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Impact of shift work on dietary habits, body weight, sleep quality, and mental health among Italian workers

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Background: Recent data suggest that working conditions, particularly shift work, may influence workers' eating habits and overall well-being, but no data are available in Italy. This study aimed to evaluate differences in eating patterns, body weight, sleep quality, and mental health between Italian shift and non-shift workers, with additional consideration given to individual chronotype variability.

Methods: This case-control study compared 132 shift workers (mean age 35.6 ± 12.5 years; 56% F) with 128 non-shift workers (mean age 32.9 ± 12.2 years; 62% F). Eating habits were evaluated using a 7-day food diary and the Medi-Lite questionnaire; sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI), and mental health with the Depression Anxiety Stress Scales. Individual chronotype was defined using the Morningness-Eveningness Questionnaire.

Results: Analysis of the 7-day food diary revealed similar daily calorie intake, macronutrient, and micronutrient consumption between the two groups, with no significant differences in energy distribution throughout the day. However, shift workers reported significantly ($p<0.05$) lower adherence to the Mediterranean diet (MD) (8.5 ± 2.4 vs 9.1 ± 2.2) and higher BMI (24.2 ± 3.8 vs 23.1 ± 4.0 kg/m2) than their counterparts. Shift workers also experienced significantly poorer sleep quality (mean PSQI score 6.2 ± 2.6 vs 5.5 ± 2.8), with worse scores for sleep latency, efficiency, and disturbance than non-shift workers. Regarding mental health, shift workers exhibited significantly higher levels of anxiety and depression. Logistic regression analysis adjusted for possible confounding factors defined shift work as a significant independent risk factor (OR 1.80, 95%CI 1.08-3.00) for poorer sleep quality (i.e. mean PSQI score $\geq$ 5). Moreover, shift workers with evening chronotype were associated with significantly lower MD adherence (8.1 ± 2.7 vs 9.4 ± 2.2) and a higher level of depression, compared to shift workers with morning chronotype.

Conclusion: Italian shift workers reported lower MD adherence, poorer sleep quality, and a higher risk of anxiety and depression than a similar group of non-shift workers. The chronotype seems to influence the eating habits and mental health of these subjects.