



Original Research

Psychological Distress And The Sleep Quality In Older Patients With Chronic Disease

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ABSTRACT

Background: *The prevalence of chronic disease in elderly increase year by year worldwide and it's related to mortality and decrease of quality of life. The majority of elderly patients complaints about sleep disorders and that affects sleep quality, health status and quality of life. Psychological aspect was identified as one main contributor in sleep disorders among elderly who suffer from chronic disease. This study aims to determine the effect of psychological distress on sleep quality among elderly patients with chronic disease.*

Methods: *This study applied a quantitative research design with cross-sectional approach. The study conducted in a teaching university hospital from October to November 2021. Population is elderly with chronic diseases, the participants selected by using total sampling method. Data collection using psychological distress related questionnaire and Pittsburg Sleep Quality Index (PSQI). Data analysis applied Fishers' Exact test.*

Results: *There are 52 older patients participate in this study. The study finding 85.6% participants have psychological distress and 51.9% have poor quality of sleep. Based on Fishers' Exact test analysis, the p-value was 0.308 (statistically insignificant).*

Conclusion: *This study finding report that psychological distress statistically has no significant affect on sleep quality among elder patients who suffer from chronic disease. However, some participants have poor sleep quality. Study in advance to investigate how psychological status affect sleep quality is needed.*

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INTRODUCTION

Sleep is an essential component for health and wellness across the lifespan (Miner & Kryger, 2017), and an important component for establishing a proper physical, mental, and emotional wellbeing of an individual (Fermina & Revathi, 2017). Many older people were challenged with a chronic or multiple chronic conditions, depression, pain, physical function limitation, and cognitive impairment (Hughes et al, 2018). Even

though, sleep problems or sleep disorders, including sleep disordered breathing and insomnia disorder (Lavoie, Zeidler & Martin, 2018), are common among general population. However, the factor was contributed to increase risk for sleep problem is insomnia, and it brings negative effect on sleep quality (Zhang et al, 2017).

Aging is characterized by significant physiological alterations in the human body (Pires et al, 2021). From a neurological and endocrinal perspective, there are a lot of potential factors that can impair sleep such as neurotoxin deposition, blood brain barrier dysfunction, and local small vessel disease (Mc Carthy, 2021). Sleep deprivation is harmful to immune, metabolic, cardiovascular health, and cognition and memory (Kessler et al, 2019). These effects may be more significant in older people who may have pre-existing vulnerabilities. Despite the associations between sleep dysfunction and adverse outcomes among older people, the impact of sleep disturbances on older hospitalised patients is remainly unclear (Mannion, Molloy & O’Caoimh, 2019).

Sleep quality affects health status and quality of life. There are some factors were identified which associated with poor sleep quality such as age, physical condition, self-esteem, work characteristics, unhealthy diet, and others (Pérez-Fuentes et al, 2019). Changing in sleep quality is a part of normal aging, both in terms of decreased in duration and consolidation (Landry, Best & Liu-Ambrose, 2015). Sleep complaints were common in older adults where more than a half of older adults being an inability to stay asleep at night. The poor sleep quality was associated with worsening health status, increased risk of mortality, increased health care admission, increased hospital length of stay, and increased the psychological distress.

A study conducted in China reported that abnormal sleep was associated with psychological distress such as depression and anxiety (Fu, Zhou & Meng, 2020). Further, Fu and colleagues emphasized that sleep duration is a predictor of anxiety, and inadequate sleep is a leading factor to depression. Thus the psychological distress may mediate the sleep quality in older patients with chronic disease. In terms of sleep quality, it’s a complex construct, making it difficult to evaluate empirically, and that depends on the methods used to quantify parameters of sleep quality (Landry, Best & Liu-Ambrose, 2015). Further, during some decades the sleep quality was assessed using various methods both subjective and objective measures. The most common instruments used to assess sleep quality were Pittsburg Sleep Quality Index (PSQI).

Since the lack of evidence in Indonesian context related to sleep quality among older patients particularly them with chronic disease, this study aims to identify the relationship and effect of psychological distress on sleep quality among older patients who suffer from chronic disease.

MATERIALS AND METHOD

This study applied descriptive study with cross-sectional design. The study conducted in a teaching university hospital in Makassar, South Sulawesi Province during two months from October to November 2020. Population is all older patients, and the participant selected using purposive sampling method. There were 52 patients meet all inclusion criteria of the study.

All participants were recruited meet inclusion criteria such as patient, who attend inpatient care, have a chronic disease (conditions that 1 last year or more and require ongoing medical attention such as hypertension or diabetes mellitus), age ranging from 60 years old and above, intend to participate in the study. While exclusion criteria were

patients with decrease level of consciousness, have a communicable disease, and dementia.

All participants were assessed their psychological distress by using a psychological distress-related questionnaire, and sleep quality assessed by using Pittsburg Sleep Quality Index (PSQI). These questionnaires already adapted and validated into Bahasa Indonesia (Khasanah & Hidayati, 2012). This study procedure already approved by Ethical Commission for Health Research of Faculty of Medicine, Universitas Hasanuddin with registration number 547/UN4.6.4.5.31/PP36/2020.

RESULTS

The study result will explain into some sections, which are the socio-demographics of the participants, measurements of psychological distress and sleep quality measured by using Pittsburg Sleep Quality Index (PSQI). Older patients with chronic diseases which recruited in this study have age from 60-78 years old, mean 64.86 years old and SD 4.81. The detail socio-demographics of the respondents see table 1.

Table 1. Socio-demographics of older patients with chronic diseases

Characteristics	Range	Mean	SD	Frequency (n)	Percentage (%)
Age	60-78	64.86	4.81		
Group of age					
60-64				29	55.8
> 64				23	44.2
Gender					
Male				21	40.4
Female				31	59.6
Education level					
Primary				26	50
Secondary				18	34.6
Tertiary				8	15.4
Occupational					
Unemployed				26	65
Farmer				4	10
Business				8	20
Property labor				2	5
Marital status					
Married				29	55.8
Widow/widower				23	44.2
Psychological status					
Mild distress				8	15.4
Severe distress				44	85.6
Sleep quality					
Good				25	48.1
Poor				27	51.9

The majority respondents in study were 60-64 group of age (55.8%), predominantly female (59.6%), have primary educational background (50%), occupational status

with unemployed (65%), married (55.8%), have psychological distress with severe level (85.6%), and have poor sleep quality (51.9%).

Table 2. Correlation psychological status and sleep quality

Psychological status	Sleep quality		CI (95% L-U)	p-value
	Good (f/%)	Poor (f/%)		
Mild distress	5 (9.6)	3 (5.8)	0.425-9.418	0.308 ^a
Severe distress	20 (38.5)	24 (46.2)		

^aFisher's Exact test p-value = < 0.05

Based on Fisher's exact test the p-value = 0.308 (CI = 0.425-0.9418), it means that there is no affect of psychological distress on sleep quality among older patients who have chronic disease. Odds Ratio for Mild distress was 1.375 for good sleep quality compare to severe distress.

DISCUSSION

This study reports that both group of ages have similar prevalence in poor of quality of sleep, its mean that there is no significant difference between group of age of elderly and sleep quality. However, in previous study justify that sleep pattern change as individuals' age (Saccomano, 2014). Further, changes in sleep patterns of elderly may correlate to some aspects such as have chronic disease, and changes in daily routine.

Other scholar also explained that sleep quality and sleep disturbance increase with age, and the incidence of the sleep disturbances is higher than 50% in community dwelling older population (Stefan et al, 2018). Another evidence also proved that both subjective and objective measurements result of sleep indicate that sleep changes with increasing age (Crowley, 2011). So, majority of researchers considered age as a considerable risk factor of sleep disorder (Zhang et al, 2017).

In terms on gender, women were predominantly in this study, which counted for around 60%. However, there prevalence in poor sleep quality was higher among older men than older women (28.8%: 23.1%). In contrast, a study from China, which investigated the sleep quality among older adults who living in rural area reported that poor sleep quality, was significantly associated with female sex. According to multiple logistic regression analyses revealed that sex and clinical comorbidities such as hypertension, coronary heart disease, and chronic obstructive pulmonary disease were positive predictors on sleep quality (Wang et al, 2020).

This study also was disagree with the study from Iran, which the study focus on association of sleep quality and socio-demographics characteristics in elderly referred to health centers, found that older women had worse sleep quality compared to older men (Dehghankar et al, 2018). However, the study concluded that there is no difference between older women and older men in sleep duration, habitual sleep efficiency, and sleep disturbances. In regards of educational background, this indicated that the educational background of participants has no significant difference on sleep quality. Iranian scholars supported it, where their study also found that there is no significant difference between education status of the elderly and their sleep quality. However, the study also reported that the elderly with lower education had poorer sleep quality (Dehghankar et al, 2018).

Based on occupational status, mostly of participants were unemployed or retirement rated on 65%. American scholars justify that when people retire, they often take the liberty to stay up late at night or take naps at odd times (Khawaja & Aslam, 2018).

Further more, this lack of structure often leads to a breakdown in the sleep pattern, resulting insomnia at night and day time sleepiness.

A study conducted in China which the older residents who living in nursing homes were recruited found that there was significant difference between elder with poor sleep and elder with good sleep, based on marital status (Zhu et al, 2020). Further, the study point out that elders who have poor sleep quality seemingly those who had older age, lower education, and unstable marriages. The reason why unstable marriages may contributes to poor sleep quality, due the lack of family support (Kumar et al, 2019). However, this study finding there is no significant difference in prevalenc of poor sleep quality between married and widow or widower participants.

However, in contrast a study conducted in Turkey, reported that elderly who suffer from diabetes mellitus with macro-vascular comorbidity had poorer sleep quality. The elderly who have macro-vascular problem not only have poor sleep quality but depression as well (Ozturk et al, 2015). Besides that, this study point out that the duration of diseases progression also has an important impact on both sleep quality and depression. In general, psychological factors were identified may promote sleep disturbances such as retirement, isolation, loneliness, bereavement or grief, and emotional issues, depression and anxiety (Allen et al, 2013). However, this study focus only on psychological-related issues on depression, this investigation may affect the final result of this study.

According to Canadian scholars, they point out that various type of psychiatric problems have been associated with sleep disturbances in the elderly. Depression has sometimes been noted, and is considered a risk factor of sleep difficulties. It has been linked to low sleep efficiency and poor quality of sleep (Leblanc, Desjardins, & Desgagne, 2015). Advanced age-related changes in sleep patterns may be linked depressed mood in elderly. The short and long of sleep durations were also associated with increased risk of depression in adult (Gulia & Kumar, 2018). However, the evidence on how sleep durations affects depression, vice versa is still lack. Further, the latest evidence indicated that sleep disturbances not only precede the depression, but are also associated with increased risk for depression both cross-sectionally and longitudinally (Gulia & Kumar, 2018).

CONCLUSION

It was concluded that the psychological status has no affect on sleep quality among elderly who hospitalized with chronic disease. However, due to the lack of participants that may have affect to final result of this study. Besides that, some risk factors are uninvestigated this also may covers the quality of sleep among the elderly patient with chronic disease. In order to improve the evidence, increasing number of participants and put all risk factors into account is needed.

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