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Original Article

The Social Support Theory as a Predictor of Sleep Hygiene Behaviors Among Older Adults

Maryam Zanghaneh[1], Saeed Bashirian[2], Erfan Ayubi[2], Majid Barati[4,5*], Ali Mirbeyghi[6]

[1]Department of Public Health, School of Health, Hamadan University of Medical Sciences, Hamadan, Iran
[2]Social Determinant of Health Research Center, Hamadan University of Medical Sciences, Hamadan, Iran
[3]Research Center for Health Sciences, Hamadan University of Medical Sciences, Hamadan, Iran
[4]Autism Spectrum Disorders Research Center, Hamadan University of Medical Sciences, Hamadan, Iran
[5]Department of Public Health, Asadabad School of Medical Sciences, Asadabad, Iran
[6]Department of Psychiatry, School of Medicine, Arak University of Medical Sciences, Arak, Iran

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***Corresponding author:**
Majid Barati,
Email: barati@umsha.ac.ir

Abstract

Background: Aging is associated with several health concerns, including sleep problems. Hence, the current study was conducted to determine the factors related to the performance of sleep hygiene behaviors among the elderly in Malair based on the social support theory.

Methods: Data for this cross-sectional study were collected from 298 older adults who referred to comprehensive health centers in Malair, Iran, in 2022. Participants were selected by multi-stage random sampling method. Data collection tools included demographic information, social support theory, and sleep hygiene behaviors questionnaires. Data were then analyzed by SPSS software version 18 using independent t-test, one-way ANOVA, Pearson correlation, and linear regression.

Results: According to the findings, among sleep hygiene behaviors, light and sound control behaviors to the minimum possible extent during sleep time (71.1%) and proper bedroom temperature control (68.5%) had the highest frequency. Furthermore, regular exercise behaviors such as walking outside homes in the evenings (16.4%) and examining the effect of drugs on sleep (24.8%) were the least frequent performance by the elderly. The results of linear regression analysis showed that instrumental support (β=0.297), informational support (β=0.224), and emotional support (β=0.15) are the best predictors of performing sleep hygiene behaviors. Moreover, the constructs of social support theory explained a 44.2% variance in sleep hygiene behaviors of the elderly.

Conclusion: Considering the unfavorable level of some sleep hygiene behaviors among the elderly, it seems necessary to emphasize the importance of performing sleep hygiene behaviors. It is also suggested to pay attention to instrumental, informational, and emotional support when designing educational programs to increase the amount of the performance of these behaviors.

Keywords: Aged, Emotional support, Informational support, Sleep

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Introduction

Aging is a phenomenon that is referred to as population graying or forced aging (1). The aging process and approaches to healthy living in this era are characterized by the three aspects of getting rid of illness, being active in life, and developing physical and mental skills (2). Currently, the number and proportion of people aged 60 and over is increasing in the world. In 2019, the number of people aged 60 and over was one billion, which is expected to increase to 1.4 billion by 2030 and to 1.2 billion by 2050 in the world (3). According to the report of the National Statistics Center of Iran, the number of the elderly population over 60 years of age in Iran is 8 million and 231 thousand people, which is about 9.9% of the country's population (4).

Sleep is one of the basic human needs that is necessary to maintain energy, appearance, and physical well-being (5). One of the most important issues in the lives of the elderly is the problems related to their sleep pattern because aging is the most important cause of the increase in the prevalence of sleep disorders. The important point is that following the decrease in the duration of the daily sleep and wake cycle in the elderly, a disturbance occurs in social behavior and physical problems such as falling in addition to the disturbance in the sleep pattern (6,7). The available evidence suggests that insufficient sleep ranks third among the problems of old age after headaches and digestive disorders (8).

The results of studies show that 15% to 46% of the elderly suffer from psychological symptoms and mental

disorders such as depression, worry and stress, memory loss, change in sleep patterns, feelings of loneliness, and social isolation. Epidemiological studies demonstrated that more than 57% of the elderly report one type of sleep disorder (9). It seems that the changes in sleep reflect the natural processes of development caused by primary factors such as aging, which is the most important factor causing sleep disorders in old age (10) or caused by secondary factors such as physical and mental diseases or both factors at the same time (11). In some studies, factors such as general health, social support, and anxiety have been effective in the occurrence of sleep disorders (8,10). Likewise, psychological factors such as anxiety disorders, mood disorders, post-traumatic stress disorder, psychosis, cognitive disorders, and dementia have a negative effect on sleep hygiene behaviors (12). Moreover, the presence of mental disorders and, especially untreated personality disorder in old age, can have a negative effect on the occurrence of high-risk behaviors such as drug use and smoking, as well as the onset of sleep (13). The results of Taheri and colleagues' study also showed that the causes of sleep problems in the elderly are diseases, effects of drugs, depression, anxiety disorders, and movement limitations (14).

One of the effective factors in the problems of the elderly is the amount of the social support received (15). Longitudinal and cross-sectional studies indicate a decrease in the size of the social network and the amount of social interactions in almost all the elderly (16). Social support is the help or support provided by the members of social networks to the individual (15). Social support is related to the improvement and development of psychological adjustment mechanisms and helps the elderly to feel safe, calm, and belong in stressful situations (17). Social support can be argued to improve sleep hygiene for several reasons because it creates a positive mood by developing a sense of belonging and dependence on others, improves health behaviors, and ultimately leads to the creation of healthy sleeping habits. In addition, the feeling that there is another person's support prevents social loneliness (17).

Social support refers to a person's perception that he/she is noticed and liked by others and that he/she is a valuable person from their point of view, and they will help him if he has a problem. Social support involves a subjective aspect that represents the person's ideas and perceptions of the support of others and a real (objective) aspect which is the amount of real assistance and assistance provided to the person (18). Social support can be classified into four different groups of support functions or behaviors: emotional support, which means having someone available to lean on and trust when needed, instrumental support, which refers to objective and real material assistance received by an individual from others, informational support, which means obtaining necessary information through social interactions with others, and appraisal support, which means receiving feedback from others in the field of performance that can lead to performance correction (17,18). Furthermore, the role of social support in analyzing and explaining the problems of old age has been emphasized (19).

According to the above points and given that cognitive factors related to health behaviors play an important role in the decision of the elderly to start health behaviors, the current study was conducted to determine the factors related to the performance of sleep hygiene behaviors in the elderly in Malair, Iran, based on the social support theory.

Materials and Methods

This cross-sectional descriptive study was conducted among 298 older adults who referred to comprehensive health centers in Malair in 2022. Participants were selected by multi-stage random sampling method. For this purpose, three centers (three comprehensive health centers) were randomly selected from each of the four regions of Malair (North, West, East, and South) and a total of 12 centers from the whole city. Further, by referring to the comprehensive health centers, the subjects were randomly selected from the list of elderly people in those centers. Inclusion criteria included age over 60 years, willingness to participate in the study, cognitive abilities (scoring 6 or higher in the Persian version of the short cognitive status test for the elderly), and exclusion criteria included people refusing to complete questionnaire items and incomplete questionnaires.

The data collection tool was a self-reported questionnaire made by the researcher. The questionnaire includes three parts: (*a*) demographic characteristics of the participants with 10 questions (age, gender, job, number of children, education level, marital status, insurance, economic status, residence status, underlying disease, and smartphone and internet access), (*b*) social support theory constructs, and (*c*) sleep hygiene behavior questionnaire. To design the items of social support theory constructs, the sample questionnaire of similar studies was used, and the validity and reliability of the items were checked and confirmed (20).

This study measured the constructs of perceived emotional support with 6 items (e.g., " *Do you have someone to talk to about worries and stressful events before bed?*"), perceived informational support with 6 items (e.g., "*To what extent do doctors guide you in solving sleep problems?*"), perceived instrumental support with 6 items (e.g., *"Do you have adequate insurance coverage for the treatment of sleep-related problems?"*), and perceived appraisal support with 3 items (e.g., *"Family members or people around you help you measure your ability or independence in performing sleep hygiene behaviors."*). Each item was measured with a 3-point Likert scale ranging from always (score 3) to never (score 1), with a higher score indicating higher emotional, informational, instrumental, and evaluation support. Sleep hygiene behaviors were also measured through 12 items (e.g., *"restricting fluid intake from evening onwards"*) with a 3-point Likert scale of always (score 2), sometimes (score 1), and no (score zero).

The content validity of the questionnaire was done by estimating the content validity ratio and content validity index for the items by 10 health education and promotion experts. The reliability of the questionnaire was also evaluated using the internal and external consistency method among a group of 30 elderly people within two weeks. The internal correlation coefficient (Cronbach's alpha) was calculated for emotional support (0.88), informational support (0.85), instrumental support (0.91), appraisal support (0.90), and sleep health behaviors (0.80). Then, the collected data were entered into SPSS software version 18 and analyzed using independent t-tests, one-way analysis of variance, Pearson's correlation test, and Linear regression.

Results

The average age of the study participants was 68.3 ± 6.7 years, and the age range was 60 to 95 years. Most people were in the age group of 60-70 years (68.1%), and 61.7% of the study participants were women. Furthermore, 39.9% of the subjects in the study were illiterate, and 27.9% had elementary education. Based on the results, among the sleep health behaviors in Table 1, the behaviors of controlling light and sound to the minimum possible extent during sleep with (71.1%) and controlling the appropriate temperature of the bedroom (68.5%) had the highest frequency, while walking outside the house (16.4%) and controlling the effect of drugs on sleep (24.8%) were the least frequently performed behaviors by the older adults.

The association between demographic information and sleep hygiene behaviors is presented in Table 2. The results of one-way analysis of a variance showed that there is a statistically significant association between age, economic status, and residence status with sleep hygiene behaviors ($P < 0.05$). The results of Tukey's post hoc test also revealed that sleep hygiene behaviors among people aged 60-70 years are significantly lower than those of people aged 71-80 years ($P = 0.003$). Moreover, sleep hygiene behaviors were significantly higher among people who lived with their spouses and children compared to people who lived alone ($P = 0.014$). Additionally, the elderly with good and moderate status significantly reported better sleep hygiene behaviors ($P < 0.05$) compared to the elderly with poor economic status. In addition, the results of the independent t-test indicated that sleep hygiene behaviors are statistically significantly associated with having health insurance and a smartphone and internet access, so the average score of sleep hygiene behaviors among subjects who had health insurance and had a smartphone and internet was significantly higher than that of other participants ($P < 0.05$).

The mean, standard deviation, and Pearson correlation coefficients for the constructs of social support theory are presented in Table 3. According to the findings, the status of social support theory constructs and sleep hygiene behaviors were estimated at a moderate level. Furthermore, there was a direct correlation between sleep hygiene behaviors and social support theory constructs. ($P < 0.001$).

The result of linear regression analysis of social support theory constructs in predicting sleep hygiene behaviors is presented in Table 4. According to the findings, instrumental support ($\beta = 0.297$), informational support ($\beta = 0.224$), and emotional support ($\beta = 0.15$) were the best predictors of performing sleep hygiene behaviors among the elderly, respectively, and the total constructs of social support theory explained 44.2% of the variance of sleep hygiene behaviors among the elderly.

Discussion

This study was conducted to determine factors related to sleep hygiene behaviors in the elderly based on social support theory. According to the findings, the behavior of controlling light and sound to the minimum possible level during sleep and controlling the appropriate temperature of the bedroom had a favorable condition among the elderly. In addition, the behaviors of walking outside the house and controlling the effect of medications used by the

Table 1. Frequency Distribution of Sleep Hygiene Behaviors among Participants (N = 298)

Sleep Hygiene Behaviors	Always	Sometimes	Never
	No. (%)	No. (%)	No. (%)
Avoid drinking tea, coffee, and cigarettes before going to bed	138 (46.3)	86 (28.9)	74 (24.8)
Avoiding naps after 2 pm and limiting naps to just one nap of less than 30 minutes, especially after lunch	78 (26.2)	124 (41.6)	96 (32.2)
Investigating the effect of drugs on sleep	74 (24.8)	74 (24.8)	150 (50.3)
Avoid reading or thinking after going to bed	131 (44)	73 (24.5)	94 (31.5)
Bedroom temperature control	204 (68.5)	72 (24.2)	22 (7.4)
Light and sound control to the minimum possible during sleep	212 (71.1)	66 (22.1)	20 (6.7)
Eating small meals between main meals, in case of hunger	171 (57.4)	103 (34.6)	24 (8.1)
Avoid eating heavy food before going to bed at night	146 (49)	80 (26.8)	72 (24.2)
Limit fluid intake from evening onwards	113 (37.9)	77 (25.8)	108 (36.2)
Talking about worries and stressful events before going to sleep with relatives	76 (25.5)	168 (56.4)	54 (18.1)
Regular exercise such as walking outdoors in the evenings	49 (16.4)	116 (38.9)	133 (44.6)
Exposure to natural light during the day, especially in the afternoon, for at least one to two hours	123 (41.3)	112 (37.6)	63 (21.1)

Table 2. Association between Demographic Variables and Sleep Hygiene Behaviors (N = 298)

Variables	Mean	Standard Deviation	*P* Value
Age (y)			0.005
60–70	13.39	5.1	
71–80	15.51	4.8	
>80	14.12	4.3	
Gender			0.493
Male	14.18	5.2	
Female	13.78	4.7	
Marital status			0.848
Single	13.94	4.9	
Marriage	14.07	5.1	
Degree			0.211
Illiterate	13.58	4.9	
Under diploma	14.13	5.1	
Diploma	13.86	5.1	
Academic degrees	16.01	5.6	
Economic status			<0.001
Good	15.69	4.8	
Moderate	14.01	5.1	
Weakly	11.16	4.2	
Residence status			0.020
Single	12.81	5.3	
With wife	14.63	4.7	
With wife and children	14.12	4.9	
With children	15.01	6.1	
Number of children			0.167
No children	10.80	2.3	
1 to 2 children	13.35	4.7	
3 to 5 children	14.31	4.8	
6 children and more	14.01	5.6	
Insurance			<0.001
Yes	14.72	4.6	
No	11.79	5.6	
Underlying disease			0.786
Yes	14.10	5.1	
No	13.93	4.9	
Smartphone and internet access			0.027
Yes	15.37	5.5	
No	13.66	4.8	

elderly on sleep had an unfavorable situation. Regarding the importance of environmental factors of light, temperature, and sound, these results are consistent with the study by Shohani et al who investigated the positive effect of environmental factors such as light and temperature on sleep disorders in the elderly (21). In Taherpour and colleagues' study, the sleep health behaviors of the elderly such as long naps during the day, caffeine consumption before sleep, inactivity, and high anxiety level before sleep were reported at an unfavorable level (22).

In the present study, a small percentage of the elderly were fully engaged in sleep hygiene behaviors, which is evident in other studies such as Moradi et al and Taheri and colleagues' studies (14,23). In explaining this feeling of reluctance to perform sleep hygiene behaviors, we can also point to the normalization of bad habits and the lack of sufficient emotional and informational support, which may be considered as the reasons for the existence of wrong sleep hygiene behaviors in people. The results of the present study revealed a significant association between sleep hygiene behaviors and age, suggesting that with increasing age, sleep hygiene behaviors are more observed, which is similar to the results of the study by Poorsharifi et al (24). It seems that an increase in age increases the elderly's awareness and need to search for information and internal acceptance of emotional and informational support, which makes them more sensitive to performing sleep hygiene behaviors for better quality sleep. In this research, a statistically significant association was observed between economic status and lifestyle with sleep hygiene behaviors. Elderly people with good and moderate economic status compared to elderly people with poor economic status reported more favorable sleep hygiene behaviors, which was consistent with the results of Grandner et al and Smagula and colleagues' studies (25,26). This finding shows the direct impact of socioeconomic factors on sleep hygiene behaviors and emphasizes addressing social support in poorer communities.

In the present study, sleep hygiene behaviors among people who live with their spouses and children were significantly higher compared to people who live alone. This finding is similar to the results of Zeng and colleagues' study who reported that elderly people who lived with others have higher sleep health behavior compared to widowed and alone people (27). Moreover, the average score of sleep hygiene behaviors among the participants

Table 3. Descriptive Statistics and Inter Correlations between the Theory of Social Support Constructs (N = 298)

Variables	1	2	3	4	5	Mean (±SD)	Range	Percent
1. Informational support	1	0.638**	0.686**	0.669**	0.582**	5.78(±3.1)	0-12	48.1
2. Instrumental support		1	0.759**	0.670**	0.618**	6.75(±4.1)	0-12	56.2
3. Emotional support			1	0.658**	0.591**	7.08(±3.4)	0-12	59
4. Appraisal support				1	0.539**	3.26(±2.1)	0-6	54.3
5. Behavior					1	14.03(±5.1)	0-24	58.4

Note. SD: Standard deviation.
** $P<0.01$.

Table 4. Linear Regression of Constructs of Theory of Social Support in Predicting Sleep Hygiene Behaviors (N = 298)

Variables	B	SE	β	*P* Value	95% CI
Informational support	0.365	0.106	0.224	<0.001	(0.156-0.575)
Instrumental support	0.374	0.090	0.297	<0.001	(0.197-0.550)
Emotional support	0.229	0.108	0.157	0.034	(0.017-0.441)
Appraisal support	0.208	0.163	0.083	0.203	(-0.112-0.528)
Constant	7.802	0.517	---	<0.001	(6.065-8.099)

Note. β: Beta; B: Unstandardized regression coefficient; SE: Standard error; CI: Confidence interval; Adjusted R squared = 0.442.

with health insurance and having a smartphone and internet was significantly higher than that of other participants. Similar results were reported in Handayani and colleagues' study (28). Health insurance as a social tool support can lead to timely referrals of the elderly to solve sleep disorders. Access to a phone with Internet through education and informational support can improve sleep hygiene behaviors, and it also increases emotional support by increasing the elderly's communication with their relatives.

Another finding of the present study also indicated that the condition of social support theory constructs is estimated at an average level. Additionally, a significant correlation was observed between sleep hygiene behaviors and all constructs of social support theory, which was in line with the study by Mottaghi et al (29). According to the findings, instrumental, informational, and emotional support constructs were the best predictors of performing sleep hygiene behaviors, respectively. These findings are consistent with the results of similar studies in the field of elderly health (30-32). The results of the study by Moeini et al also revealed that emotional, informational, evaluation, and instrumental support are predictors of happiness behavior in the elderly in Hamedan (20). Social support is a key psychological and social factor that reduces people's vulnerability to complications caused by stress. The quality, quantity, and type of social support are different in social layers so that in family and close friends, support will be more emotional and instrumental, but in more formal groups, it will appear in informational and instrumental form. In fact, due to closer and informal relationships, the elderly expect greater emotional support from the family. It seems that social support and support at any level and by any person, group, and organization can improve and promote the healthy lifestyle of the elderly and allow this group to go through this period of life with more hope and a higher spirit.

One of the limitations of the present study is the descriptive method. Therefore, it is suggested that other studies are conducted in the field to maintain and improve sleep hygiene behaviors in the elderly. In addition, investigating the role of the mediating variable of intention in examining sleep hygiene behaviors can also lead to obtaining useful information in this field in future studies.

Conclusion

The results of this study suggested that the constructs of social support theory have a significant impact on predicting the sleep health behaviors of the elderly. Furthermore, instrumental support, informational support, and emotional support are important in health planning. In the present study, changing sleep hygiene behaviors depends on informational support (according to the role of age and access to virtual information network through the internet), instrumental support (according to the role of economic status and having health insurance), and emotional support (according to the role of living with other family members).

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Authors' Contribution

Conceptualization: Maryam Zanghaneh, Majid Barati.
Data curation: Maryam Zanghaneh, Ali Mirbeyghi.
Formal analysis: Erfan Ayubi, Majid Barati.
Funding acquisition: Maryam Zanghaneh, Majid Barati.
Investigation: Maryam Zanghaneh, Majid Barati.
Methodology: Saeed Bashirian, Erfan Ayubi.
Project administration: Maryam Zanghaneh, Majid Barati.
Resources: Majid Barati.
Software: Erfan Ayubi.
Supervision: Majid Barati.
Validation: Majid Barati, Saeed Bashirian.
Visualization: Maryam Zanghaneh, Majid Barati.
Writing–original draft: Maryam Zanghaneh, Majid Barati.
Writing–review & editing: Maryam Zanghaneh, Majid Barati, Ali Mirbeyghi.

Competing Interests

This article has no conflict of interests.

Ethical Approval

This study was approved by the Research Ethics Committee of Hamadan University of Medical Sciences (ID: IR.UMSHA.REC.1400.972).

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References

1. Addae-Dapaah K, Juan QS. Life satisfaction among elderly households in public rental housing in Singapore. Health. 2014;6(10):1057-76. doi: 10.4236/health.2014.610132.
2. Spirduso WW, Cronin DL. Exercise dose-response effects on quality of life and independent living in older adults. Med Sci Sports Exerc. 2001;33(6 Suppl):S598-608. doi: 10.1097/00005768-200106001-00028.

3. Department for Social Determinants of Health, the Demographic Change and Healthy Ageing (DHA) Unit. WHO; 2016. Available from: https://www.who.int/health-topics/ageing.
4. Moeini B, Rezapor Shakolaei F, Etesami Frad T, Roshanaei G, Abasi H. Relationship between quality of life and life style health promotion behaviors in the elderly. J Educ Community Health. 2021;8(2):105-10. doi: 10.52547/jech.8.2.105.
5. LeBlanc M, Beaulieu-Bonneau S, Mérette C, Savard J, Ivers H, Morin CM. Psychological and health-related quality of life factors associated with insomnia in a population-based sample. J Psychosom Res. 2007;63(2):157-66. doi: 10.1016/j.jpsychores.2007.03.004.
6. Jones ED, Beck-Little R. The use of reminiscence therapy for the treatment of depression in rural-dwelling older adults. Issues Ment Health Nurs. 2002;23(3):279-90. doi: 10.1080/016128402753543018.
7. Ghobadimehr A, Pasha H, Hosseini SR, Bijani A. Relationship between sleep quality and falls among elderly people in Amirkola, Northern of Iran. J Educ Community Health. 2022;9(2):94-100. doi: 10.34172/jech.2022.14.
8. Maghsoudi A, Dindarloo S, Jamali T, Ghaed S, Rastgoo Z, Hassanipour Azgomi S. Comparison of sleep quality and general health in elderly individuals living in their houses and nursing homes. Sadra Med Sci J. 2016;4(3):161-72. [Persian].
9. Malakouti SK, Foroughan M, Nojomi M, Ghalebandi MF, Zandi T. Sleep patterns, sleep disturbances and sleepiness in retired Iranian elders. Int J Geriatr Psychiatry. 2009;24(11):1201-8. doi: 10.1002/gps.2246.
10. Quan SA, Li YC, Li WJ, Li Y, Jeong JY, Kim DH. Gender differences in sleep disturbance among elderly Koreans: Hallym Aging Study. J Korean Med Sci. 2016;31(11):1689-95. doi: 10.3346/jkms.2016.31.11.1689.
11. Crowley K. Sleep and sleep disorders in older adults. Neuropsychol Rev. 2011;21(1):41-53. doi: 10.1007/s11065-010-9154-6.
12. Normal sleep and sleep wake disorder. In: Sadock BJ, Sadock VA, Ruiz P, eds. Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry. 11th ed. Wolters Kluwer; 2015. p. 1823-920.
13. Sleep Disorder. In: Sadock BJ, Sadock VA, Ruiz P, eds. Kaplan and Sadock's Comprehensive Textbook of Psychiatry. 10th ed. Wolters Kluwer; 2017. p. 1050-1055.
14. Taheri Tanjani P, Khodabakhshi H, Etemad K, Mohammadi M. Effect of sleep hygiene education on sleep quality and general health of elderly women with sleep disorders living in Birjand city, Iran, in 2016. Iran J Ageing. 2019;14(2):248-59. doi: 10.32598/sija.13.10.290. [Persian].
15. Babapour M, Raheb G, Eglima M. The relationship between social support and life satisfaction among elderly nursing home residents in Tehran. Iran J Ageing. 2014;9(1):6-13. [Persian].
16. Lang FR, Baltes MM. Being with people and being alone in late life: costs and benefits for everyday functioning. Int J Behav Dev. 1997;21(4):729-46. doi: 10.1080/016502597384640.
17. Leblanc MF, Desjardins S, Desgagné A. The relationship between sleep habits, anxiety, and depression in the elderly. Nat Sci Sleep. 2015;7:33-42. doi: 10.2147/nss.s77045.
18. Glanz KA, Rimer BK, Viswanath K. Health Behavior and Health Education: Theory, Research, and Practice. John Wiley & Sons; 2008. p. 20 .
19. Taghdisi MH, Doshmangir P, Dehdari T, Doshmangir L. Influencing factors on healthy lifestyle from viewpoint of ederly people: qualitative study. Iran J Ageing. 2013;7(4):47-58. [Persian].
20. Moeini B, Barati M, Farhadian M, Ara MH. The association between social support and happiness among elderly in Iran. Korean J Fam Med. 2018;39(4):260-5. doi: 10.4082/kjfm.17.0121.
21. Shohani M, Azami S, Seidkhani H, Gholami Z. The effects of environmental modifications on improving the sleep quality of the elderly hospitalized in the cardiac care unit. Shiraz E Med J. 2021;22(8):e106830. doi: 10.5812/semj.106830.
22. Taherpour M, Mirzaei-Alavijeh M, Khazaie H, Hosseini SN, Fatahi M, Karimi N, et al. Socio-cognitive determinants of healthy sleep behaviors among Iranian elderly: application of the theory of planned behavior. J Educ Community Health. 2022;9(2):80-5. doi: 10.34172/jech.2022.12.
23. Moradi M, Mohammadzadeh H, Noori R, Basiri Moghadam K, Sadeghmoghadam L. Effect of a sleep hygiene education program using telephone follow-up method on the sleep quality of the elderly. Iran J Ageing. 2021;15(4):484-95. doi: 10.32598/sija.15.4.2895.1. [Persian].
24. 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. [Persian].
25. Smagula SF, Stone KL, Fabio A, Cauley JA. Risk factors for sleep disturbances in older adults: evidence from prospective studies. Sleep Med Rev. 2016;25:21-30. doi: 10.1016/j.smrv.2015.01.003.
26. Grandner MA, Patel NP, Gehrman PR, Xie D, Sha D, Weaver T, et al. Who gets the best sleep? Ethnic and socioeconomic factors related to sleep complaints. Sleep Med. 2010;11(5):470-8. doi: 10.1016/j.sleep.2009.10.006.
27. Zeng J, Liu M, Wu L, Wang JH, Yang SS, Wang YY, et al. [A systematic review and meta-analysis on influencing factors related to the quality of sleep among community population aged 60 and older, in China]. Zhonghua Liu Xing Bing Xue Za Zhi. 2016;37(12):1670-7. doi: 10.3760/cma.j.issn.0254-6450.2016.12.022. [Chinese].
28. Handayani PW, Dartanto T, Moeis FR, Pinem AA, Azzahro F, Hidayanto AN, et al. The regional and referral compliance of online healthcare systems by Indonesia National Health Insurance agency and health-seeking behavior in Indonesia. Heliyon. 2021;7(9):e08068. doi: 10.1016/j.heliyon.2021.e08068.
29. Mottaghi R, Maredpour A, Karamin S. A comparison study on the effectiveness of acceptance and commitment therapy and sleep hygiene education on sleep quality and physiological parameters in older adults. Iran J Ageing. 2022;17(2):170-85. doi: 10.32598/sija.2022.1438.3. [Persian].
30. Faramarzi M, Hosseini SR, Cumming R, Kheirkhah F, Parsaei F, Ghasemi N, et al. A negative association between social support and depression in the elderly population of Amirkola city. Br J Med Med Res. 2015;8(8):707-16. doi: 10.9734/bjmmr/2015/15111.
31. Hosieni SM, Rezaei A, Keykhosravi Beygzadeh Z. A comparison of old men and women's social support, life satisfaction, happiness and depression. Quarterly Journal of Woman and Society. 2011;2(8):143-62. [Persian].
32. Nguyen AW, Chatters LM, Taylor RJ, Mouzon DM. Social support from family and friends and subjective well-being of older African Americans. J Happiness Stud. 2016;17(3):959-79. doi: 10.1007/s10902-015-9626-8.