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The Relationship Between the Elderly's Sleep Quality and Social Support

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ABSTRACT

The elderly's sleep quality and social support are important variables related to quality of life and factors affecting successful aging. Therefore, the present study was conducted to determine the relationship between the elderly's sleep quality and social support. In this descriptive cross-sectional analytical study, the research population included 150 older people referring to elderly care centers living in Qaem Shahr,Iran, and the sampling method was convenience. To collect information, the Pittsburgh Sleep Quality Index, and the Philips' Social Support Questionnaire used as self-report. The data were analyzed using SPSS software version 26. The results of the Spearman test showed a significant negative relationship between the sleep quality score and social support. However, there is a significant relationship between the social support score and the educational level of the elderly. This study's findings emphasize the major role of social support in ensuring adequate sleep quality in the elderly. Therefore, it is recommended that policymakers in this field develop programs centered on social support to improve the sleep quality and health of the elderly.

Keywords: Stroke; Social Support; Elderly, Sleep quality

Introduction

Aging is considered a natural and inevitable biological phenomenon [1], a process that brings about profound changes in the physiological, psychological, and sociological dimensions of human life [2]. United Nations estimates that the global elderly population will increase from 350 million in 1975 to 1.1 billion by 2025 [3]. Studies have shown that poor sleep quality ranks third among the problems of the elderly, following headaches and gastrointestinal disorders, and is one of the common complaints and reasons for elderly individuals to visit doctors [2].

Poor sleep quality or daytime sleepiness in elderly individuals is associated with impaired health status, poor physical performance, illness, mortality, and reduced quality of life. Research findings indicate that insomnia can negatively affect various aspects of life, such as relationships with others and the health status of patients [4-6]. Sleep deprivation can lead to depression, reduced immune system function, and heart disease. Attention to sleep quality is

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important for two reasons: Sleep complaints are common, and poor sleep quality is a notable indicator of many diseases [7]. According to Spielman's classification, sleep quality is influenced by age, gender, education, widowhood, socioeconomic status, psychiatric and psychological disorders, occupational factors, and sleep hygiene habits [8]. It is estimated that between 30 to 45 percent of the world's population suffers from insomnia, which the amount increasing with age [8].

Epidemiological studies have shown that 57 percent of the elderly report sleep problems, while only 12 percent do not have sleep complaints [1]. The prevalence of sleep problems in the elderly includes difficulty falling asleep (10-39 percent), waking up at night (18-60 percent), and early morning awakening (18-33 percent) [2]. Studies on sleep quality among older adults in Iran have shown varying results. In the Kahrizak Care Center, 39.2% of patients had poor sleep quality according to the DSM-IV criteria. Numerous studies have investigated the prevalence of insomnia among the elderly in various regions worldwide. Studies on the quantity of sleep among African-American elderly indicated that approximately 13 percent of these individuals sleep less than four hours a night. Additionally, 14.5 percent of participants wake up three times during the night, with an average wakefulness duration of 30 min. Women have also been observed to wake up more frequently at night than men [9]. In a study of Japanese women aged 60-69, the prevalence of insomnia was 50%. In a study on older women in Taiwan, the prevalence was 63.3%, and in a study on the elderly in Egypt, it was 33.4% [10-12]. In a study of elderly Chinese individuals, poor sleep quality was reported in 41.5% of the participants [13]. In a study on the sleep quality of the elderly in the Korean population, it was found that 60% of the participants reported poor sleep quality. There is also a direct relationship between dissatisfaction with sleep quality and depression [14].

Sleep quality improvement is influenced by psychological factors such as social support and feelings of loneliness and is not merely a physical phenomenon. Research indicates that enhancing social relationships and social support significantly contributes to the health and well-being of individuals [15]. It is worth noting that social support and life satisfaction in the elderly period are average or sometimes below average [16]. Social support is examined in two forms in studies: received and perceived support. The first form focuses on the amount of support obtained. In contrast, the perceived form emphasizes an individual's assessment of the availability of social support when needed, which also involves their cognitive evaluation of relationships [17, 18].

Social support can create a sense of belonging and connection with others, leading to a positive mood, healthy behaviors, and healthy sleep habits [19]. Lack of social support drives the elderly towards feelings of loneliness and social isolation, making them more susceptible to depression. In a study conducted among the elderly in the United States, results showed that the prevalence of loneliness ranged from 53% to 84% [20]. As our country is beginning to experience aging, addressing the social needs and network of the elderly is essential. Given that few studies have been conducted on sleep quality among the elderly and that poor sleep quality is one of the aging problems, this study aims to investigate the relationship between sleep quality and perceived social support.

Materials and Methods

This descriptive-analytical cross-sectional study included a sample of men and women aged 60 and above residing in Qaem Shahr in (2023). The sample size was determined using Cochran's sample size formula for a limited population.

The researcher obtained approval from the Mazandaran University of Medical Sciences and visited the two centers, to distribute the questionnaires randomly among the elderly. After the elderly participants completed the questionnaires, they were collected.

Inclusion criteria were individuals over 60 years old, having a cognitive score above seven

according to the Abbreviated Mental Test (AMT), willingness to participate in the study, and the physical and mental ability to respond to questions and communicate. Exclusion criteria were: having apparent physical disabilities like blindness or paralysis, Alzheimer or Parkinsons disease, physical disabilities like blindness or paralysis, and inability to respond to questions and communicate.

The Pittsburgh Sleep Quality Index (PSQI), a standardized questionnaire, was used to measure the sleep quality of the elderly. Researchers worldwide, including in Iran, have confirmed its validity and reliability, with Cronbach's alpha ranging from 0.71 to 0.81. This questionnaire includes seven domains: subjective sleep quality, latency, duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction. Scores range from 0 to 21, with higher scores indicating poorer sleep quality.

The Phillips' Social Support Questionnaire was used for the social support variable. This scale includes 23 items covering three domains: family, friends, and others. The subscale for family consists of 8 items, the subscale for friends has seven items, and the subscale for others has eight items. The scoring system for this questionnaire is binary (1 and 0), with a minimum score of 0 and a maximum of 23. In a study by Pasha et al. on a sample of elderly individuals in Ahvaz, the reliability of the questionnaire was found to be acceptable, with Cronbach's alpha and split-half reliability coefficients of 0.84 and 0.82, respectively (23].

Data were collected, entered, and analyzed using SPSS software version 26. The Kolmogorov-Smirnov and Shapiro-Wilk tests were used to assess the normality of the data. Qualitative variables were described by frequency and percentage, and quantitative variables by mean and standard deviation. The significance level of the tests was set at 0.05. The Mann-Whitney and Kruskal-Wallis tests were used to compare quantitative variables. Generalized linear models were employed to evaluate sleep quality as the dependent variable about social support and other independent variables. The Spearman correlation coefficient was used to assess the relationship between qualitative variables.

Ethical Consideration

This study has an ethical code from the National Ethics System in Research, number IR.MAZUMS.REC.1402.468.

Results

This study examined 150 elderly people aged 60–80 years, with an average age of 66 ± 5.2 years. There were 56.7% women, 38.7%, had an education level below high school, 26.7 % were diploma, 17.3% were illiterate, and 17.3% had a bachelor's degree.

The average sleep quality score among the elderly was 10.3 ± 2.4. The sleep quality scores for men and women indicated that the lowest score was 7 and the highest was 18. Most individuals (83.33%) reported poor sleep quality.

The average social support score of the participants was 40 ± 2.2. Among men and women, the lowest and highest social support scores were 34 and 44, respectively.

The results of the Pearson Chi-Square and Fisher's exact tests showed a significant relationship between sleep quality and sex (Chi-square: 11.99, $p < 0.001$) and age through the comparison of sleep quality means (Chi-square: -0.06, p-value < 0.001). However, no significant relationship was found with the education variable (Chi-square 4.14, p-value 0.233)

The Pearson correlation coefficient was used in light of the normal distribution of the social support scores. There was no significant relationship between the age of the elderly and social support scores (Pearson's chi-square -0.03, p =0.66). However, there was a significant relationship between social support scores and education level of the elderly ($p < 0.05$). Then, linear regression analysis was used for prediction and considering the realization of assumptions such as the significance of the

model, which indicated the suitability of the model.

The results showed that there was no significant relationship between social support scores and age and gender variables. However, education showed a significant relationship ($p < 0.05$). In other words, for each one-unit increase in education level, the social support score increased by 0.58 units, which indicates a significant relationship (Table 1).

A logistic regression model was used to determine the effects of age, sex, education, and social support on sleep quality. The test statistic had a chi-squared distribution with a value of 6.09. Additionally, a p-value of 0.06 indicates that the hypothesis of a well-fitting logistic regression model to the data is accepted. The model explained 43% (Nagelkerke R^2) of the variance in sleep quality (poor sleep quality) and correctly classified 83% of cases. The odds of poor sleep quality were 1.22 times higher for women than for men (OR = 1.22, CI = 1.091-1.36, p-value < 0.001). Increasing age increased the odds of poor sleep quality by 12.62 times (OR = 1.62, CI = 2.94-54.23, $p < 0.001$). Furthermore, individuals with a high school diploma have 6.92 times higher odds of experiencing poor sleep quality than illiterate individuals, and this relationship was significant. However, at other education levels, the relationship was not significant (OR = 6.92, CI = 1.25-38.41, p-value = 0.027). Lastly, a decrease in social support increased the odds of having poor sleep quality by 0.68 times (OR = 0.68, CI = 0.56-0.82, $p < 0.001$). (Table 2).

Given that there is a significant relationship between sleep quality and social support, examining the relationship between various dimensions of the sleep quality questionnaire and social support scores showed that subjective sleep quality (Spearman's rho-0.239, p=0.007), sleep disturbances (Spearman's rho0.225, p=0.009), daytime dysfunction (Spearman's rho-0.416, p<0.001), and sleep delay (Spearman's rho-0.288, p<0.001) have a significant relationship with social support scores. However, there was no significant relationship between sleep duration and efficiency ($p > 0.05$)

Table 1. Results from simple linear regression fitting to examine the relationship between demographic factors and social support score

Variable	Estimation of coefficients	Standard error	t	p-value	Confidence interval	
					High	low
Sex	0.03	0.44	0.07	0.937	0.90	-0.83
Age	0.03	0.04	0.76	0.44	0.12	-0.05
Education	0.58	0.24	2.44	0.01	1.06	0.11

Table 2. Results from logistic regression fitting to examine the relationship between demographic factors and social support score on sleep quality

Variable	Estimation of coefficients	Standard error	Odds ratio	p-value	Confidence interval	
					Down	Up
Sex						
*Male	***Intended basis - reference**					
Female	0.198	0.056	1.22	0.001*	1.09	**1.36**
Age	2.536	0.744	12.62	0.001*	2.94	**54.23**
Education						
*Illiterate	***Intended basis - reference**					
High School	0.66	0.76	1.94	0.38	0.43	**8.69**
Diploma	1.93	0.87	6.92	0.027*	1.25	**38.41**
Bachelor's degree and above	0.87	1.13	2.40	0.43	0.26	**22.05**
Social support	-0.38	0.09	0.68	0.001*	0.56	**0.82**

Discussion

This study explored the relationship between sleep quality and social support among older adults attending daily care centers in Qaem Shahr.

The findings revealed that a significant proportion of the elderly population experienced poor sleep quality. This finding aligns with domestic and international studies, such as the study by Rezaei et al. in Kashan, where 90% of the elderly had poor sleep quality [24]. A study by Maghsoudi et al. in Lar also indicated poor sleep quality among the elderly. In Maghsoudi's study, 84.1% of the elderly had poor sleep quality [25]. In a study by Torabi et al., the prevalence of sleep disorders was 70.3% [26]. Park et al. [14] showed that 60% of the elderly have poor sleep quality, which is consistent with the results of this study. In a review by Irwin et al., sleep disorders among the elderly were reported to be between 35% and 75% [27], which aligns with the results of this study.

A key takeaway from this study was the inverse relationship between sleep quality and social support, where increased social support was associated with better sleep quality among older adults. Social support has emerged as a critical factor that influences sleep quality in elderly individuals.

This finding is consistent with the studies by Rakhshandelou et al. [28] and Poursharifi and Mirzaei [29, 30], which also indicated that social support could improve sleep quality among the elderly. Social support is an important aspect of elderly life, and it can be concluded that a lack of social support from family and friends affects physical and mental health, life satisfaction, and overall quality of life [31]. Rakhshandelou, citing Adams, a theorist of the direct impact the social support model states that there is a direct linear relationship between social support and health [28, 32]. Research shows that social support plays a vital role in the health of individuals in society, and its absence can lead to social isolation and even death [33, 34]. Living in nursing homes or with family and having relationships with relatives and formal and informal support systems, including family, friends, and acquaintances, are among the factors that influence social support in old age. Receiving psychological resources helps the elderly overcome the psychological problems of this period and empower them in self-care [31, 35, 36]. Therefore, social support, by creating a sense of belonging and attachment to others and fostering positive feelings and health-promoting behaviors, effectively improves sleep quality [30, 37, 38].

Based on the findings of this study, no significant relationship was found between sex and sleep quality in terms of demographic variables. This result contrasts with the study by Bahrami et al. in Damghan, which stated that elderly women take significantly longer to fall asleep than do elderly men [43]. Chen et al. reported that women had a longer sleep duration and fewer sleep disturbances than men [44]. This result could be due to differences in the research environment, including nursing home residences.

No significant relationship was observed between age and sleep quality in the elderly population. This finding is consistent with the study by Nasiri et al. in Khalkhal, which stated that there was no significant relationship between age and sleep quality in the elderly [45]. However, this contrasts with studies by Borji et al. and Poursharifi et al., which stated that there was a significant statistical relationship between sleep quality and age [29, 46]. Previous studies have indicated that sleep problems among the elderly increase with increasing age, and the aging process affects the quantity and quality of sleep through objective and subjective changes [29].

In the present study, a significant relationship was found between sleep quality and educational level at the diploma level. This finding is consistent with a study by Habibi et al. in Amol, which stated that there was a significant relationship between sleep quality and education level [47]. Habibi conducted a study on urban and rural men and women in Amol and found that illiterate and lonely

women had poorer sleep quality. These three factors had the most significant impact on sleep disturbances in the elderly, and their combination has been reported to be significant.

Regarding one of the objectives of this study, no significant relationship was found between social support and sex. This finding is consistent with those reported by Bakhtiari et al. [33]. The results of Nabavi's study show that social support is the same for both women and men. However, according to Wilges, receiving social support in old age is higher for women than men [39]. The aforementioned reviews suggest that there may be no statistical relationship between social support and gender. However, in foreign countries, owing to cultural differences, women may have a better understanding of social support.

This study found no significant relationship between social support and age. This finding contrasts with the study by Zadgan et al., who stated that there is a negative correlation between age and social support [40].

However, a significant relationship was found between social support and educational level, consistent with the study by Moghadam et al., indicating a significant relationship between social support and educational level [41]. This finding aligns with a foreign study by Naz Gul in Pakistan, which stated that education level positively affected social support for the elderly. According to Naz Gul's study, illiterate elderly individuals receive less social support due to limited communication and social isolation [42]. This finding is inconsistent with a study by Bakhtiari et al., who stated that education level did not show a significant relationship with social support [33].

These findings highlight the complex interplay between demographic factors and social support, suggesting that education may affect how social support affects sleep quality. In the present study, considering the significant relationship between sleep quality and social support, examining the relationship between various dimensions of the Pittsburgh Sleep Quality Index and social support scores showed that subjective sleep quality, sleep disturbances, daytime dysfunction, and sleep delay were significantly related to social support scores. This finding aligns with the results of other studies, including Trollux's study, which was conducted on elderly individuals with insomnia and stated that the more social support the elderly received, the fewer sleep disturbances they experienced, leading to higher sleep quality [19]. In a study by Papi et al. [31] conducted in a nursing home in Ahvaz, a negative and significant correlation was observed between social support and sleep disturbances, consistent with the findings of the present study. Considering the results of previous studies, approximately 75% of the elderly residing in nursing homes had sleep disturbances [31, 48, 49], which is a significant figure. Therefore, it is recommended that personnel involved with elderly individuals in nursing homes should plan for social support and ways to enhance sleep quality among the elderly. However, Bahrami et al.'s study in a nursing home in Damghan stated that in the scales of subjective sleep quality, sleep delay, sleep adequacy, use of sleep medications, and morning performance, the difference between the means of men and women was not statistically significant, in contrast to the findings of the present study [43]. This difference could be due to the living environment of the elderly in the two studies and the ethnic differences among the elderly. Elderly individuals living in nursing homes receive less social support from family and friends. In contrast, in the present study, the elderlies were in "day centers, " where they received more social support from their families and friends.

The present study found no significant relationship between social support and sleep efficiency or sleep duration. The lack of a significant relationship could be because elderly individuals who attend day centers spend less time in these centers than those residing in 24-hour care centers, and because they have more social support, their sleep efficiency, and sleep duration are greater. This finding contrasts with the study by Borji[46] in Ilam, which stated that deprivation and lack of social support in old age lead to stress in elderly

individuals, resulting in a delayed sleep onset and frequent awakening.

Future research should focus on several key areas to enhance our understanding of the relationship between sleep quality and social support in the elderly population. First, longitudinal studies could assess changes in sleep quality and social support over time, helping to identify causal relationships. Additionally, intervention-based research to enhance social support could reveal effective strategies for improving sleep quality, and cross-cultural comparisons are recommended to explore how cultural factors influence these variables. Investigating the role of technology, such as telehealth services and social media, in providing social support to the elderly is becoming increasingly relevant. Furthermore, examining sex differences in the relationship between social support and sleep quality could lead to more tailored interventions. Research should also consider the impact of comorbidities and mental health conditions on this relationship when designing holistic care plans. Lastly, studying environmental factors and lifestyle influences on the interplay between social support and sleep quality can lead to better sleep hygiene practices for the elderly. Addressing these areas can contribute to more effective interventions and, ultimately, improve the quality of life of this population.

Limitations

Completing the questionnaire as a self-report and the possible impact of the physical, mental, and psychological status of the elderly on their responses to the items are some of the limitations of the study. Other limitations include the accessible sampling method and limited sampling of elderly people in daycare centers, which impairs the generalizability of the results

Conclusion

In conclusion, this study emphasizes the need for targeted interventions to improve social support for the elderly. Enhancing social interactions and support mechanisms can significantly improve sleep quality, and consequently, the overall quality of life of elderly individuals. Future research should investigate the various dimensions of social support and their impact on sleep quality across different cultural and demographic contexts.

Conflict of interests

The authors have no conflict of interests related to this article

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References:

1. Ahmadi S, Khankeh H, Mohammadi F, Khoshknab F, Reza Soltani P. The effect of sleep restriction treatment on quality of sleep in the elders. Iranian Journal of Ageing. 2010;5(2):7-15.

2. Ahmarian FSF, Falsafinejad MR. The effects of group logo-therapy on life expectancy and sleep quality in elderlies of boarding center of Tehran city. Journal of Research on Religion & Health. 2015;1(3):11-8.

3. Kashfi S, KhaniJeihooni A, Farhadi S. The relationship between social and demographic factors and prevalence of depression among over 60 years old individuals, Shiraz, Iran. Hormozgan Medical Journal. 2011;14(4):319-25.

4.Bahrami Einolgasi H, Taghvaee D. Efficacy of group physical activity on sleep quality and quality of life among older adults in Kahrizak nursing home. Journal of Gerontology. 2016;1(1):29-39.

5. Jacquinet-Salord M, Lang T, Fouriaud C, Nicoulet I, Bingham A. Sleeping tablet consumption, self reported quality of sleep, and working conditions. Group of Occupational Physicians of APSAT. Journal of Epidemiology & Community Health. 1993;47(1):64-8.

6. Vollrath M, Wicki W, Angst J. The Zurich study. European archives of psychiatry and neurological sciences. 1989;239(2):113-24.

7. Avanji I, Sadat F, Adib Hajbaghery M, Afazel MR. Quality of sleep and its related factors in the hospitalized elderly patients of Kashan hospitals in 2007. FEYZ. 2009;12(4):52-60.

8. Kamel NS, Gammack JK. Insomnia in the elderly: cause, approach, and treatment. The American journal of medicine. 2006;119(6):463-9.

9. Bazargan M. Self-reported sleep disturbance among African-American elderly: the effects of depression, health status,

exercise, and social support. The International Journal of Aging and Human Development. 1996;42(2):143-60.

10. Abe Y, Mishima K, Kaneita Y, Li L, Ohida T, Nishikawa T, et al. Stress coping behaviors and sleep hygiene practices in a sample of Japanese adults with insomnia. Sleep and Biological Rhythms. 2011;9(1):35-45.

11. Ayoub AI, Attia M, El Kady HM, Ashour A. Insomnia among community dwelling elderly in Alexandria, Egypt. The Journal of The Egyptian Public Health Association. 2014;89(3):136-42.

12. Tsou M-T. Prevalence and risk factors for insomnia in community-dwelling elderly in northern Taiwan. Journal of clinical gerontology and geriatrics. 2013;4(3):75-9.

13. Luo J, Zhu G, Zhao Q, Guo Q, Meng H, Hong Z, et al. Prevalence and risk factors of poor sleep quality among Chinese elderly in an urban community: results from the Shanghai aging study. PloS one. 2013;8(11).

14. Park JH, Yoo MS, Bae SH. Prevalence and predictors of poor sleep quality in K orean older adults. International Journal of Nursing Practice. 2013;19(2):116-23.

15. Rambod M, Ghodsbin F, Beheshtipour N, Raieyatpishe A, Mohebi Noubandegani Z, Mohammadi-Nezhad A. The relationship between perceived social support and quality of sleep in nursing students. Iran Journal of Nursing (2008-5923). 2013;25(79).

16. Sadegh Moghaddam L, Delshad Novbaghi A, Farhadi A, Nazari S, Eshghizade M, Chopan F, et al. Life satisfaction in older adults: role of perceived social support. Journal of Sabzevar University of Medical Sciences. 2016;6(6): 1043-51.

17. Abu-Bader SH, Rogers A, Barusch AS. Predictors of life satisfaction in frail elderly. Journal of Gerontological Social Work. 2003;38(3):3-17.

18. Nakahara J. Effects of social activities outside the home on life satisfaction among elderly people living alone. International Journal of Psychological Studies. 2013;5(1):112.

19. Troxel WM, Buysse DJ, Monk TH, Begley A, Hall M. Does social support differentially affect sleep in older adults with versus without insomnia? Journal of Psychosomatic research. 2010;69(5):459-66.

20. Hojati H, Sharif-Nia S-H, Pur H-a, Nik-Khah F, Asayesh H. The effect of reminiscence groups on loneliness and the need for belonging in elders. Journal of Health and Care. 2011;13(1):0-.

21. Torabi A, Ilali ES, Emadian SO, Mousavinasab N. Comparison of the effect of sleep hygiene education with the cognitive and behavioral method on the quality of sleep in elderly. Journal of Gerontology. 2019;4(3):9-17.

22. Buysse, D. J., Hall, M. L., Strollo, P. J., Kamarck, T. W., Owens, J., Lee, L., Reis, S. E., & Matthews, K. A. Relationships between the Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and clinical/polysomnographic measures in a community sample. Journal of clinical sleep medicine. 2008; 4(6):563–571.

23. Keykhosravi Beygzadeh Z, Rezaei A, Khalouei Y. The relationship between social support and life satisfaction with happiness among home-dwelling older adults in Shiraz. Iranian Journal of Ageing. 2015;10(2):172-9.

24. Khalili Z, Sadrollahi A, Aseman E, Gholipour F, Abbasian M. Evaluation factors associated with sleep quality in the elderly shahid Beheshti hospital of Kashan. Journal of Geratric Nursing. 2016;2(3):32-43.

25. Maghsoudi A, Dindarloo S, Jamali T, Ghaed S, Rastgoo Z, Hassanpour AS. Comparison of sleep quality and general health in elderly individuals living in their houses and nursing homes. Sadra Medical Journal .2016; 4(3):161-72.

26. Torabi S, Shahriari L, Zahedi R, Rahmanian S, Rahmanian K. A survey the prevalence of sleep disorders and their management in the elderly in Jahrom City, 2008. Journal of Jahrom University of Medical Sciences. 2013;10(4):31.

27. Irwina AS, Amita A, Ifa N. Quality of sleep on the elderly: a systematic review. Indonesian Journal of Health Research. 2018;1(2), 27-36.

28. Rakhshanderou S. The Relationship of Perceived Social Support and Mental Health Components among Tehranian Older People by Path Analysis.

29. Poorsharifi H, Farahmand Sabet M. The relationship between social support and sleep quality with general health in residing nursing house elderly. Aging Psychology. 2015;1(1):31-9.

30. Mirzaei F, Khodabakhshi-Koolaee A. The relationship between sleep quality and perceived social support with loneliness in elderly men. Journal of Gerontology. 2018;2(4):11-20.

31. Papi S, Karimi Z, Ghaed Amini Harooni G, Nazarpour A, Shahry P. Determining the prevalence of sleep disorder and its predictors among elderly residents of nursing homes of Ahvaz city in 2017. Iranian Journal of Ageing. 2019;13(5):576-87.

32. Adams MH, Bowden AG, Humphrey DS, McAdams LB. Social support and health promotion lifestyles of rural women. Online Journal of Rural Nursing and Health Care. 2000;1(1):28-40.

33. Bakhtiyari M, Emaminaeini M, Hatami H, Khodakarim S, Sahaf R. Depression and perceived social support in the elderly. Iranian Journal of Ageing. 2017;12(2):192-207.

34. Brummett BH, Mark DB, Siegler IC, Williams RB, Babyak MA, Clapp-Channing NE, et al. Perceived social support as a predictor of mortality in coronary patients: effects of smoking, sedentary behavior, and depressive symptoms. Psychosomatic medicine. 2005;67(1):40-5.

35. Sheikhy L, Karami Mattin B, Chupani J, Hookari S, Fallah B. Evaluation the status of sleep quality in elderly people in Kermanshah city. The Scientific Journal of Rehabilitation Medicine. 2014;3(4):81-8.

36.Momeni K, Karimi H. Comparison of mental health between elderly admitted in sanitarium with elderly in sited in personal home. Journal of Kermanshah University of Medical Sciences. 2011;14(4).

37. Åkerstedt T, Fredlund P, Gillberg M, Jansson B. Work load and work hours in relation to disturbed sleep and fatigue in a large representative sample. Journal of psychosomatic research. 2002;53(1):585-8.

38. Morin CM, Rodrigue S, Ivers H. Role of stress, arousal, and coping skills in primary insomnia. Psychosomatic medicine. 2003;65(2):259-67.

39. Nabavi SH, Alipour F, Hejazi A, Rabani E, Rashedi V. Relationship between social support and mental health in older adults. Medical Journal of Mashhad University of Medical Sciences. 2014;57(7):841-6.

40. Zadegan A, Zamani S, Alikhah H. Factors Affecting Coping Self-Efficiency of Elderly Living in Nursing Homes. Medical Journal of Tabriz University of Medical Sciences. 2018;40(4):38-45.

41. Sadegh Moghaddam L, Delshad Novbaghi A, Farhadi A, Nazari S, Eshghizadeh M, Chopan Vafa F, et al. Life satisfaction in older adults: role of perceived social support. Journal of Sabzevar University of Medical Sciences. 2016;22(6):1043-51.

42. Gul SN, Chishti R, Bano M. Impact of Educational Qualification on Social Support, Social Isolation and Social and Emotional Loneliness: A Study of Senior Citizens. Peshawar Journal of Psychology and Behavioral Science. 2018;4(2):153-70.

43. Bahrami M, Dehdashti A, Karami M. A survey on sleep quality in elderly people living in a nursing home in Damghan city in 2017: A short report. Journal of Rafsanjan University of Medical Sciences. 2017;16(6):581-90.

44. Chen J-H, Lauderdale DS, Waite LJ. Social participation and older adults' sleep. Social Science & Medicine. 2016; 149:164-73.

45. Kh N, Movahed B, Jafari M, Poorhamzeh S. Evaluation of sleep quality and related factors in the elderly patients in Imam Khomeini Hospital of Khalkhal, 2016. Journal of Health. 2020;10(4):480-8.

46. Borji M, Jahani S, Shiri P. Assessing the status of sleep quality in elderly city of Ilam in 2015. Iranian Journal of Geriatric Nursing. 2016;2(3):44-53.

47. Habibi P, Moudi S, Ghadimi R. Factors Affecting Sleep Quality in Older Adults in Amol, Iran: A Causal Study. Journal of Mazandaran University of Medical Sciences. 2023;33(222):67-76.

48. Gentili A, Weiner D, Kuchibhatla M, Edinger J. Factors that disturb sleep in nursing home residents. Aging Clinical and Experimental Research. 1997; 9:207-13.

49. Ohayon M, Lemoine P. Sleep and insomnia markers in the general population. L'encephale. 2004;30(2):135-40.