

Research Paper

Relationship of Sleep Quality with Mental Health and Blood Sugar Control in Elderly People with Diabetes Mellitus



Reza Fadayeivan¹, Malihe Bahrami², Marzieh Mohamadzadeh³, Vahidreza Borhaninejad^{4*}

1. Iranian Research Center on Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.
2. Faculty of Nursing and Midwifery, Islamic Azad University, Shahr-e Babak Branch, Kerman, Iran.
3. School of Health, North Khorasan University of Medical Sciences, North Khorasan, Iran.
4. Social Determinants of Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran.



Citation: Fadayeivan R, Bahrami M, Mohamadzadeh M, Borhaninejad. [Relationship of Sleep Quality with Mental Health and Blood Sugar Control in Elderly People with Diabetes Mellitus (Persian)]. Iranian Journal of Ageing. 2020; 14(4):380-391. <https://doi.org/10.32598/sija.13.10.120>

doi <https://doi.org/10.32598/sija.13.10.120>



Received: 29 Apr 2018
Accepted: 09 Jul 2018
Available Online: 01 Jan 2020

Key words:
 Aged, Mental health, Blood sugar control, Sleep quality, Diabetes mellitus

ABSTRACT

Objectives Diabetes mellitus and mental health can affect the sleep quality of older people. The aim of this study was to examine association of sleep quality with mental health and blood sugar control in elderly people with diabetes.

Methods & Materials This cross-sectional study was conducted in 2017 on 200 seniors with type 2 diabetes referred to Shahid Bahonar and Shafa hospitals in Kerman, Iran who were selected using a convenience sampling technique. Data were collected using the Kessler Psychological Distress Scale (K6), Yield questionnaire and Pittsburgh Sleep Quality Index (PSQI) questionnaire. The data were analyzed using chi-square test, Pearson correlation test and multivariate logistic regression analysis.

Results The mean age of participants was 69.33±9.65 years. Most of them were female (n=98, 55.4%). Their overall sleep quality was poor (6.9±4.5). More than half of them had moderate level of mental distress (54.8%) and psychological wellbeing (46.3%) and poor blood sugar control (65.5%). Mental health and blood sugar control had a significant effect on the sleep quality of elderly people with diabetes (P<0.05).

Conclusion Sleep disorders is more common in elderly people with diabetes which can be affected by their mental health and blood sugar control. Health care providers should pay more attention to the sleep quality of these patients, and provide appropriate educational intervention. Since the variables of psychological distress, psychological well-being and blood sugar control explained 19% of sleep disorders, further studies are needed to identify other factors affecting their sleep disorders.

Extended Abstract

1. Introduction

D iabetes, as the most common hormone deficiency in the elderly people, can lead to many physical and psychological problems in this population [1]. One of the

most common problems caused by diabetes is sleep disorder, which puts patients at greater risk of sleep disorders compared to the normal population [2]. Sleep disorder has been reported to be associated with an increased incidence of diabetes or inadequate blood sugar control in diabetic patients [3-5]. Sleep quality in older people with diabetes may also be impaired due to psychological problems such as depression [6, 7]. Investigating the factors affecting the

* Corresponding Author:

Vahidreza Borhaninejad, PhD.

Address: Social Determinants of Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran.

Tel: +98 (913) 1971196

E-mail: v.borhaninejad@kmu.ac.ir

4. Conclusion

The findings of this study indicated the effect of mental health and optimal blood sugar control on the prevention of sleep disorders in the elderly people. Given the increasing population of older people and the higher prevalence of diabetes in them, attention to diabetes control and improvement of their mental health and sleep quality should be considered by health care policy makers. It is recommended that in addition to adopting self-care strategies, mental health services should be provided to these patients along with other services they receive. It is also necessary to improve the quality of sleep in diabetic elderly people using effective non-pharmacological methods such as sleep health education. Regarding the importance of sleep disorder, interventional studies are recommended to investigate the effect of psychological and educational interventions and further studies should be conducted on other factors affecting sleep disorders.

Ethical Considerations

Compliance with ethical guidelines

Ethical permission was obtained from the institutional review board of Kerman University of Medical Sciences (IR.KMU.REC.1396.1380).

Funding

This project was supported by Social Determinants of Health Research Center, Vice Chancellor for Research at the Kerman University of Medical Sciences.

Authors' contributions

Conceptualization, supervision, methodology: Reza Fadayevatan nad Vahidreza Borhaninejad; Writing-original draft, investigation: All author; Writing-review & editing, funding acquisition, resources: Vahidreza Borhaninejad.

Conflicts of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgements

The authors would like to thank the staffs of diabetes-related centers in Kerman for their kind cooperation in this study.