

# The relation between daily rhythm and sleep, and changes through aging

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**Key words:** sleep, daily rhythm, activity

In this study, I examine the relation between daily rhythm and sleep, and problems that affect QOL. In addition, I examine changes in daily rhythm and sleep with age.

I conducted a survey of 40 college students and 40 healthy elderly individuals to clarify the relation between daily rhythm and problems with sleep. Multiple regression analyses was carried out using morningness-eveningness scores as dependent variables and category scores for sleep health and Epworth sleepiness scale scores as independent variables. As a result, it was revealed that in college students the frequency of nocturnal awakening had the potential to delay daily rhythm. It was revealed that in elderly individuals hypnagogic problems had the potential to delay daily rhythm. Furthermore, as hypnagogic problems correlated with problems in rising, it was suggested that there might be a more complicated relation between hypnagogic problems and factors in the elderly than in college students.

Exploratory reconnaissance was conducted on 4 elderly individuals with risk of hypnagogic problems to clarify the complicated relation between sleep and daily rhythm. I collected data through an OSA sleep questionnaire, daily sleep log and actiwatch which can measure activity for 8days. As a result, it was suggested low activity in the afternoon and over the entire day, a lower amount of time spent on daily work such as household chores and mental activity, physical activity and light environment at night are related to delay of bedtime, the deterioration of subjective sleep feelings, the decrease of total sleeping hours. It was further suggested that delay of bedtime and the deterioration of subjective sleep feelings were related to delay in waking time the next morning.

From the above, it was suggested that devising a life-style that is active in the afternoon, restraining yourself from taking exercise at night and from staying up late at night and dimming the light before bedtime had some affect on improving sleep, preventing delay of waking time the next morning and maintaining regular daily rhythm.