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BACKGROUND:

Our previous studies revealed that half of arterial hypertension (AH) patients had a flat type of non-dipper curve of blood pressure daily profile (BPDP).



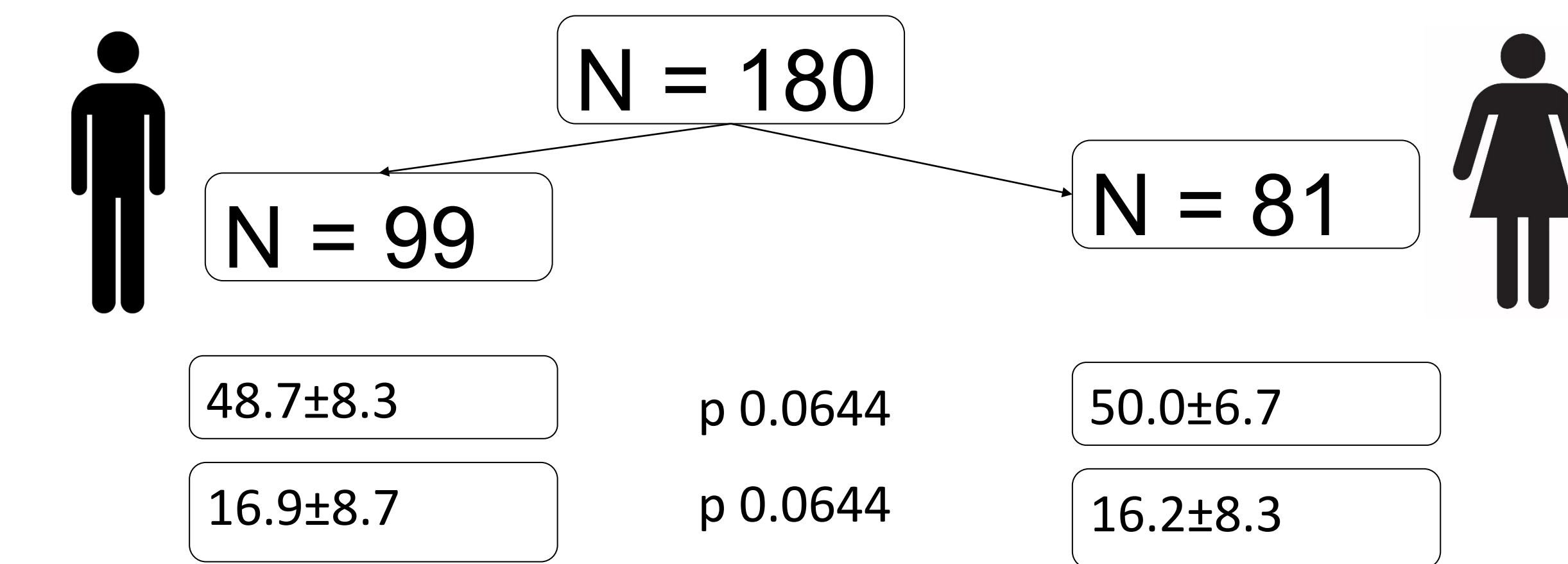
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PURPOSE:

To study and differentiate the leading component of sleep disturbance in conditions of the Arctic rotational shift work and evaluate its relationship with the data of ambulatory blood pressure monitoring (ABPM).

DESIGN AND METHODS:

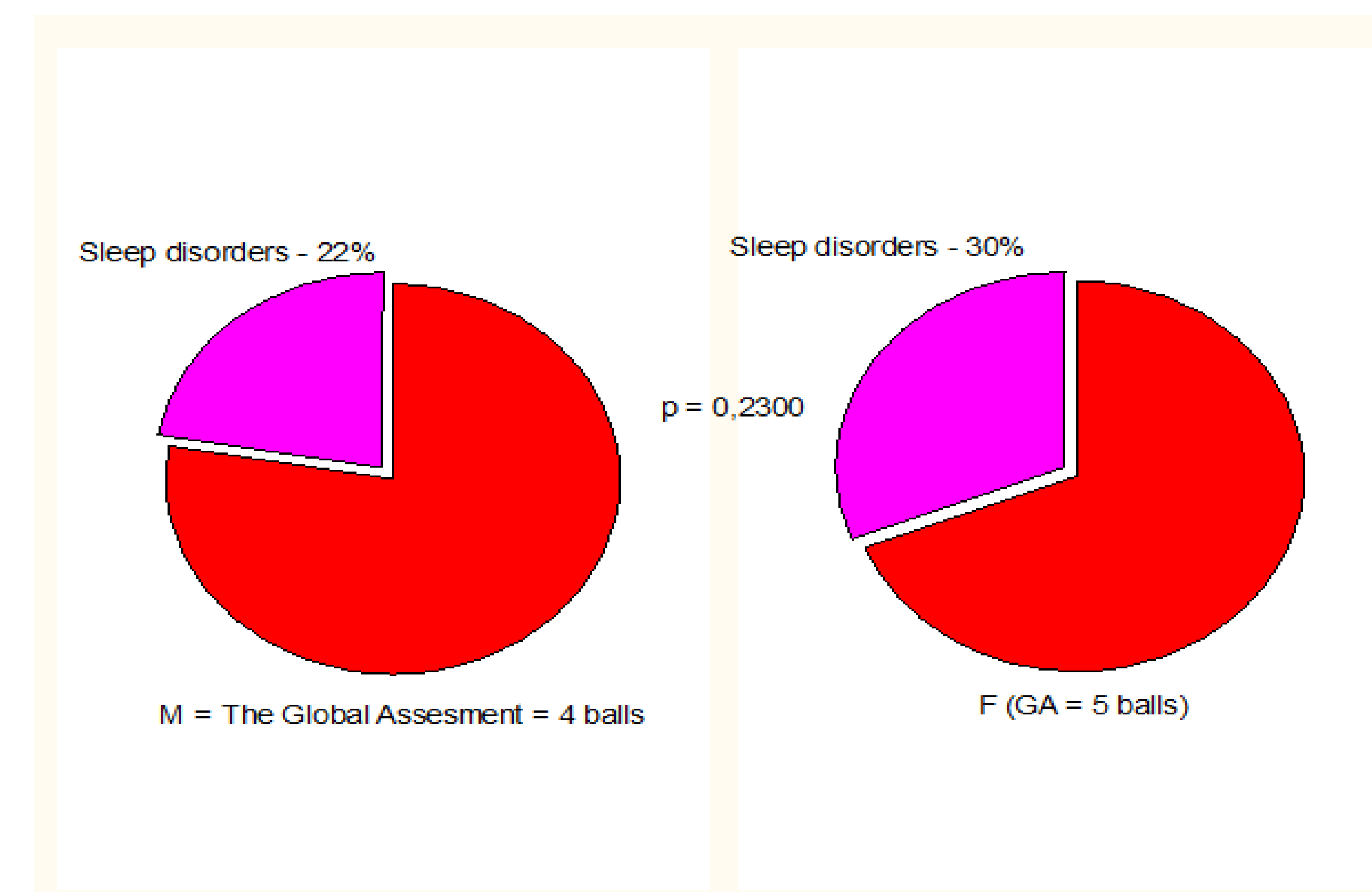
In September 2019, 180 patients with AH, including 79 males (M), (gr. 1) aged 48.7±8.3 years and 68 females (F), (gr. 2) aged 50.0±6.7 years (p=0.06) were simultaneously examined in Yamburg (68 N) settlement in the Arctic Watch. Groups did not differ in rotational shift work duration (16.9±8.7 and 16.2±8.3 years, p=0.72). Analysis of sleep quality (Pittsburg Sleep Quality Index - PSQI) with daytime sleepiness analysis (Epworth Sleepiness Scale) was carried out. Six components were investigated: 1 - subjective sleep (S) quality component; 2 - assessment of S latency; 3 - assessment of S duration; 4 - habitual S efficiency; 5 - step disturbances of S; 6 - use of S medication; 7 - daytime S dysfunction with differentiation of global index (Global PSQI score). All individuals underwent ABPM with analysis of daily index of systolic blood pressure and diastolic blood pressure and BPDP.



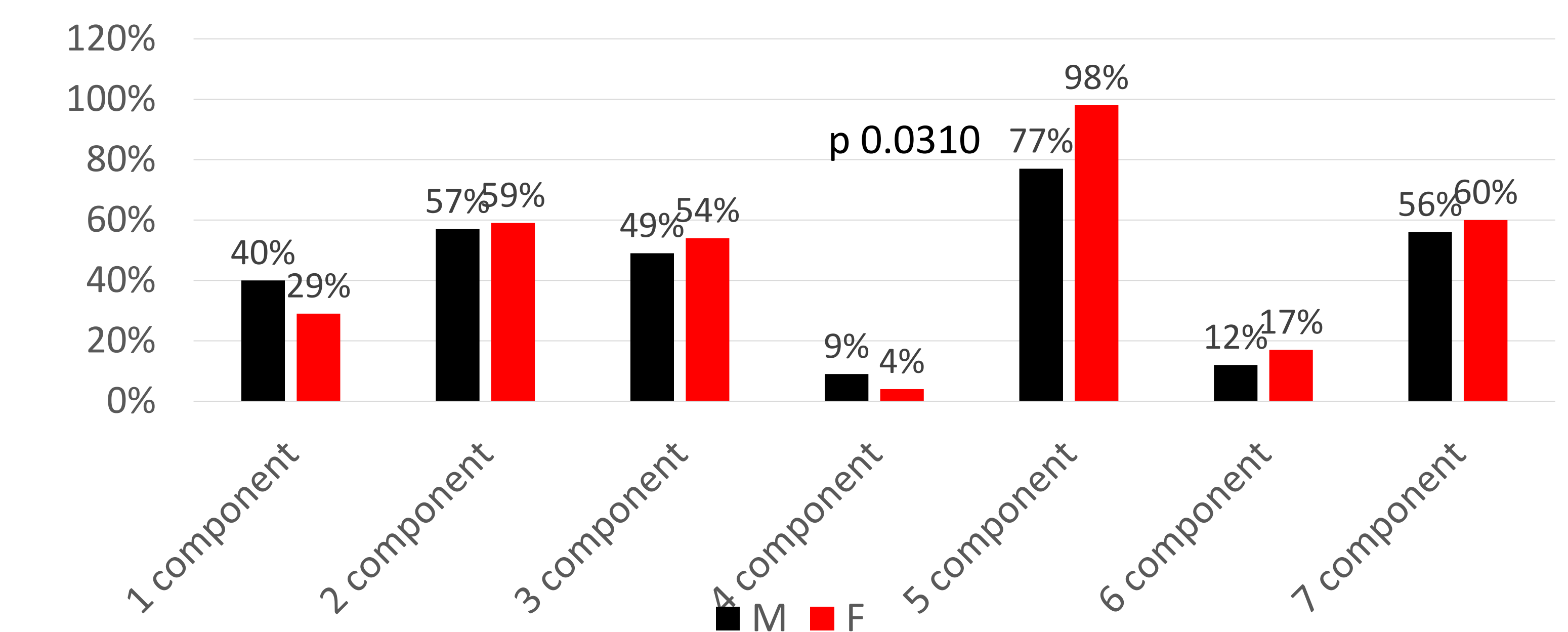
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 2 - assessment of S latency;
 3 - assessment of S duration;
 4 - habitual S efficiency ;
 5 - step disturbances of S;
 6 - use of S medication;
 7 - daytime S dysfunction

RESULTS:

According to the survey, 22% had S disorders in M gr., 30% (24/81) in F gr., p=0.23. Global assessment of S quality was also not dependent on gender: mode of assessment was 4 points (P), (24 individuals) in M, 5 P (17) in F (p=0.91). Leading components of S quality disorder were the subjective S quality with 2 P, (16); the S latently had 2 P (11); the step disturbances of S had the 2 P (11) and the daytime S dysfunction had the 2 P (14) in M. In F, the 1st component (C)C (2 P - 13); the 2nd C - 2 P (16) prevailed and the 5th and the 7th C were less manifested. Moreover, F had S latency complaints oftener than M (p=0.031). Analysis of interconnections with ABPM revealed "over dipper" BPDP in the 12.5%, "dipper" BPDP in 42.5% (51); "non dipper" BPDP in 41.7% (50); "night peaker" BPDP in 3.3%. In individuals with normal S quality, "dipper" BPDP prevailed (54%). At the same time, leading components did not have significant correlations with abnormal BPDP.



LEADING COMPONENTS



leading components did not have significant correlations with abnormal BPDP.

CONCLUSION:

In conditions of rotational shift work in the Arctic, regardless of gender, sleep disturbances are more associated with poor habitual sleep efficiency and less associated with disturbances of BPDP. This is obviously explained by increased exhaustion due to the intense nature of rotational shift work in the Arctic region.