

Retire for Better Sleep?

Commentary on Vahtera et al. Effect of retirement on sleep disturbances: the GAZEL prospective cohort study. *Sleep* 2009;32:1459-1466.

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DESPITE THE INCREASING AGING POPULATION AND HIGH PREVALENCE OF SLEEP DISORDERS IN THE ELDERLY, THERE EXISTS A PAUCITY OF LITERATURE regarding the effects of retirement on sleep quantity and quality. In this issue of the *SLEEP*, Vahtera and colleagues¹ report results from a large, prospective cohort (GAZEL, GAZ and ELectricite) examining the relationship of retirement with sleep disturbance in 14,714 individuals working for a French gas and electric company. The authors found a 26% lower odds of sleep disturbance in the 7-year post-retirement phase, compared to the 7-year pre-retirement period.¹ These findings are of particular interest, given the justifiable bases to hypothesize that retirement may represent a state of transition perceived as a life stressor resulting in poor sleep, or conversely, that the removal of work-related stress associated with retirement may result in improved sleep.

The authors should be commended for pursuing this line of investigation given that very little attention has been paid to the impact of retirement on sleep, particularly in large-scale studies. Findings from a study involving 40 individuals who underwent objective sleep data collection including sleep diaries and multiple night sleep lab recordings showed no association between sleep architecture and employment status.² Retirement, however, was associated with an increased amount of sleep, though surprisingly it was a result of earlier bedtimes rather than later awakenings.² These findings are consistent with the current results of the GAZEL study¹ showing improvement in sleep post-retirement, and suggest that these improvements in sleep may be related to increased quantity rather than quality. In another study based on data from the GAZEL cohort, drowsy driving was noted to decrease after retirement; however, it is unclear whether this was due to retirees obtaining more quantity sleep.³ Contrary to the above findings, a Japanese study reported that sleep disturbances were associated with retirement from work.⁴ Therefore, results from the little data published so far have been discrepant, which may be due to many reasons including variable methods of defining and ascertaining sleep disturbance, and cultural differences regarding the age of retirement, how retirement is perceived and degree of work-related stress, e.g., bullying in the workplace.

Given the noted strong association of sleep disturbances prior to retirement with work related factors (e.g., high psychological and physical job demands and low job satisfaction), Vahtera and colleagues conclude that the improvement in post-retirement sleep is likely at least in part attributable to removal of these work-related stressors.¹ Although recent data indicate that bullying in the workplace is associated with an approximate 2-fold increased odds of sleep disturbance after taking into account potential confounders,^{5,6} this specific facet of work-related stress was not investigated in the current study. However, the most profound reduction in post-retirement sleep disturbance was found to occur in those with self-reported depression or mental fatigue. In contrast, individuals who retired based upon health grounds had more sleep disturbance after retirement compared to before retirement.¹

The findings of Vahtera and colleagues¹ appear to demonstrate important sex-based differences with women less likely to note improvement in sleep post-retirement. Possible reasons for this include competing risk factors or contributors to poor sleep in women as opposed to men such as increasing household and caretaking responsibilities post-retirement, and potentially hormone-related changes in the post-menopausal state, as 30% of the sample was less than 54 years of age. Women also comprised only 20% of the sample studied; therefore, the possibility of sample size limitation is a consideration. Also, insomnia symptoms are more common in women and the risk rises with increasing age, therefore female sex and older age may represent a greater intrinsic susceptibility to sleep difficulties independent of extrinsic factors such as retirement.

Strengths of the study of Vahtera et al include the large cohort, novel area of study, the ascertainment of a variety of covariates and the prolonged length of time that the data was collected (~14 years) which provides the ability to capitalize on repeatability of measures over this period of time. A self-acknowledged limitation of the study includes the cursory assessment of sleep quality by a single question regarding sleep disturbance, precluding the ability to hone in on the specific aspects of sleep disorders that change over the peri-retirement period.

Generalizability of these findings is a worthy consideration given that this is a male-predominant cohort (79% of participants) and one third of the participants are night shift workers.¹ A "retirement effect" has been noted to occur in shift-workers such that sleep disturbance improves with retirement⁷; therefore, investigating the differential effects of retirement in shift-workers versus non-shift workers would be of interest. This study¹

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also involves workers who have a guaranteed pension (80% of their salary) post-retirement. Consequently, an important area of future investigation will be to examine the reproducibility of the current findings of the beneficial impact of retirement on sleep in those individuals who do not have this financial security post-retirement, particularly as these are times of economic insecurity in many countries such that many older individuals are delaying retirement to ensure financial stability.

Other avenues of future investigation should include assessing the role of physical health in handling life changes such as retirement in light of the current findings that those with these conditions were less likely to have improvement in sleep post-retirement. Assessment of the personality subtypes of individuals who may handle the transition of retirement better than others would also be of interest. For example, some may view work as a stressor which, once removed, helps to promote improved sleep; whereas others may embrace and have self-worth intertwined with their work, such that once the work stimulus is removed, this serves as a potential stressor negatively influencing sleep.

In summary, Vahtera and colleagues have reported the first large-scale epidemiologic study on the impact of retirement on sleep.¹ The findings illuminate the potential for work stress to contribute to poor sleep, which is an important finding as it will help inform public policy to incorporate measures to improve work life, thereby improving sleep. As sleep disturbance is often related to neurocognitive decline and negative health effects,⁸⁻¹⁰ such public policy initiatives will likely translate into improvement in health and work efficiency.

Opportunities for further research in the realm of retirement and sleep include comparative studies investigating retirement and sleep in age- and sex-matched retirees versus non-retirees in particular to provide insight into these relationships inde-

pendent of aging. There is also uncharted territory in capturing prospective comprehensive, standardized subjective and objective sleep measures in longitudinal, population-based cohorts such as the US-based Health Retirement Study (HRS), Survey of Health, Ageing, and Retirement in Europe (SHARE), and the Mexican Health and Aging Study (MHAS) which serve as a potential fertile ground to better understand the dimensions of sleep impacted by retirement.

DISCLOSURE STATEMENT

Dr. Mehra has indicated no financial conflicts of interest.

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