic characteristics	Odds ratio (95% confidence interval)	
	Crude	Adjusted
Age (years)		
65 to 74 (young-old)	1	1
75 to 84 (middle-old)	1.39 (1.19 to 1.64)	1.38 (1.18 to 1.61)
>85 (old-old)	4.71 (2.13 to 10.41)	4.87 (2.15 to 11.05)
Marital status		
Married	1	1
Single	1.90 (1.39 to 2.59)	1.95 (1.48 to 2.56)
Separated/widowed/ divorced	1.42 (1.19 to 1.67)	1.39 (1.19 to 1.62)
Area		
Rural	1	1
Urban	1.12 (0.96 to 1.31)	1.34 (1.18 to 1.52)
Terrorism		
Unaffected area	1	1
Affected area	1.44 (1.15 to 1.81)	1.78 (1.38 to 2.31)

PSQI = Pittsburgh Sleep Quality Index

Table 4. Sleep profiles of the elderly (n = 604)

Sleep profiles	General population		Rural area		Urban area		Terrorism-unaffected area		Terrorism-affected area	
	Mode (%)	Mean (range)	Mode (%)	Mean (range)	Mode (%)	Mean (range)	Mode (%)	Mean (range)	Mode (%)	Mean (range)
Usual bedtime	20.00 (26.7)	20.47 (3.00 to 17.00)	20.00 (29.7)	20.49 (17.00 to 24.00)	20.00 (21.9)	21.42 (3.00 to 18.00)	20.00 (25.5)	20.49 (3.00 to 17.00)	20.00 (30.0)	20.36 (17.00 to 23.30)
	21.00 (23.5)		21.00 (26.4)		22.00 (21.0)		21.00 (22.1)		21.00 (27.5)	
Number of minutes to fall asleep	30 (23.2)	33.59 (0 to 360)	30 (21.8)	32.37 (0 to 360)	30 (25.3)	36.21 (0 to 360)	30 (24.6)	32.41 (0 to 300)	30 (19.4)	37.24 (0 to 360)
	10 (16.9)		10 (18.1)		10 (15.0)		10 (16.7)		60 (18.8)	
Usual getting-up time	5.00 (30.1)	4.42 (0.30 to 12.00)	5.00 (31.8)	04.45 (7.00 to 24.00)	5.00 (27.5)	5.10 (12.00 to 24.00)	5.00 (31.5)	05.03 (12.00 to 23.00)	04.00 (30.0)	4.28 (7.00 to 21.00)
	4.00 (22.2)		4.00 (24.5)		4.00 (18.5)		4.00 (19.4)		05.00 (20.3)	
Hours of sleep per night	7 (17.7)	5.58 (1 to 15)	7 (19.4)	5.54 (1 to 11)	6 (17.2)	6.03 (2 to 15)	7 (17.6)	6.03 (2 to 15)	5 (18.8)	5.42 (1 to 10)
	6 (16.6)		5 (16.7)		8 (16.7)		6 (17.3)		7 (18.1)	
Number of naps per week	>3 times/week (45.9)		>3 times/week (49.3)		>3 times/week (40.3)		>3 times/week (43.9)		>3 times/week (51.3)	
	1 to 2 times/week (21.9)		None during the past month (20.0)		1 to 2 times/week (27.5)		1 to 2 times/week (25.7)		None during the past month (23.8)	
Minutes of nap duration	30 (26.8)	53.52 (1 to 600)	30 (27.5)	50.30 (0 to 600)	30 (25.8)	69.34 (1 to 420)	30 (27.9)	55.11 (1 to 420)	60 (24.4)	50.06 (0 to 600)
	60 (22.9)		60 (22.9)		60 (22.8)		60 (22.3)		30 (23.8)	

to sleep later at night than the rural ones (21.42 and 20.49, respectively). Moreover, the people living in rural areas usually got up earlier and required fewer minutes to fall asleep than their urban counterparts. The other sleep profile characteristics were similar in number. Regarding terrorism-affected areas, the mean getting-up time for these people was 4.28, which was earlier than the people living in terrorism-unaffected areas. Consequently, the mean hours of sleep in such areas of unrest were less than those from other areas (5.42 and 6.03 hours, respectively).

Sleep disturbances

There were three main sleep problems disturbing the sleep quality within the poor sleeper group, getting up to go to the bathroom, waking up in the middle of the night and/or early morning, and being unable to go to sleep within 30 minutes (59.3%, 53.2%, and 50.8%, respectively). Experiencing pain, feeling too hot, and coughing or snoring loudly represented the most common physical symptoms found among poor sleepers (Table 5).

Table 5. Sleep disturbances (≥1 time/week) relating to poor sleepers (n = 604)

Sleep disturbances	PSQI >5 n (%)
Needing to get up to use the bathroom	224 (59.3)
Waking up in the middle of the night and/or early morning	201 (53.2)
Inability to fall asleep within 30 minutes	192 (50.8)
Pain	156 (41.3)
Feeling too hot	97 (25.7)
Coughing or snoring loudly	90 (23.8)
Inability to breathe comfortably	70 (18.5)
Bad dreams	34 (9.0)
Feeling too cold	33 (8.7)
Other reasons	16 (4.2)

PSQI = Pittsburgh Sleep Quality Index

Discussion

These results represent a large sample size of the elderly population (604 people) in Songkhla Province, which is located in Southern Thailand. The investigated elderly people were predominantly married females. A large number of the participants fell into the young-old age category. More than half of the present population (62.4%) fell within the group of poor sleepers, having a mean PSQI score of 7.3. These findings were similar to those of the earlier studies from Turkey and China that reported poor sleepers at a rate of 49.7% and 63.3%[14-16], with mean scores of 7.68 (4.13)[15] and 7.28 (3.97)[16], respectively.

The authors found a statistical correlation between poor sleep and demographic profile factors such as advanced age, being without a partner, living in urban, and terrorism-affected areas. There are plenty of

evidences that support the negative relationship between sleep quality and age[17]. As far as being without a partner is concerned, some studies have suggested that the loss of a family member increases the likelihood of insomnia related to bereavement[18]. Furthermore, a lonely life has a significant indirect effect on sleep quality through increased stress[19]. Regarding one's area of residence affecting sleep quality, the rural lifestyle can promote good sleep. Furthermore, it enhances longevity more than the urban lifestyle[20]. Likewise, exposure to noise pollution in urban areas is significantly associated with a poor quality of sleep[21]. Concerning residing in terrorism-affected areas, a study on witnessing and being exposed to traumatic events revealed an association with mental health problems, including but not limited to sleep disturbances[22], especially in people living under chronic traumatic threat and trauma exposure[23].

The present study found that approximately one-third of poor sleepers suffered sleep disturbances at least one or more times a week. One of the identified sleep disturbances impacting poor sleepers was getting up at night to go to the bathroom. The present study found an association between nocturnal voiding frequency and subjective sleep quality parameters like poor sleep efficiency, longer wake-up time after sleep interrupted, and less total sleep time. Additionally, an increase in nocturnal voiding frequency has also been shown to be significantly associated with higher global PSQI scores[24]. Two other disturbances were waking up in the middle of the night or early morning and were unable to go back to sleep within 30 minutes, which are caused by sleep changes that normally happen with age. This is a common-place finding in other studies as well[25].

One of the present study's strengths is that it involved a large number of elderly with interesting information regarding sleep parameters and sleep profiles. Nonetheless, it has some limitations. Firstly, the authors could not access all of the districts in Songkhla Province, because in relation to the authors' capabilities, it has a huge population and covers a vast area. Secondly, the majority of the investigated elderly population was female, which may be explained by the fact that females generally live longer than males. As a consequence, the data pertaining to the male elderly population might not be sufficient to fairly represent sleep quality among such individuals. Additionally, the convenient sampling method employed by the provincial healthcare personnel could have easily led to selection bias. Lastly, recall bias on the part of the older volunteers was also present as a result of a decline in a wide range of cognitive functions in this population, which might lead to confounding factors.

More importantly, the current study has two main benefits in its practical application. Firstly, the large number of people reporting poor sleep quality might be related to medical and/or mental problems, which should be taken into account when examining elderly people in any clinical setting, particularly those of an advanced age, who are without partners, and live in urban or terrorism-affected areas. Secondly, insomnia with or without sleep disturbances has often been one of the most common chief complaints in the elderly, which is usually overlooked in clinical practice. Therefore, a more serious consideration of insomnia could enhance the healthcare management of the aging population. Finally, the authors believe that the present study could serve as a good reference and contribute more ideas in this area of study for readers.

Conclusion

Most of the elderly subjects in the present study were female and married. Predominantly, they belonged to the young-old age group (67.6%). The proportion of poor sleepers in our population was high (62.4%), with a mean PSQI score of 7.3. Advanced age, being without a partner, living in urban, and terrorism-affected areas were significantly associated with poor sleep quality (p-value <0.05). Finally, the authors would like to recommend that future studies focus on the wider psychological as well as social aspects of sleep disorders. Additionally, the issue of sleep with neurocognitive disorders should gain a better prominence in healthcare to prepare for the 'coming-of-age society' that requires the development of effective clinical evaluations and management methods for sleep disorders.

What is already known on this topic?

The prevalence of poor sleepers in the elderly interviewed in the present research was higher than 50%, similar to the findings of previous study. The mean PSQI score was also not considerably different. Advanced age, loneliness, urban lifestyle, and living in terrorism-affected areas showed substantially negative effects on sleep quality.

What this study adds?

The study included the sleep profiles of the elderly, e.g., usual bedtime, number of minutes to fall asleep, usual getting-up time, hours of sleep per night, number

of naps per week, and minutes of nap duration, which represent the sleep characteristics in different areas. Moreover, sleep disturbances relating to poor sleep were determined in the study.

Acknowledgement

The research was supported by a grant from the Faculty of Medicine, Prince of Songkla University (No.58-095-03-1). The authors want to thank Hutcha Sriplung, Prince of Songkla University, Songkhla, Thailand for his encouragement and suggestions. Hutcha Sriplung has no conflicts of interest to declare.

Potential conflicts of interest

None.

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คุณภาพการนอนในผู้สูงอายุจังหวัดสงขลา

วรุตม์ อุ่นจิตสกุล, จารุรินทร์ ปิตานุพงศ์, นิศานติ์ วีระชาติเทวัญ

วัตถุประสงค์: เพื่อศึกษาความชุกของคุณภาพการนอนไม่ดี รวมทั้งปัจจัยที่เกี่ยวข้องในผู้สูงอายุ

วัสดุและวิธีการ: การศึกษาแบบภาคตัดขวางโดยสุ่มตัวอย่างแบบกลุ่มในจังหวัดสงขลา ระหว่างเดือนตุลาคม ถึง พฤศจิกายน พ.ศ. 2558 สัมภาษณ์กลุ่มตัวอย่างที่มีอายุตั้งแต่ 65 ถึง 99 ปี จำนวน 604 คน โดยเก็บข้อมูลพื้นฐาน ข้อมูลที่เกี่ยวข้องกับการนอน และคุณภาพการนอน คุณภาพการนอนวัดโดย Pittsburgh Sleep Quality Index [PSQI] ฉบับภาษาไทย นำเสนอผลด้วยสถิติเชิงพรรณนา และวิเคราะห์ผลโดยใช้ R-Epicalc และ R-Survey software

ผลการศึกษา: กลุ่มตัวอย่างส่วนใหญ่เป็นเพศหญิงและสถานะแต่งงาน สัดส่วนผู้สูงอายุในวัยเริ่มต้นเท่ากับร้อยละ 67.6 ผู้เข้าร่วมศึกษาจำนวนมาก (ร้อยละ 62.4) มีคุณภาพการนอนไม่ดี ค่าเฉลี่ย PSQI เท่ากับ 7.3 ปัจจัยที่มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติกับคุณภาพการนอนที่ไม่ดี ได้แก่ อายุที่มากขึ้น ภาวะไม่มีคู่ครอง และอาศัยในพื้นที่เขตเมือง และพื้นที่ที่มีเหตุการณ์ก่อการร้าย (p-value <0.05)

สรุป: สัดส่วนของกลุ่มตัวอย่างมีคุณภาพการนอนไม่ดีมีค่าใกล้เคียงกับการศึกษาก่อนหน้านี้ ข้อเสนอแนะควรมีการศึกษาเพิ่มเติมในด้านจิตใจและสังคม รวมทั้งภาวะความผิดปกติทางระบบประสาท