







Abstract

The Role of Chronotype on Body Composition, Eating Habits and Cardiometabolic Risk Parameters in a Sample of Overweight/Obese Subjects [†]

Sofia Lotti *, Monica Dinu , Marta Tristan Asensi , Giuditta Pagliai , Antonia Napoletano, Barbara Colombini  and Francesco Sofi 

Department of Experimental and Clinical Medicine, University of Florence, 50134 Florence, Italy; monica.dinu@unifi.it (M.D.); marta.tristanasensi@unifi.it (M.T.A.); giuditta.pagliai@unifi.it (G.P.); anto3988@gmail.com (A.N.); barbara.colombini@unifi.it (B.C.); francesco.sofi@unifi.it (F.S.)

* Correspondence: sofia.lotti@unifi.it

[†] Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Background and objectives: In recent years, the role of chronotype in obesity has been hypothesised, as subjects with an evening chronotype showed worse eating habits. However, the results are still limited and conflicting. The aim of the study is therefore to assess differences in body composition, eating habits and cardiometabolic parameters according to chronotype in a sample of overweight/obese subjects. Methods: Overweight/obese subjects (BMI > 25 kg/m²) aged 18–65 years were recruited at the Clinical Nutrition Unit of Careggi University Hospital, Florence, from March to April 2023. The chronotype was defined through the Morningness–Eveningness Questionnaire (MEQ). Each participant underwent a body composition and a blood sampling. Information on eating habits was collected with a food frequency questionnaire and a 3-day food diary. Results: The study population consisted of 51 overweight/obese subjects (71% women; 29% men) with a mean age of 50.3 ± 13.5 years and a mean BMI of 29.4 ± 4.3. Based on the MEQ score, 13 participants had an evening chronotype (26%) and 38 (74%) a morning chronotype. No significant differences in weight and body composition according to chronotype were observed. However, differences emerged for eating habits, with a significantly ($p < 0.05$) higher number of evening subjects reported to consume sweets, soft drinks and fast food. Analysis of the food diaries showed that evening subjects had a significantly higher intake of daily calories (1867.6 ± 434. vs. 1612.2 ± 538.5 kcal/day), fat (78.2 ± 20.9 vs. 65.4 ± 23.8 g/day) and carbohydrates (226.1 ± 47.5 vs. 186.3 ± 77.6 g/day). The analysis of cardiometabolic risk circulating parameters showed that evening subjects had significantly lower folate values (4.69 ± 2.1 vs. 8.25 ± 6.36 ng/mL) than morning subjects, as well as significantly lower vitamin B12 values (349.6 ± 132.3 vs. 445.5 ± 144.5 pg/mL). Discussion: Evening subjects had worse eating habits and a higher intake of total daily calories, fat and carbohydrates, and also reported significantly lower values of folic acid and vitamin B12.



Citation: Lotti, S.; Dinu, M.; Tristan Asensi, M.; Pagliai, G.; Napoletano, A.; Colombini, B.; Sofi, F. The Role of Chronotype on Body Composition, Eating Habits and Cardiometabolic Risk Parameters in a Sample of Overweight/Obese Subjects. *Proceedings* **2023**, *91*, 312. <https://doi.org/10.3390/proceedings2023091312>

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 8 February 2024



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Keywords: obesity; chrono-nutrition; chronotype; dietary habits; cardiovascular risk

Author Contributions: Conceptualization, S.L., M.D. and F.S.; methodology M.D.; formal analysis, S.L.; investigation, S.L., M.D., B.C., G.P., M.T.A. and A.N.; data curation, S.L., M.D. and A.N.; writing—original draft preparation, S.L.; writing—review and editing, M.D., B.C., G.P., M.T.A. and A.N.; supervision, F.S. All authors have read and agreed to the published version of the manuscript.

Funding: The research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Tuscany Regional Ethics Committee of the Azienda Ospedaliera Universitaria Careggi, Florence (n 21035_spe).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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