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Abstract

Eating Habits and Sleep Quality in Patients with Type 1 Diabetes on Advanced Technologies †

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Abstract: Background and objectives: Sleep disorders are bidirectionally linked with eating behaviors and glucose metabolism, and this could be clinically relevant in type 1 diabetes (T1D). We investigated the relationship between dietary habits and sleep quality in T1D. Methods: According to a cross-sectional design, T1D patients, 60 men and 60 women, aged 19–79, using continuous glucose monitoring (CGM) filled-in a 7-day food diary and completed the European Prospective Investigation into Cancer and Nutrition (EPIC) questionnaire on dietary habits and the Pittsburgh Sleep Quality Index (PSQI) questionnaire on sleep quality. Blood glucose values over 6 h after dinner were registered for one week. Differences in dietary habits and blood glucose were compared between the participants with good/bad quality, long/short duration, and long/short onset latency of sleep. Results: Bad sleepers (n = 84) were twice as prevalent as good sleepers (n = 36) and had significantly higher intake of fat than good sleepers, in particular at dinner time (30.7 ± 10.7 vs. 24.0 ± 10.5 g, p = 0.004). Short sleepers had significantly higher usual intake (g/1000 kcal) of coffee and tea (88.7 ± 70.9 vs. 62.0 ± 35.6), alcoholic beverages (46.6 ± 50.4 vs. 28.9 ± 31.5), and carbonated soft beverages (21.0 ± 37.5 vs. 9.3 ± 17.2) ($p < 0.05$ for all). Compared with the short sleep onset latency participants, the long sleep onset latency participants had significantly higher intake of fat at dinner time (41.8 ± 7.4 vs. 38.1 ± 9.1% total energy, p = 0.029). No differences in post-dinner blood glucose were detected between the participants with bad or good sleep quality. Discussion: Sleep disruption is common in T1D and is associated with unhealthy dietary choices, especially at dinner time, independently of post-dinner blood glucose control.

Keywords: sleep quality; dietary habits; type 1 diabetes; sleep latency onset; postprandial glycemia

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