[1] University of Pittsburgh, [2] Trinity College, [3] University of Pittsburgh Department of Psychiatry, [4] University of Pittsburgh Medical Center

Introduction: Disrupted sleep and circadian rhythms, such as those occurring during night shift work, are established cardiovascular disease (CVD) risk factors like hypertension, obesity, and insulin resistance. However, we do not know whether the effects of shift work on CVD risk factors persist into retirement. Conversely, regularity in behavioral-social rhythms – the systematic patterning or timing of daily routines like work/housework, sleeping, eating and social interactions – may keep endogenous circadian rhythms synchronized to the 24-hour day and reduce CVD risk. This study examined: 1) whether behavioral–social rhythms are associated with a major CVD risk factor, prevalent metabolic syndrome, in retired night shift workers and day workers; and 2) whether past night shift work exposure moderates the associations between behavioral–social rhythm and metabolic syndrome prevalence.

Methods: Participants were 71 retired night shift workers (39 women (54.9%), 32 men (45.1%)) and 83 retired day workers (46 women (55.4%), 37 men (44.6%)), with mean age 68.4 (5.4) years. Logistic regression models were used to examine associations between behavioral–social rhythms and metabolic syndrome prevalence. Independent variables included Social Rhythm Metric-5 (SRM5; a 5-item scale to quantify rhythms of daily life) score and actigraphy rest-activity rhythm inter-daily stability (IS; rhythm stability across days) and intra-daily variability (IV; rhythm fragmentation within days). The dependent variable was metabolic syndrome prevalence.

Results: More regular behavioral-social rhythms were associated with lower odds of having metabolic syndrome (SRM5: OR=0.57, 95%CI [0.35, 0.88]; IV (Higher score means lower regularity): OR=2.05, 95%CI [1.23, 3.44]). In addition, more regular behavioral-social rhythms were associated with lower odds of having two individual components of metabolic syndrome , body mass index (SRM5: OR=0.56, 95%CI [0.37, 0.85]; IV: OR=2.05, 95%CI [1.30, 3.23]) and high-density lipoprotein cholesterol level (SRM5: OR=0.49, 95%CI [0.30, 0.80]; IV: OR=1.78, 95%CI [1.06, 2.98]). Shift work exposure did not moderate the association between behavioral–social rhythms and metabolic syndrome prevalence.

Conclusion: Behavioral–social rhythms are related to metabolic syndrome prevalence in retired adults regardless of prior shift work exposure. Older retired workers may benefit from interventions that promote behavioral–social rhythm regularity.

Abstract citation ID: zsad077.0282

0282

BEHAVIORAL–SOCIAL RHYTHMS AND METABOLIC SYNDROME PREVALENCE IN RETIRED NIGHT SHIFT AND DAY WORKERS

Eunjin Tracy[1], Brian Chin[2], H. Matthew Lehrer[1], Brant Hasler[3], Mark Thomas[1], Stephen Smagula[1], Sarah Kimutis[1], Martica Hall[1], Daniel Buysse[4]