



The Relationships between Exercise Behavior and Sleep Quality and Their Related Factors Among COPD Patients

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Background

- Sleep disturbance is prevalent among patient with chronic obstructive pulmonary disease (COPD).
- Exercise is one kind of the pulmonary rehabilitation, not only increase the exercise ability, stronger the muscle power but also be a important role to improve the sleep quality.
- There is seldom to discuss the relationships between exercise behavior and sleep quality among recent studies.

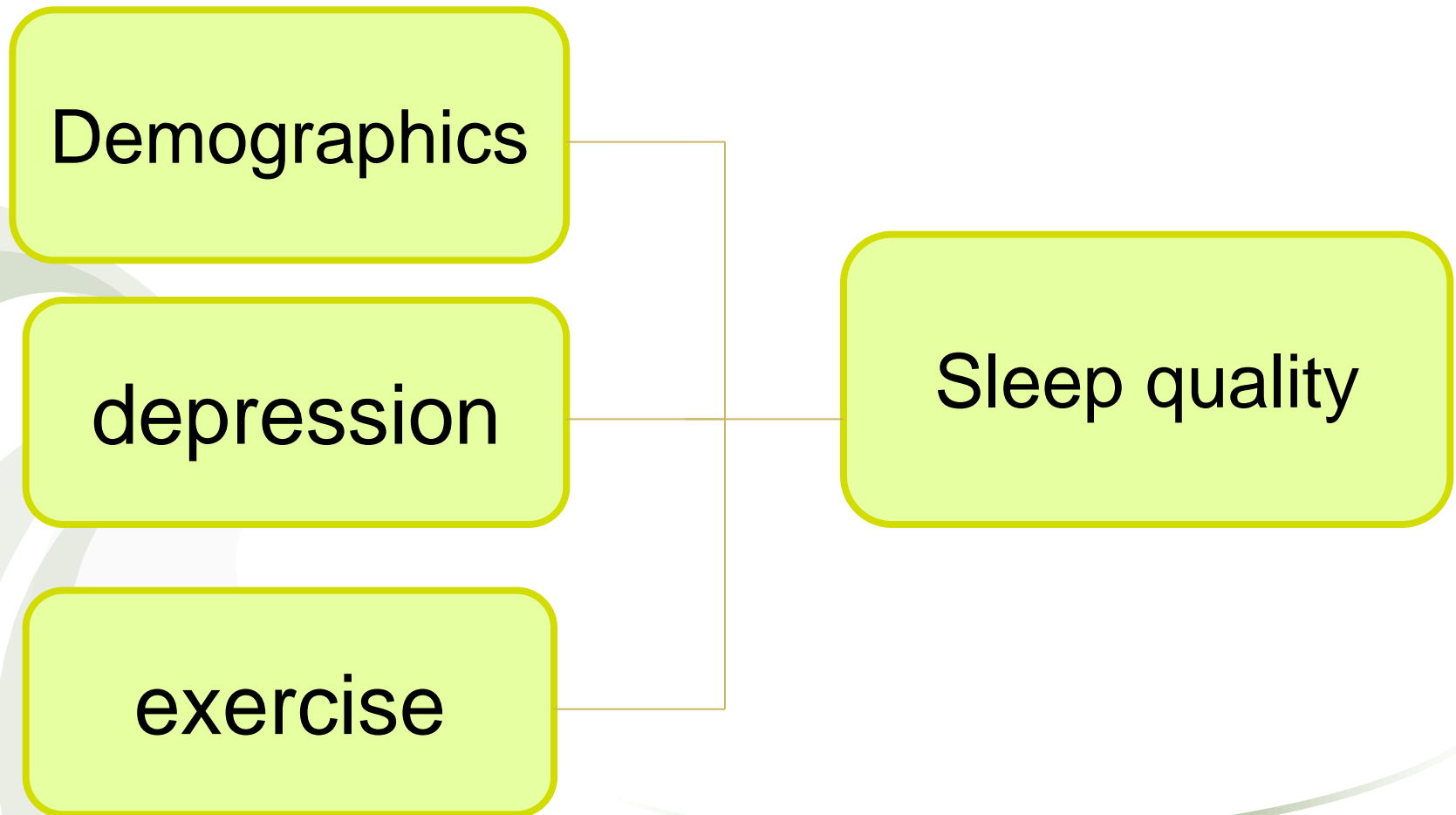


Purpose

- The purpose of this study investigate the relationships between exercise behavior and sleep quality and their related factors among COPD patients.



Conceptual Framework



Methods



Study Design

- The cross-sectional and descriptive designed was used in this study.



Subjects

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- A total of 114 of patients with chronic pulmonary obstruction disease were recruited from chest outpatient department in two teaching hospitals in Taipei City.
- Inclusion criteria :
 - (1) Patients with chronic pulmonary obstruction disease.
 - (2) were willing to participate in the study.



Instruments

- Demographics characteristics.
- Disease characteristics.
- Exercise behavior.
- Chinese Pittsburgh Sleep Quality Index (CPSQI)
- Beck Depression Inventory- Second Edition (BDI- II)



Statistical Analysis

- SPSS 18.0 software was be used for accounting.
- The descriptive and inferential statistics including frequency, percentage, mean and standard deviation, chi-square were used to analyze the data.



Results



Demographic Characteristics

- There were 101 males (88.6%) and 13 females (11.4%).
- The mean age of subjects was 76.82 years (SD-10.136).
- Of these patients, most were in COPD stage II (n-53, 46.5%) and stage III was the second (n-26, 22.8%).
- Fifty-five participants (48.3%) exercise.
- Among these, walking was the most common (n-39, 70.9%).

Sleep Quality and Chinese Pittsburgh Sleep Quality Index (CPSQI)

- The mean CPSQI score of the subjects was 6.49 (SD= 3.77) with a range form 1.00 to 16.00.
- 26.3% (n-30) of the subjects were identified as poor sleepers.
- 29.7%(n-23) took more than 31 minutes to fall asleep.
- 14.9%(n-17) subjects stated that their sleep duration less than 5 hours nocturnal sleep every day.
- 18.4%(n-21) subjects had sleep efficiencies of less than 65%.
- 20.2%(n-23) subjects had used of sleep medication.

Depression and Beck Depression Inventory- Second Edition (BDI- II)

- The mean score of the BDI-II in the study was 2.41 with a range of 0.00 to 14.00.
- Using the BDI-II cut off score of 14 and above for depression based on BDI-II's guideline :
 - 113(99.12%) subjects were non-depression.
 - 1(0.88%) subjects was mildly to depressed by scoring 14 to 19.

Table 1. Differences in age, sex, serious of COPD between CPSQI score

	CPSQI		X ² /t	p-value
	≤5(N=52)	≥6(N=62)		
Age (year)	75.27±10.55	78.11±9.67	-1.500	0.136
SEX			0.101	0.527
Severe COPD				0.4
	Moderate	26(50.98)	27(45)	
	Severe/very severe	14(27.45)	23(38.33)	

These results revealed no significant difference among age, sex, severers of COPD in CPSQI scores.

Table 2. Differences BDI-II score between CPSQI score

		CPSQI		X ² /t	p-value
		≤5(N=52)	≥6(N=62)	-	1.000 ^a
BDI-II score	N(0~13)	52(100)	61(98.39)		
	D(≥14)	0(0)	1(1.61)		

^a Fisher's exact test

Analysis of BDI-II score identified no significant difference between the CPSQI scores.

Table 3. Relationships between exercise behavior and sleep quality

		CPSQI		X ² /t	p-value
		≤5(N=52)	≥6(N=62)	0.118	0.731
exercise	Y(N=55)	26(50.0%)	29(46.77%)		
	N(N=59)	26(50.0%)	33(53.23%)		

Exercise behavior was no statistically significant with the CPSQI scores.



Conclusion

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- The findings will help the clinical staffs to be aware of the problem on sleep disturbance with COPD.
- The optimal goal will use the findings as the reference to develop the guideline with non-pharmacy therapy to improve sleep quality for COPD patients to improve sleep quality.



Thanks for your attention!

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