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Letter to the Editor / Editöre Mektup

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Evaluating sleep quality in elderly rheumatoid arthritis: Strengths and shortcomings

Yaşlı romatoid artritte uyku kalitesinin değerlendirilmesi: Güçlü ve zayıf yönler

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Dear Editor,

I read with great interest the article "Sleep problems in elderly patients with rheumatoid arthritis: Contributing factors and quality of life implications" published in the Ulusal Romatoloji Dergisi.[1] This study makes a valuable contribution to our understanding of the prevalence of sleep disturbances in rheumatoid arthritis (RA) patients and the impact of these disturbances on patients' quality of life. However, several aspects of the article warrant critical evaluation.

The study's strengths are immediately apparent in its methodical approach. The authors clearly defined their objective: to identify factors contributing to poor sleep quality in elderly RA patients and to assess the impact of sleep quality on their quality of life. To achieve this, they employed a cross-sectional design, recruiting patients aged 65 years and older from a rheumatology outpatient clinic. This focus on an older population is particularly commendable, given the increasing prevalence of RA with age and the unique challenges faced by elderly individuals with chronic conditions.[2] The choice of assessment tools further underscores the study's rigor. The Pittsburgh sleep quality index (PSQI), a widely validated instrument, was used to evaluate sleep quality. This allowed for a standardized and quantifiable measure of sleep disturbances. Disease activity in RA was assessed using the disease activity score-C-reactive protein score, a standard clinical measure, ensuring that disease severity was accurately accounted for. Quality of life was evaluated with the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30, providing a comprehensive assessment of various domains of well-being. The inclusion of these validated tools strengthens the reliability and validity of the study's findings. The statistical analysis was also appropriate and well-executed. The authors used both descriptive and inferential statistics to analyze their data. They appropriately employed parametric and non-parametric tests based on the distribution of the data. Most notably, the use of multivariate regression analysis to identify independent predictors of poor sleep quality is a significant strength. This sophisticated statistical technique allowed the researchers to control for potential confounders and isolate the factors that most strongly influence sleep quality in this population. The findings of the study have important clinical implications. The identification of older age, being single, active RA, and depression as independent risk factors for poor sleep quality highlights the need for clinicians to proactively assess and manage these issues in elderly RA patients. The study also demonstrates the significant impact of poor sleep quality on various domains of quality of life, including physical,

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emotional, and role functioning. This underscores the importance of addressing sleep disturbances not only to improve sleep itself but also to enhance patients' overall well-being.

Despite its strengths, the study is not without limitations that warrant critical evaluation. The most significant limitation is the cross-sectional design. As the authors themselves acknowledge, this design provides a snapshot of the relationship between sleep quality and other variables at a single point in time. Consequently, it is impossible to determine the direction of causality. For example, while the study found a strong association between depression and poor sleep quality, it cannot tell us whether depression causes sleep disturbances or whether sleep disturbances contribute to depression. Longitudinal studies, which follow patients over time, are needed to elucidate these causal relationships. The generalizability of the findings is another concern. The study was conducted at a single tertiary healthcare institution, and the sample size (n=77) was relatively small. Patients attending a tertiary centre may have more severe or complex RA than those managed in primary care settings.[3] Furthermore, the study population's demographic characteristics may not be representative of all elderly RA patients. Therefore, caution is warranted when extrapolating these findings to broader populations. While the authors briefly mention the role of inflammation and neuroendocrine dysregulation, a concise discussion of key cytokines such as tumor necrosis factor-α, interleukin (IL)-1, and IL-6 could have enriched the mechanistic context. These pathways may represent important targets for therapeutic interventions aimed at improving sleep quality in RA.[4] Understanding these mechanisms could lead to the development of targeted therapies for sleep disturbances in RA.[5] The assessment of sleep quality relied solely on the PSQI, a subjective measure. While PSQI is a valuable tool, it is susceptible to recall bias and may not fully capture the complexity of sleep disturbances.[6] For instance, Fabbri et al.[6] emphasized that subjective instruments like the PSQI often diverge from objective measurements such as actigraphy and polysomnography, potentially limiting their diagnostic precision. The inclusion of objective measures of sleep, such as polysomnography or actigraphy, could have provided a more comprehensive and accurate assessment of sleep quality. Finally, the study could have benefited from a more in-depth analysis of the relationship between RA treatment and sleep quality, as this aspect was not comprehensively addressed in the published article. While the authors mention the medications used by the patients, they do not extensively discuss the potential impact of these medications on sleep. This is particularly important given that corticosteroids, such as dexamethasone, have been shown to induce dose-dependent sleep disturbances, as demonstrated in recent experimental studies.[7] Corticosteroids, for example, are known to cause insomnia, while other RA medications may have different effects on sleep.[7] A detailed analysis of how specific medications influence sleep quality in this population would be clinically relevant.

In conclusion, the study by Kayahan Satış and Satış[1] provides valuable insights into the prevalence of sleep disturbances and their impact on quality of life in elderly RA patients. The authors are to be commended for their rigorous methodology and the clinical relevance of their findings. However, the limitations of the cross-sectional design, the small sample size, the lack of mechanistic exploration, the reliance on subjective sleep measures, and the limited analysis of treatment-related effects on sleep should be acknowledged. Future research should address these limitations to further advance our understanding of sleep disturbances in RA. Longitudinal studies are needed to establish causal relationships. Larger, multi-centre studies with more diverse patient populations would enhance the generalizability of the findings. Mechanistic studies exploring the specific inflammatory and neurobiological pathways involved in sleep disturbances in RA are warranted. The inclusion of objective sleep measures, such as polysomnography and actigraphy, would provide a more comprehensive assessment of sleep quality. Finally, a detailed analysis of the impact of RA treatments on sleep is crucial for optimizing patient care. By addressing these limitations and pursuing further research, we can gain a more comprehensive understanding of sleep disturbances in RA, and develop more effective strategies to improve the sleep and overall well-being of affected individuals.

Footnotes

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