P74 CHARACTERISTICS OF ROTATING NIGHT SHIFT WORK AND MORNING 6-SULFATOXYMELATONIN IN NURSES AND MIDWIVES

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Objectives 6-sulfatoxymelatonin (MT6s) in the morning urine is a valid biomarker of melatonin synthesis at night. Controlled experimental studies have shown decrease in melatonin synthesis after light exposure at night, however, only few epidemiological studies examined morning MT6s in nurses working rotating night shifts. The aim of our study was to investigate which characteristics of rotating night shift work influence melatonin synthesis.

Methods The cross-sectional study included 355 nurses and midwives (aged 40–60) currently working on rotating night shifts. Data on the current job (hospital department, frequency of night shifts, activities, napping) and potential confounders were collected through a personal interview. MT6s concentrations were determined in the morning urine samples after night shift (ELISA assay, adjusted for creatinine). Associations between rotating night shift work characteristics and MT6s were tested in multiple linear regression models.

Results The adjusted geometric means (GM) in the rotating night shift nurses and midwives varied depending on the department of employment from GM=32 ng/mg Cr at the neonatology department to GM=72 ng/mg Cr) at the orthopaedics department. Women working 8 or more night shifts per month had significantly lower MT6s than those having on average less night shifts per month (35 ng/mg Cr vs 43 ng/mg Cr respectively). MT6s concentrations were significantly lower in women working for more than 10 h when compared to those working fewer hours (p=0.025).

Conclusions Preliminary results of our study indicate that the frequency of night shifts and number of working hours may influence MT6s levels.