

CIRCADIAN RHYTHM CHANGE AND SHIFT WORK SLEEP DISORDER IN KOREAN FIRE FIGHTERS

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The circadian rhythm of shift workers changes according to their work schedule. Circadian rhythm disruption induces shift work sleep disorder (SWSD), which is one of the most common health hazards of shift work. We measured the circadian rhythm and sleep pattern in Korean fire fighters to investigate the relationship between circadian rhythm and symptoms for SWSD. The subjects were fire fighters in Seoul and Ulsan. 139 shift workers and 32 day workers (as control group) were recruited. We measured distal skin temperature to identify the circadian rhythm, daily activity to analyze the sleep pattern, and check bleed cortisol and urinary cortisol and 6-sulfatoxymelatonin. We used iButton® Temperature Logger (iButton® DS1922L, Maxim Integrated Products, Inc., San Jose, CA, USA), which is a computer chip enclosed in a 16-mm-thick stainless steel can. The device was set to measure wrist temperature every 5 minutes, and attached at the palmar side of the subjects' non-dominant wrist. We performed cosinor

analysis to analyze the circadian rhythm of wrist temperature. We used wGT3X-BT (ActiGraph, Pensacola, FL) to measure daily activity of the subjects and analyze their sleep patterns. The wrist temperature and daily activity measurement was performed in day work, night work, and 24 hours work. The measurement started in November 2017, and will be completed around February 2018. We will analyze the data since then.

Biography

Tae-Won Jang completed his Graduation as Medical Doctor from Dong-A University College of Medicine, with the specialties of Occupational and Environmental Medicine. He obtained his Post-graduation from Dong-A University Graduate School of Preventive Medicine. Presently, he has been working at Hanyang University College of Medicine and Hanyang University Guri Hospital.

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