Research Paper
Comparing Negative Emotional Components in Older People With Normal and Poor Quality of Sleep

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ABSTRACT

Objectives Sleep is one of the basic needs of every human being. Considering the factors affecting this area is of particular importance. The present study compares the negative emotional components, including rumination, worry, arousal anxiety in older people with sleep problems, and those with normal sleep.

Methods & Materials This research is a causal-comparative study. The study population consisted of older people living in Tehran City in 2016. The study samples were selected by the convenience sampling method and based on inclusion and exclusion criteria. The inclusion criteria included being ≥60 years old, lacking severe illnesses and disorders (whether physical and psychological). The exclusion criterion included the unwillingness to continue study at each stage. Of 200 older people participating in the study, 131 individuals were included in the study after group matching based on demographic variables. Pittsburgh sleep quality index, ruminative responses scale questionnaire, Pennsylvania state worry questionnaire, mood and anxiety symptom questionnaire, and anxious arousal scale were used to collect the study data. The reliability of the tools was also evaluated. The obtained data were analyzed by descriptive statistics of frequency, mean and by inferential statistics of the Chi-square, Man-Whitney U, and Independent t test in SPSS V. 18.

Results The Mean±SD age of the subjects was 68.5±6.78 years, respectively. The mean scores of rumination were 54.039 in the elderly group with poor sleep quality and 44.919 in the group with normal sleep quality. Also, the mean scores of worry were 53.875 and 46.024 in the poor and normal sleep quality group, respectively. Finally, the mean arousal anxiety scores were 55.080 and 43.772 in the poor and normal sleep quality group, respectively. There was a statistically significant difference between the mean values of the two groups in terms of research variables (P<0.001).

Conclusion According to the study results, rumination, worry, and arousal anxiety have a negative effect on the quality of sleep. Focusing on these negative emotional components as risk factors for the emergence and continuation of sleep disturbances can be useful in designing preventive interventions for sleep problems and reducing psychological disorders.

Key words:
Sleep, Aged, Worry

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Extended Abstract

1. Objectives

Aging is a natural process and of the stages of human growth. The improvements in living conditions and health care, as well as the longevity and life expectancy, have led to aging in societies [1, 2]. With an increasing elderly population in Iran and the world, paying attention to this group's biopsychological health is of particular importance [3]. Aging is associated with quantitative and qualitative changes in the sleep pattern. Problems with falling asleep or sleep continuity, waking early in the morning and inability to fall back sleep are prevalent among the elderly [4]. Data are scarce on the negative emotional components in older people and their relation to their sleep quality; thus, this study aimed to compare the negative emotional components in older people with healthy and poor sleep quality.

2. Methods & Materials

This was causal-comparative research. The study population consisted of all elderly residents of Tehran City, Iran, in 2016 (n=200). Of them, 200 samples were selected by visiting recreational, tourism, and sports centers based on the inclusion criteria and using convenience sampling technique. Inclusion criteria were ≥60 years of age, ability to commu-

nicate verbally and to read and write, cognitive health, no history of severe biopsychological disorders, no history of substance or alcohol or illegal medications abuse according to the self-reports, and providing informed consent forms to participate in the study. The exclusion criteria were the unwillingness to continue study participation.

For collecting data, a researcher-made demographic form was used in addition to the Pittsburgh Sleep Quality Index, Ruminative Responses Scale, Pennsylvania State Worry Questionnaire, and Mood and Anxiety Symptoms Questionnaire (Anxious Arousal Scale). If any of the study participants had difficulty with reading or understanding the questions, those were read and explained to them. Based on the cut-off point of 5 for sleep quality, the study participants were divided into two groups of healthy and poor sleep quality. After matching the subjects for demographic factors, 131 subjects participated in the study; 78 were assigned to the poor sleep quality group and 53 to the healthy sleep quality group. The collected data were analyzed in SPSS using descriptive statistics (frequency, mean, standard deviation) and statistical tests, including Chi-squared test, Mann–Whitney U test, ad Independent Samples t-test.

3. Results

Of 131 samples, 55% were male and 45% were female with the Mean±SD age of 68.5±6.78 years. Moreover, (80-90%) of them were married living with the family; (84%)

Table 1. Comparing negative emotional components in the elderlies with poor and healthy sleep quality

Variables	Group	Mean±SD	n
Rumination	Normal	44.919±8.671	53
	Poor	54.039±8.636	78
Worry	Normal	46.024±9.291	53
	Poor	53.875±8.842	78
Anxious arousal	Normal	43.772±5.076	53
	Poor	55.080±10.197	78

Variances Status	Levene's Test		t-test		
	F	Sig.	t	df	Sig.
Equality of variances	0.030	0.862	-5.922	129	0.0001
Equality of variances	0.092	0.762	-4.887	129	0.0001
Inequality of variances	26.637	0.0001	-8.383	119.8	0.0001

reported moderate economic status; (50%) had a high school diploma and Bachelor's degree, and (31%) reported elementary education. Chi-squared test results suggested no significant difference between the groups in terms of gender (X^2=0.002, P=0.965), living conditions (X^2=0.146, P=0.702), and marital status (X^2=2.915, P=0.088). Mann–Whitney U test results revealed no significant difference between the groups concerning education (Mann–Whitney U test= 1904.500, Z=-0.792, P=0.429) and health status (Mann–Whitney U test= 1816.000, Z=-1.501, P=0.133).

After matching the groups in terms of demographic characteristics, the study groups were compared with each other in terms of rumination, worry, and anxious arousal. For this purpose, the Independent Samples t-test was used (Table 1). Based on the Levene's test results, the assumption of equal variances was met for all variables, except for anxious arousal. There was a significant difference between the groups in terms of rumination, worry, and anxious arousal. This finding indicates that older people with poor sleep quality experienced significantly more rumination, worry, and anxious arousal.

4. Conclusion

Rumination, worry, and anxious arousal were significantly different in the elderlies with poor and healthy sleep quality. The obtained data suggested rumination and worry could predict sleep quality, which is consistent with previous studies [5-7]. Negative cognitive activities majorly affect sleep quality and its associated problems. This result was in agreement with those of Harvey [8]. A cognitive model presented by Harvey [9] suggested that sleep-related excessive worry and rumination cause arousal and emotional distress and attentional bias, leading to the development and maintenance of sleep disturbances. We found that rumination, worry, and anxious arousal negatively affected sleep quality. Focusing on these negative emotional components as the risk factors for the onset and continuation of sleep disorders can be useful in designing preventive interventions for sleep problems and reducing mental issues.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information; Moreover, They were allowed to leave the study whenever they wish, and if desired, the results of the research would be available to them.

Authors' contributions

All authors contributed in preparing this article.

Conflicts of interest

The authors declared no conflict of interest.

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