



# Significance of early morning insomnia for keeping the work continuity of shift workers

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Published online: 20 June 2019  
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As many as 20% of workers in industrialized nations are shift workers who have to work routinely at night against their internal biological clock. Shift workers are likely to suffer from unbearable sleepiness caused by the desynchronization of their internal circadian clock, relative to the sleep–wake pattern determined by their shiftwork schedule, and are highly prone to vehicular and industrial accidents as well as quality-control errors on the job [1]. Chronotype is one of the major individual characteristics considered to play a key role on determining shift work tolerance. In particular, some reports have suggested that workers with evening chronotype have high shift work tolerance due to preventive inhibition of sleepiness during night work depending on their delayed circadian phase [2, 3].

Kitamura et al. [4] made a retrospective investigation on the relationship between chronotype, sleep problems, and long term (maladaptive retirement) as well as short-term tolerance (perceived tolerance of shift work) of shift work in community-dwelling shift workers. Interestingly, their result showed that not the chronotype but the existence of early morning awakening was the significant predictor for the incidence of maladaptive retirement among past shift workers despite perceived tolerance of the current shift workers being correlated with both chronotype and early morning awakening. The reason of this phenomenon is unclear. However, considering that early morning awakening is one of cardinal symptoms of shift work disorder [5], workers with eveningness chronotype are possibly prone to have shift work disorder based on their low stability of sleep schedule [6, 7]. In other words, although short-term adaptation of shift work increases along with the greater tendency toward eveningness, eveningness chronotype does not necessarily lead to long-term continuity of shift work.

Their study result strongly impresses the importance of managing sleep problems of shift workers for keeping their work continuity. Additional studies are needed to investigate treatment options that address the health and safety burden associated with shift work disorders, and to further develop and assess the comparative effectiveness of counter measures and treatment options.

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