

APPENDIX A

TABLES

Table A1 Paired t-test for examining the difference of mean sleep quality of the subjects at home and in hospital (N= 100)

Sleep Parameters	Sleep at home		Sleep in hospital		t-value
	Mean	SD	Mean	SD	
Total sleep time	5.66	1.18	5.16	1.13	3.39*
Sleep latency	50.40	25.71	65.76	35.21	-3.98**
Number awakening	2.92	1.71	4.54	2.45	-6.19**
Total sleep quality	10.07	4.66	6.87	4.65	5.17**

* $p < .05$ ** $p < .001$ **Table A2** Number and percentage of poor sleeper at home who identified had chronic illness and used of stimulating substance.

Characteristics	Poor sleeper	
	n	%
Chronic illness	24	56
Used of stimulating substance	38	88

Table A3 Number and percentage of poor sleeper during hospitalization who identified had experiencing anxiety and depression.

Variables	Poor sleeper	
	n	%
Anxiety	22	29
Depression	37	48

APPENDIX B

INSTRUMENTS

The research instruments for this study comprises of personal data, health information, sleep quality and factors interfering with sleep. These instruments will be used to collect data that are separated into 4 parts including:

Part 1. Personal Data Questionnaire (PDQ)

Part 2. Health Information Questionnaire (HIQ)

2.1. Health Status

2.2. Sleep History

Part 3. Sleep Quality Questionnaire (SQQ)

Part 4. The Factors Interfering Sleep Questionnaire (FISQ)

4.1. Physiological Factors

4.2. Routine nursing interventions Factors

4.3. Environmental Factors

4.4. Psychological Factors

Hospital Anxiety and Depression Scale (HADS)

Code: _____

Date/Time: _____

Hospital/Ward: _____

Part 1: Personal Data Questionnaire (PDQ)

Introduction: I will ask you some information about your personal data.

Please answer next to the best choice that corresponds to your situation.

1. Age Years

___/___/ age

2. Gender

___/ gend

 1. Male 2. Female

3. Race

___/ race

 1. Batak 2. Javanese 3. Melayu 4. Chinese 5. Others,

4. Education

___/ educ

 1. No schooling 2. Primary school 3. Secondary school 4. Collage or above

5. Religion

___/ relig

 1. Islam 2. Christianity 3. Buddhism 4. Hinduism

6. Marital Status _/ / marid
- 1. Single
 - 2. Married
 - 3. Widow/widower
 - 4. Others,
7. Occupation _/ / occup
- 1. Not working
 - 2. Farmer
 - 3. Self-employed
 - 4. Part time labor
 - 5. Housework
 - 6. Others,
8. Income (Rupiahs/month) _/ / incom
- 1. < Rp 1,000,000.
 - 2. Rp 1,000,000. – Rp 1,500,000.
 - 3. > Rp 1,500,000.
9. Terms of medical payment _/ / pay
- 1. Wholly reimbursed
 - 2. Partially reimbursed
 - 3. Totally self-paid
 - 4. Others,
10. Home location _/ / hmloc
- 1. Urban area
 - 2. Rural area
 - 3. Others,

11. Residence

- 1. Alone
- 2. Only spouse in own house
- 3. Spouse in own house with children
- 4. Others,

/_/ hmstay

12. Number of living with in the same household

- 1. Two to five people
- 2. Six to ten people
- 3. More than ten people

/_/ hoshold

13. Number of patients in one roompeople

/_/ nptroom

Part 2. Health Information Questionnaire (HIQ)

Researcher

2.1 Health Status

Introduction: This part will ask you some information about your health conditions. Please answer the questions corresponding to your situations.

///Number

1. Medical diagnosis,

_/_diag

2. Number of admission to the hospital

_/_admihos

- 1. First time
- 2. Second times
- 3. Third times or more

3. Having chronic illness

_/_chronic

- 1. No
- 2. Yes

4. Use of stimulating substance at home

_/_hmsubst

- 1. Alcohol
- 2. Caffeine (coffee)
- 3. Tobacco
- 4. Teas
- 5. None

5. Use of stimulating substance in the hospital:

_/_hosubst

- 1. Caffeine (coffee)
- 2. Tobacco
- 3. Teas
- 4. None

6. Medications being used at home

6.1. Drugs induced sleep

Sleeping pills (sedatives)	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmpseda
Antidepressant	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmpandep
Antipsychotics	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmpanpsy
Others	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmposhr

6.2. Drugs interfere sleep

Diuretics	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmidiur
Betablocker	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmibeta
Bronchodilators	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmibron
Others	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hmiothr

7. Medications being used in the hospital

7.1. Drug induced sleep

Sleeping pills (sedatives)	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosbeda
Antidepressant	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosandep
Antipsychotics	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosanpsy
Others	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosothr

7.2. Drug interfere sleep

Diuretics	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosdiur
Betablocker	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosbeta
Bronchodilators	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosbron
Others	<input type="checkbox"/> 0. No	<input type="checkbox"/> 1. Yes	// hosothr

2.2 Sleep History

Introduction: The following questions relate to your usual sleep at home. Your answer should indicate similarity as close as possible to your situations for the majority of day and night.

1. How many hours do you usually sleep a night?

- 0 < 5 hours
- 1 5 – 6 hours
- 2 > 6 – 7 hours
- 3 > 7 hours

 / shdura

 / / / mnt

2. How long does it take for you to fall asleep each night?

- 0 > 60 minutes
- 1 31 – 60 minutes
- 2 16 – 30 minutes
- 3 < 15 minutes

 / / shlaten

 / / / mnt

3. How many times do you usually awake during sleep each night?

- 0 > 5 times
- 1 3 – 4 times
- 2 1 – 2 times
- 3 None

 / shawak

 / tm

4. How do you usually feel when you wake up in the morning?

- 0. Very sleepy
- 1. Moderate sleepy
- 2. Mild sleepy
- 3. Refreshed, clear, and alert

 / shfresh

5. How deep is your sleep each night?

- 0. Very shallow
- 1. Sleep and awake
- 2. Sleep but not deep
- 3. Very deep

 / shdeep

Researcher

6. Are you usually satisfy with your sleep at night?

___/ shsatis

0. Not at all
 1. Little
 2. Moderate
 3. Very much

7. How often have you trouble staying awake while working, doing occupational, recreational, and engaging in social activity?

___/ shdayfun

0. Less than once a week
 1. Once or twice a week
 2. Three or more times a week
 3. Never

8. How much do you usually sleep during the day?

___/ shnap

0. None–60 minutes 1. More than 60 minutes

9. Sleep environment interference at home

- Do you have a bed partner or roommate

___/ shpart

0. No bed partner or roommate
 1. Partner/roommate in same room

- If you had shared the room with others, did he/she interferes your sleep because of snored or something?

___/ shsnor

0. No 1. Yes

- Having trouble sleeping at night because of

Bright lights 0. No 1. Yes

___/ shtrolibri

Room temperatures too hot 0. No 1. Yes

___/ shtrohot

Room temperatures too cold 0. No 1. Yes

___/ shtrocol

Poor ventilation 0. No 1. Yes

___/ shtroven

Unpleasant odor in room 0. No 1. Yes

___/ shtrodor

10. Do you consider that you are as good or poor sleeper at home?

___/ shself

0. Good sleep 1. Poor sleep

Part 3. Sleep Quality Questionnaires (SQQ)

Introduction: This part will ask you about your sleep quality that describes your real sleep condition last night.

1. How many hours did you sleep last night?

0 < 5 hours

1 5 – 6 hours

2 6 – 7 hours

3 > 7 hours

 / sqdura

 / / / mnt

2. How long did it take before you felt asleep last night?

0 > 60 minutes

1 31 – 60 minutes

2 16 – 30 minutes

3 < 15 minutes

 / / sqlaten

 / / / mnt

3. How many times did you awaken during your sleep last night?

0 > 5 times

1 3 – 4 times

2 1 – 2 times

3 None

 / sqawak

 / tm

4. How did you feel when you woke up this morning?

0. Very sleepy

1. Moderate sleepy

2. Mild sleepy

3. Refreshed, clear, and alert

 / sqfresh

5. How depth did your sleep last night?

0. Very shallow

1. Sleep and awake

2. Sleep but not deep

3. Very deep

 / sqdeep

Researcher

6. Do you feel satisfied with your sleep last night?

- 0. Not at all
- 1. Little
- 2. Moderate
- 3. Very much

 / / sqsatis

7. Did you have any disturbances of sleepiness, feel fatigue, sleepy, not feel concentrated when you awaked during you stay in the hospital?

- 0. Nearly all the time
- 1. Very often
- 2. Some times
- 3. Not at all

 / / sqdayfun

8. How did you sleep during the day yesterday?

- 0 None–60 minutes
- 1 More than 60 minutes

 / / / sqnap

9. Do you consider that you are as good or poor sleeper during hospitalization?

- 0. Good sleep
- 1. Poor sleep

 / / sqself

Part 4: Factors Interfering with Sleep Questionnaires (FISQ)

Introduction: The following questions are related to your experience and perception about physiological factors interfering with your sleep at night and during your staying in the hospital. You will be asked whether there was something that disturbed your sleep. If yes, you will be asked to rate what degree it interferes your sleep. The score is 0 – 3. 0 = no interference, 1 = little interference, 2 = moderate interference, and 3 = very much interference.

ITEM	Exposure		Degree of Interference			
	Yes	No	0	1	2	3
Physiological Factors						
1. Dyspnea						
2. Cough						
3. Fever						
4. Pain						
5. Palpitation						
6. Headache						
7. Nocturia						
8. Incontinence						
9. Nausea and vomiting						
10. Abdominal distention						
11. Itching						
12. NGT/IV-Line in place						
13. Mobility restriction						
14. Others,						
Total Score						

Researcher

- / dys / dysint
- / cog / cogint
- / fev / fevint
- / pain / paint
- / pal / palint
- / hed / hedint
- / noc / nocint
- / inc / incint
- / nav / navint
- / adi / adiint
- / itc / itcint
- / lin / linint
- / mb / mbint
- / oth / othint

Introduction: The following questions are related to your experience and perception dealing with factors of routine and nursing interventions that interfered with your sleep at night during your being hospitalization. You will be asked if there was something that interferes with your sleep. If yes, you will be asked to score what degree it interferes with your sleep. The score is 0 – 3. 0 = no interference, 1 = little interference, 2 = moderate interference, and 3 = very much interference.

ITEM	Exposure		Degree of Interference				Researcher
	Yes	No	0	1	2	3	
Routine nursing interventions Factors 1. Nurses attending to other patient 2. Checking vital signs 3. Giving treatments 4. Giving medicine 5. Intake/output recording 6. Others.....							/ / ato / / atoint / / cek / / cekint / / giv / / givint / / md / / mdint / / ior / / iorint / / oth / / othint
Total Score							<input type="text"/>

Introduction: The following questions are related to your experience and perceptions dealing with environmental factors that interfering with your sleep at night and during you are staying in the hospital. You will be asked whether there are things that disturbed your sleep. If there are, you will be asked to rate what degree it interferes your sleep. The score is 0 – 3. 0 = no interference, 1 = little interference, 2 = moderate interference, and 3 = very much interference.

ITEM	Exposure		Degree of Interference				Researcher
	Yes	No	0	1	2	3	
Environmental Factors							
1. Unfamiliar environment							<u> </u> / ufa <u> </u> / ufaint
2. No privacy							<u> </u> / pry <u> </u> / pryint
3. Discomfort bed/pillows							<u> </u> / bep <u> </u> / bepint
4. Noise from other patients or family members							<u> </u> / npt <u> </u> / nptint
5. Noise from medical equipments							<u> </u> / neq <u> </u> / neqint
6. Noise from conversation among health care teams							<u> </u> / nco <u> </u> / ncoint
7. Noise during changing shift work							<u> </u> / nsh <u> </u> / nshint
8. Noise from door/outside							<u> </u> / ndo <u> </u> / ndoint
9. To much light inside ward							<u> </u> / lig <u> </u> / ligint
10. Poor ventilation							<u> </u> / ven <u> </u> / venint
11. Room temperature toohot							<u> </u> / tem/ <u> </u> / temint
12. Unpleasant odor							<u> </u> / odo/ <u> </u> / odoint
13. Others,							<u> </u> / oth <u> </u> / othint
Total Score							<input type="text"/>

The Hospital Anxiety and Depression Scale (HADS)

Please answer all questions that the most closely relates to your situations during hospitalization.

1. I feel tense or “wound up”:

- 3. Most of the time
- 2. A lot of the time
- 1. From time to time
- 0. Not at all

 / anxiety1

2. I get a sort of frightened feeling as if something awful is about to happen:

- 3. Very definitely and quite badly
- 2. Yes, but not too badly
- 1. A little, but it doesn't worry me
- 0. Not at all

 / anxiety2

3. Worrying thoughts go through my mind:

- 3. A great deal of the time
- 2. A lot of the time
- 1. From time to time but not too often
- 0. Only occasionally

 / anxiety3

4. I can sit at ease and feel relaxed:

- 0. Definitely
- 1. Usually
- 2. Not often
- 3. Not at all

 / anxiety4

Researcher

5. I get a sort of frightened feeling like butterflies in stomach: _/ anxiety5
- 0. Not at all
 - 1. Occasional
 - 2. Quite often
 - 3. Very often
6. I feel restless as if I have to be on the move: _/ anxiety6
- 3. Very much indeed
 - 2. Quite a lot
 - 1. Not very much
 - 0. Not at all
7. I get sudden feelings of panic: _/ anxiety7
- 3. Very often indeed
 - 2. Quite often
 - 1. Not very often
 - 0. Not at all
8. I still enjoy the things I used to enjoy: _/ Depresi1
- 0. Definitely as much
 - 1. Not quite so much
 - 2. Only a little
 - 3. Hardly at all
9. I can laugh and see the funny side of things: _/ Depresi2
- 0. As much as I always could
 - 1. Not quite so much
 - 2. Definitely not so much now
 - 3. Not at all

10. I feel cheerful:

- 3. Not at all
- 2. Not often
- 1. Sometimes
- 0. Most of the time

 / Depresi3

11. I feel as if I am slowed down:

- 3. Nearly all the time
- 2. Very often
- 1. Some times
- 0. Not at all

 / Depresi4

12. I have lost interest in my appearance:

- 3. Definitely
- 2. I don't take so much care as I should
- 1. I may not take quite as much care
- 0. I take just as much care as ever

 / Depresi5

13. I look forward with enjoyment to things:

- 0. As much as ever I did
- 1. Rather less than I used to
- 2. Definitely less than I used
- 3. Hardly at all

 / Depresi6

14. I can enjoy a good book, music or radio programmed:

- 0. Often
- 1. Sometimes
- 2. Not often
- 3. Very seldom

 / Depresi7

Total Score

APPENDIX C

VERBAL EXPLANATION

My name is Evi Karota-Bukit. I am a lecturer at Nursing School of Sumatra Utara University, Medan. Now, I am a second year Master student of Nursing Science in Adult Nursing Program at Prince of Songkla University, Thailand. I would like to explain to you, in order to see if you would be willing to participate in the project. I am conducting a nursing research project to investigate the sleep quality and factors interfering with sleep among hospitalized elderly patients. This study will bring no harm to you or your family. If you agree to participate, you will be interviewed to complete these questionnaires.

The procedures for this study are as follows: I will ask some questions about your demographic characteristics and you will be interviewed about your sleep quality, and factors interfering with sleep during your stay in this hospital. I will read each question slowly. Please listen carefully and give your answer according to your real situation.

Please do not hesitate to stop me if you have difficulty in understanding each item. It will depend on you whether you participate or not. Your refusal will not have any affect on the treatment or nursing care for you. Even during the processes, you have the right to withdraw at any time or neglect each item that you would like not to answer. All of your information will be used only for the purpose of this study. Are you willing to participate? Thank you for your cooperation.

Date: _____

Participant: _____

Researcher: _____

APPENDIX D
LIST OF EXPERTS

Three experts analyzed content validity of the sleep quality questionnaire (SQQ) and the factors interfering with sleep questionnaire (FISQ). They are:

1. Associate Professor Sawitri Assanangkornchai, PhD, MD

Head of the Department Psychiatric

Faculty of Medicine, Prince of Songkla University

2. Assistant Professor Wandee Suttharangsee, PhD, RN

Head of the Department Mental Health and Psychiatric Nursing

Faculty of Nursing, Prince of Songkla University

3. Ms. Sasitorn Phumdoung, PhD

Faculty of Nursing, Prince of Songkla University