

The Relationship Between Orthorexic Tendencies and Hematological Inflammatory Indices

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ABSTRACT

Objective: To investigate the relationship between orthorexia dimensions, specifically healthy orthorexia (HeOr) and orthorexia nervosa (OrNe), and hematological inflammatory markers.

Methods: This cross-sectional, analytical study included 218 healthy volunteers (73.9% male, median age: 25.0 years) who were evaluated between February 2026 and April 2026. Sociodemographic profiles and the Teruel Orthorexia Scale scores were obtained. Complete blood count parameters and inflammatory indices, including the monocyte-to-lymphocyte ratio (MLR) and systemic inflammation response index (SIRI), were analyzed.

Results: HeOr scores demonstrated significant negative correlations with white blood cell count ($r = -0.163$, $P = 0.016$), neutrophil count ($r = -0.160$, $P = 0.019$), monocyte count ($r = -0.244$, $P < 0.001$), platelet count ($r = -0.168$, $P = 0.013$), MLR ($r = -0.134$, $P = 0.049$), and SIRI ($r = -0.185$, $P = 0.006$). Conversely, OrNe scores exhibited a significant negative correlation only with monocyte count ($r = -0.171$, $P = 0.012$) and showed no significant associations with other hematological parameters or systemic inflammatory indices.

Conclusion: Individuals with higher HeOr tendencies display a healthier systemic inflammatory profile, likely reflecting beneficial dietary choices. Despite being characterized by more rigid cognitions and behaviors toward healthy eating, OrNe tendencies do not manifest a healthier inflammatory profile.

Keywords: Healthy orthorexia, orthorexia nervosa, inflammation, hematological markers, SIRI, eating disorders

INTRODUCTION

Dr. Steven Bratman introduced the concept of orthorexia in 1997 to describe a psychological state characterized by an unhealthy preoccupation with clean and wholesome nutrition. Such behavior manifests as an unrelenting pursuit of foods free from artificial additives, alongside obsessive scrutiny regarding how items are sourced, processed, and packaged.¹ Affected individuals typically dedicate substantial portions of their day to procuring foods they consider wholesome while rigorously avoiding perceived impurities. Additionally, breaking these self-imposed dietary regulations frequently triggers intense

episodes of guilt, shame, and anxiety, which in turn drive further dietary restrictions.²⁻⁴ Consequently, these individuals may experience challenges across various biopsychosocial domains, including nutritional deficiencies.³ Maintaining that a focus on wholesome nutrition is not inherently pathological, Barrada and Roncero⁵ examined orthorexic behaviors through a dual framework comprising healthy orthorexia (HeOr) and orthorexia nervosa (OrNe). The fact that these two conditions possess divergent psychological profiles and motivations indicates that OrNe and HeOr are not extensions of one another or opposite poles of a single spectrum, but are instead two discrete constructs yielding completely separate



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psychological and behavioral consequences.⁶ For individuals with HeOr, The primary motivation underlying food choices is the health content of the food. Findings indicate that the fundamental drives behind OrNe do not invariably revolve around health; instead, they are predominantly characterized by weight management, appearance concerns, and regulation of negative emotions. The clinical characteristics of OrNe exhibit a significant overlap with the symptomatology of eating disorders—specifically anorexia nervosa and bulimia nervosa—as well as obsessive-compulsive disorder (OCD).^{7–9} Existing literature features extensive documentation linking hematological inflammatory markers to clinical conditions that share overlapping features with orthorexia, most notably eating disorders and OCD.^{10–12} Hematological inflammatory indices function as practical, economical indicators of systemic inflammation, derived simply by calculating proportions among distinct leukocyte and platelet counts obtained during standard complete blood evaluations.¹³ Increased metrics—including the neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and systemic inflammation response index (SIRI)—signal a cellular shift where innate immunity outweighs adaptive components, thereby pointing to an active systemic inflammatory process.¹⁴ Prior research indicates that individuals with OCD display higher monocyte-to-lymphocyte ratio (MLR), NLR, and PLR figures than healthy population cohorts.^{15,16} Existing literature demonstrates that individuals with eating disorders exhibit significantly higher NLR and PLR values relative to healthy control subjects.¹¹ Furthermore, elevated levels of the systemic immune-inflammation index (SII), SIRI, NLR, and MLR metrics have emerged as unfavorable prognostic markers regarding therapeutic response among patients with eating disorders.¹² On the other hand, higher healthy eating index (HEI-2015/2020) scores have been reported to be associated with lower white blood cell (WBC) counts, neutrophils, NLR, and SII, indicating that a higher-quality diet reduces these markers, which reflect systemic inflammation via blood cells.^{17,18}

MAIN POINTS

- Healthy orthorexia (HeOr) tendencies are strongly associated with a healthier systemic inflammatory profile, characterized by lower levels of leukocytes, neutrophils, monocytes, platelets, monocyte-to-lymphocyte ratio, and systemic inflammation response index.
- Despite rigid cognitions and restrictive behaviors regarding healthy eating, orthorexia nervosa (OrNe) tendencies do not translate into a healthier inflammatory profile, with the exception of decreased monocyte counts.
- HeOr and OrNe exhibit distinct biological manifestations in systemic inflammatory markers, confirming that they are independent constructs rather than opposite poles of a single spectrum.
- The pathological obsessions and stress-related psychological burden observed in OrNe may biologically negate the potential anti-inflammatory benefits of a clean diet.

To the best of our knowledge, our literature review revealed no studies directly examining the relationship between orthorexia and hematological indices that serve as markers of chronic inflammation. Whether orthorectic tendencies lead to an elevation in inflammatory indices—similar to those observed in OCD and eating disorders—or are associated with lower inflammatory parameters, as observed in individuals with healthy eating habits, constitutes the primary research question of our study. Specifically, we hypothesized that higher HeOr tendencies would be significantly associated with lower levels of hematological inflammatory markers—reflecting potential anti-inflammatory benefits of wholesome dietary choices—whereas OrNe tendencies, driven by psychological stress and pathological fixations, would not exhibit such a protective profile.

MATERIALS AND METHODS

Study Population and Data Collection

This project was carried out as a cross-sectional analytical investigation Mengücek Gazi Training and Research Hospital, a tertiary care medical center from February 15, 2026, to April 15, 2026. All research procedures strictly adhered to the ethical guidelines set forth in the Declaration of Helsinki. This study was specifically designed to recruit a homogeneous sample of healthy volunteers, aged 18–60 years, who presented to the hospital medical board to obtain the mandatory pre-employment medical clearance required for private security guard licensing. Our objective was to construct, through the targeted recruitment of this specific applicant pool, a homogeneous, non-clinical sample consisting predominantly of healthy young adults pursuing employment. The effect size was set at $f^2(V) = 0.3$, the alpha (α) level was set at 0.05, and the statistical power ($1-\beta$ error probability) was set at 0.95. Using G*Power (v3.1.9.4), the initial computation indicated that 184 subjects were required. Factoring in an estimated 20% allowance for prospective dropouts or incomplete submissions, the recruitment goal was ultimately expanded to 221 individuals. After applying all selection criteria, 218 eligible subjects constituted the final cohort. A total of three individuals were excluded: one diagnosed with a systemic inflammatory condition and two with incomplete data forms. Volunteers who had at least a primary school education, had the cognitive capacity to complete the questionnaires and comprehend the scope of the study, and had undergone a complete blood count (CBC) for their medical report were targeted for enrollment. To minimize the confounding effects of lifestyle and clinical factors on inflammatory markers, strict inclusion criteria were established. The study recruited only healthy volunteers who were strictly non-smokers and had no history of psychoactive substance use. Furthermore, eligible participants had to be free of a history of psychiatric illness or active psychiatric complaints, severe chronic medical conditions (e.g., diabetes, celiac disease), autoimmune disorders, malignancies, and diagnosed neurological, endocrine, or systemic disorders. Additionally, women who were pregnant or breastfeeding were excluded from participation. Following these defined screening rules, 221 volunteers underwent formal eligibility evaluations. During the final clinical evaluation, one individual was excluded owing to an active systemic inflammatory disease (elevated CRP

levels), and two additional individuals were excluded because of incomplete data collection forms. The final analytical cohort comprised 218 eligible individuals.

A detailed clinical history was obtained from the participants. Systemic physical and mental status examinations were performed. Regarding the blood sampling protocol, all participants were required to provide their venous blood samples following an overnight fast, at a uniform time between 08.30 and 09.30, prior to their outpatient clinical examinations. All hematological measurements were processed in a standardized manner at the hospital's central biochemistry laboratory using the same automated hematology analyzer to prevent inter-assay variability. While C-reactive protein (CRP) was not measured routinely for all participants, it was specifically tested in individuals presenting with clinical suspicion of an inflammatory condition, and those with elevated levels were subsequently excluded. Following anthropometric evaluations, including height and weight measurements to compute each subject's body mass index (BMI), the study instruments—comprising the Data Collection Form and the Teruel Orthorexia Scale (TOS)—were distributed to all participants.

Evaluation of the Patients

To gather demographic and background information, the research team designed a questionnaire tailored to this project. This form, administered during the initial admission, gathered general information and sociodemographic data, including age, educational level, gender, marital status, current medications, and history of comorbidities. Barrada and Roncero⁵ introduced the TOS as a 17-item self-administered measurement tool. The framework divides orthorexic tendencies into two distinct subscales: "Healthy Orthorexia", denoting a preoccupation with clean nutrition and "Orthorexia Nervosa", representing a clinically pathological fixation. The adaptation, validity, and reliability processes for the Turkish version of the scale were originally carried out by Asarkaya.¹⁹ This adapted 16-item version excludes the fourth item because it demonstrated inadequate discriminative capacity. Items are rated on a 4-point Likert scale ranging from 0 to 3, yielding possible score ranges of 0-27 for the HeOr subscale and 0-21 for the OrNe subscale.

Ethics Approval and Consent

Authorization for this research was granted by Erzincan Binali Yıldırım University Clinical Research Ethics Committee (approval no.: 03/01, date: 05.02.2026). Furthermore, written informed consent was secured from all participating individuals.

Artificial Intelligence Statement

Artificial intelligence software was used solely to create the graphical abstract of this manuscript. Nonetheless, the authors meticulously evaluated, edited, and finalized all material post-generation.

Statistical Analysis

We conducted all statistical computations using IBM SPSS Statistics version 22.0 (IBM Corp., Armonk, NY, USA). Baseline demographic and clinical profiles were summarized using counts and percentages for categorical items. Meanwhile, continuous metrics were detailed as means ± standard deviations (SDs) or medians alongside their minimum-maximum ranges. To determine the normality of the data distribution, the Shapiro-Wilk test was applied, and skewness and kurtosis coefficients were examined (values between -2 and +2 were considered indicative of a normal distribution). Bivariate associations among continuous variables were evaluated using either Pearson's or Spearman's rank coefficients, depending on the normality of the data. A P value below 0.05 was deemed statistically significant.

RESULTS

Table 1 outlines the demographic profiles of the 218 subjects comprising the final analytical sample; the median age was 25 years [interquartile range (IQR): 21-29]. The sample comprised 73.9% males (n=161) and 26.1% females (n=57). Regarding educational background, the cohort consisted primarily of high school graduates (51.8%) and individuals holding a university degree or higher (45.0%), with primary school graduates comprising 3.2%. Single individuals predominated (76.6%), compared with married individuals (23.4%). Additionally, the participants presented an average BMI of 24.88 ± 3.89 kg/m². Regarding occupational status, the

Table 1. Sociodemographic and clinical characteristics of the study participants

Characteristic	Count (n)/percentage (%)	Mean ± SD/median (IQR)
Age (years)	-	25 (21-29)
Gender (female/male)	57 (26.1%)/161 (73.9%)	-
Educational status (primary/high school/university)	7 (3.2%)/113 (51.8%)/98 (45.0%)	-
Marital status (married/single)	51 (23.4%)/167 (76.6%)	-
BMI (kg/m ²)	-	24.88 ± 3.89
Occupational status (private security guard applicant)	218 (100%)	-
Current smoking	0 (0%)	-
History of psychiatric disorders	0 (0%)	-
Chronic medical diseases	0 (0%)	-
Current medication use	0 (0%)	-

Data are presented as n (%) or mean ± SD. For non-normally distributed data, results are expressed as the median (Q1-Q3). SD, standard deviation; IQR, interquartile range; BMI, body mass index; SD, standard deviation.

study sample was composed entirely of individuals applying for medical clearance to obtain a private security guard license. Consequently, at the time of data collection, a substantial proportion of the participants were presumed to be unemployed or actively seeking employment in the security sector. The participants' hematological and clinical profiles are outlined in Table 2. Regarding the orthorexia scale components, the cohort recorded average scores of 12.03 ± 4.32 for the HeOr dimension and 7.96 ± 3.89 for the OrNe dimension. Regarding the CBC profiles, participants exhibited mean values of $7.93 \pm 2.10 \times 10^3/\mu\text{L}$ for WBC, $4.65 \pm 1.75 \times 10^3/\mu\text{L}$ for neutrophils, and $2.51 \pm 0.73 \times 10^3/\mu\text{L}$ for lymphocytes, alongside an average platelet count of $260.87 \pm 62.95 \times 10^3/\mu\text{L}$. Analysis of the inflammatory indices revealed a mean PLR of 111.15 ± 37.63 . For asymmetrically distributed

metrics, the median values were 1.79 (IQR: 1.29-2.29) for NLR and 0.23 (IQR: 0.18-0.28) for MLR. Additionally, the calculated medians for the SII and SIRI stood at 457.98 (IQR: 313.51-602.45) and 0.96 (IQR: 0.63-1.29), respectively. Table 3 details the correlational findings among orthorexia components, BMI, and hematological indices. The analysis yielded a robust positive association between OrNe and HeOr ($r = 0.767, P < 0.001$). In contrast, BMI did not correlate significantly with either of the orthorexic dimensions ($p > 0.05$). In terms of clinical metrics, a weak yet significant positive association was detected between BMI and both WBC ($r = 0.169, P = 0.013$) and lymphocyte counts ($r = 0.215, P = 0.002$). Analysis of HeOr tendencies revealed inverse relationships with multiple blood markers: WBC ($r = -0.163, P = 0.016$), neutrophils ($r = -0.160, P = 0.019$), monocytes ($r = -0.244, p < 0.001$), and

Table 2. Distribution of clinical and hematological parameters of the participants

Parameter	Mean $\pm$ SD/median (IQR)
Healthy orthorexia (HeOr) score	12.03 ± 4.32
Orthorexia nervosa (OrNe) score	7.96 ± 3.89
White Blood Cell (WBC) count ($10^3/\mu\text{L}$)	7.93 ± 2.10
Neutrophil count ($10^3/\mu\text{L}$)	4.65 ± 1.75
Lymphocyte count ($10^3/\mu\text{L}$)	2.51 ± 0.73
Monocyte count ($10^3/\mu\text{L}$)	0.58 ± 0.18
Platelet count ($10^3/\mu\text{L}$)	260.87 ± 62.95
NLR (neutrophil-to-lymphocyte ratio)	1.79 (1.29-2.29)
PLR (platelet-to-lymphocyte ratio)	111.15 ± 37.63
MLR (monocytes / lymphocytes)	0.23 (0.18-0.28)
SII (systemic immune-inflammation index)	457.98 (313.51-602.45)
SIRI (systemic inflammation response index)	0.96 (0.63-1.29)

SII = (platelet $\times$ neutrophil)/lymphocyte; SIRI = (neutrophil $\times$ monocyte)/lymphocyte. Descriptive statistics: Mean (SD) for parametric, median (Q1-Q3) for non-parametric continuous variables. SD, standard deviation; IQR, interquartile range.

Table 3. Correlation matrix between orthorexia scores, BMI, and hematological parameters

Parameter	BMI	HeOr score	OrNe score
BMI (kg/m^2)	-	$r = 0.084, P = 0.217$	$r = -0.014, P = 0.842$
HeOr	$r = 0.084, P = 0.217$	-	$r = 0.767, P < 0.001$
OrNe	$r = -0.014, P = 0.842$	$r = 0.767, P < 0.001$	-
WBC	$r = 0.169, P = 0.013$	$r_s = -0.163, P = 0.016$	$r_s = -0.086, P = 0.207$
Neutrophil	$r = 0.091, P = 0.185$	$r_s = -0.160, P = 0.019$	$r_s = -0.064, P = 0.353$
Lymphocyte	$r = 0.215, P = 0.002$	$r_s = -0.085, P = 0.212$	$r_s = -0.109, P = 0.110$
Monocyte	$r = 0.101, P = 0.138$	$r_s = -0.244, P < 0.001$	$r_s = -0.171, P = 0.012$
Platelet	$r = 0.076, P = 0.266$	$r_s = -0.168, P = 0.013$	$r_s = -0.120, P = 0.078$
NLR	$r_s = -0.077, P = 0.261$	$r_s = -0.053, P = 0.442$	$r_s = 0.037, P = 0.586$
PLR	$r_s = -0.116, P = 0.890$	$r_s = -0.079, P = 0.250$	$r_s = -0.020, P = 0.774$
MLR	$r_s = -0.107, P = 0.118$	$r_s = -0.134, P = 0.049$	$r_s = -0.064, P = 0.346$
SII	$r_s = -0.013, P = 0.850$	$r_s = -0.111, P = 0.104$	$r_s = -0.016, P = 0.817$
SIRI	$r_s = -0.019, P = 0.785$	$r_s = -0.185, P = 0.006$	$r_s = -0.071, P = 0.299$

r , pearson correlation coefficients for normally distributed variables (BMI and scale scores); r_s , spearman's rank correlation coefficients for non-normally distributed variables (hematological parameters and inflammatory indices). Significance level: $P < 0.05$. OrNe, orthorexia nervosa; HeOr, healthy orthorexia; BMI, body mass index; WBC, white blood cell; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; MLR, monocytes/lymphocytes; SII, systemic immune-inflammation index; SIRI, systemic inflammation response index.

platelets ($r = -0.168$, $P = 0.013$). Moreover, increased HeOr was linked to decreased values of both the MLR ($r = -0.134$, $P = 0.049$) and the SIRI ($r = -0.185$, $P = 0.006$). Conversely, the OrNe dimension correlated negatively only with monocytes ($r = -0.171$, $P = 0.012$) and lacked any other significant links to the tested inflammatory indices.

DISCUSSION

Descriptive statistics indicated that the participants' age distribution was heterogeneous, with a notable concentration around 25 years. This situation represents a limitation in terms of its representativeness of the general population. An increase in inflammatory markers with age is well-documented in the literature.²⁰ The potential confounding effect of age on our results was likely reduced by age heterogeneity among participants during assessment of the association between orthorexia and inflammation. Males accounted for 73.9% of the study sample. While this demographic characteristic might be viewed as a drawback regarding the generalizability of the findings, considering the well-established impact of the menstrual cycle on inflammatory pathways, this high male proportion may have minimized menstrual-cycle-related variance in the data.²¹ In our dataset, participants' educational attainment is primarily at the high school and university graduate levels. In the literature, research regarding orthorexia is observed to predominantly focus on individuals within this educational bracket.²² Although this condition might be viewed as a limitation in terms of population representativeness, it could provide a distinct advantage when benchmarking our results against the existing literature. Studies investigating education-related factors have demonstrated that an increase in years of education exerts a protective effect against OrNe.²³ A robust and well-documented positive correlation exists between high BMI, body fat mass, and elevated inflammation.²⁴ Existing literature demonstrates that as BMI escalates—especially among obese populations—there is a parallel elevation in crucial inflammatory indices like CRP.²⁵ Evidence focusing specifically on hematological cellular components and ratios demonstrated that BMI was positively correlated with leukocytes, neutrophils, lymphocytes, monocytes, and MLR in heterogeneous samples. In contrast, BMI exhibits a negative correlation with platelet count, the NLR, and the PLR.¹¹ Consistent with prior literature, the current data demonstrate a direct association between BMI and both leukocyte and lymphocyte counts. Our inability to detect significant correlations across other parameters might be attributed to the lack of obese subjects within our sample, which exhibited a mean value and SD of 24.88 ± 3.89 . HeOr has been defined as a process independent of OrNe.⁵ Although our data demonstrate a strong positive correlation between OrNe and HeOr, the impact of these two constructs on hematological inflammatory pathways is surprisingly distinct. That the biological implications of the two orthorexia dimensions differ to such an extent underscores the validity of this distinction. A negative correlation is observed between HeOr scores and leukocyte, neutrophil, and monocyte levels. This inverse correlation represents a positive clinical marker, signaling a comparatively attenuated state of systemic inflammation. While

elevated HeOr scores do not necessarily equate to actual healthy dietary practices, this inclination has been demonstrated to correlate with healthy eating behaviors.⁶ Daily dietary patterns of these individuals revealed an increased proportion of fruit and vegetable consumption, contrasted by a concomitant decline in the intake of unhealthy items colloquially referred to as junk food.⁷ Therefore, the inverse correlation between HeOr scores and hematological inflammatory indices could be attributed to the healthy dietary practices of this population. Indeed, as the HEI-2015 score—a measure of diet quality—increases, reflecting a healthier diet, total leukocyte counts, neutrophil counts, and NLR values have been found to decrease significantly.²⁰ Serving as a refined metric of chronic systemic inflammation, the MLR illustrates the equilibrium between adaptive and innate immune pathways. Notably, we found this ratio was negatively correlated with HeOr tendencies. Research demonstrates that individuals who closely follow the dietary approaches to stop hypertension (DASH) protocol—formulated to manage blood pressure through high intake of fruits, vegetables, and grains—have significantly lower monocyte levels. Similarly, as the dietary inflammatory index (DII) decreases, monocyte levels decline. In fully adjusted models that simultaneously controlled for age, sex, and BMI, both elevated DASH scores and diminished DII scores demonstrated an association with lower monocyte concentrations.^{17,26} Changes in platelet count, which plays a regulatory role in the immune system, are significant because they are also effective in calculating PLR and SII, which indicate chronic inflammation processes.¹⁶ Although we detected a negative correlation between HeOr scores and platelet count, we observed no significant correlations with PLR and SII. The SIRI is a composite metric that contrasts innate immune responders (neutrophils and monocytes) against adaptive immune cells (lymphocytes).^{27,28} It captures the balance between systemic inflammatory activity and the immune system's regulatory mechanisms. Research demonstrates that SIRI reflects the intensity and severity of systemic inflammation far more effectively and clearly than conventional WBC (leukocyte) counts.^{29,30} Higher SIRI values suggest that a systemic inflammatory state prevails within the organism. SIRI was initially investigated to predict the prognosis and clinical course in cancer cases; currently, it has been increasingly adopted as a risk predictor in conditions such as cardiovascular diseases, atherosclerosis, infections, rheumatoid arthritis, and stroke.^{31,32} Although it has been less extensively investigated in psychiatry compared to other inflammatory biomarkers, elevated SIRI values have been shown to be associated with conditions such as depression and bipolar disorder.^{33,34} It has been reported that each one-unit increase in SIRI values is associated with an approximately 26-fold increase in the probability of a Generalized Anxiety Disorder diagnosis.¹⁶ Among inpatients with anorexia nervosa, SIRI is a highly significant predictive biomarker of response to nutritional rehabilitation. Patients exhibiting a positive clinical response to therapy presented with reduced initial SIRI values.²⁵ Our findings revealed a notable inverse association between HeOr scores and SIRI levels. This finding may be attributed to the healthy dietary habits of individuals strongly inclined toward HeOr. Indeed, existing literature

indicates that an improvement in dietary quality is associated with a concurrent reduction in SIRI levels.¹⁸ Our analysis of hematological markers revealed that OrNe was significantly and inversely associated solely with monocytes. This finding diverges from a prior investigation that found a positive correlation linking OrNe to the MLR.³⁵ Stress-induced harm and dietary restrictions are thought to mediate this link. The variation between our data and the existing literature might be explained by the use of distinct measurement instruments or additional confounding variables affecting the MLR.

Study Limitations

Certain methodological constraints of the present research must be considered. Primarily, the cross-sectional framework and correlational nature of our data make it impossible to deduce cause-and-effect relationships or predict outcomes linking orthorexia components with blood-based inflammatory markers. While our statistical approach demonstrates significant associations, it cannot determine whether these dietary tendencies predict changes in inflammatory markers over time. These preliminary correlations provide vital groundwork; our investigation appears to be the first to explore the association between orthorexic traits and this specific set of inflammatory indices. Second, our study population consisted exclusively of healthy young adult volunteers applying for private security guard licensing, and was predominantly male (73.9%) with an age distribution clustered around 25 years (IQR 21.00-29.00 years). Although this skewed gender distribution limits the generalizability of our results, it served as a methodological advantage by minimizing potential cycle-dependent physiological fluctuations in inflammatory pathways. The uniformity of the sample successfully controlled for potential confounders, such as age, chronic illnesses, and menstrual phases. However, it also limits the extrapolation of our results to general or clinical cohorts. Third, dietary habits and precise nutritional intake were not objectively quantified; rather, eating behaviors were assessed solely with the self-reported TOS. Consequently, potential recall bias or subjective misinterpretation cannot be entirely ruled out. Lastly, although participants with overt infections were not included, unassessed variables such as sleep hygiene and daily exercise routines might still have affected the inflammatory indices. Therefore, prospective, longitudinal studies employing advanced predictive modeling are warranted to build upon this preliminary evidence and to further elucidate the underlying causal mechanisms.

CONCLUSION

Individuals with a HeOr tendency demonstrated lower levels of several hematological markers of inflammation, including leukocytes, neutrophils, monocytes, platelets, MLR, and SIRI, indicating a healthier systemic inflammatory status. Although OrNe scores correlate strongly with HeOr scores, a similar decline is not observed in hematological inflammatory markers among individuals with a high tendency toward OrNe, except for monocyte counts. Despite more rigid cognitions and behaviors concerning healthy eating in OrNe, this approach

did not translate into a healthier systemic inflammation profile in individuals. The detrimental effects of stress and restrictive dieting may play a role in this phenomenon. However, prospective, more comprehensive studies are warranted to further elucidate the underlying mechanism.

Ethics

Ethics Committee Approval: Ethical committee approval was received from the Erzincan Binali Yıldırım University Clinical Research Ethics Committee (approval no.: 2026-03/01, date: 05.02.2026).

Informed Consent: Written informed consent was obtained from the individual participants who agreed to take part in the study.

Footnotes

Author Contributions: Concept Design – M.C.K.; Data Collection or Processing – M.C.K., M.A., B.Y., G.Ç., R.M.G.; Analysis or Interpretation – M.C.K., M.A.; Literature Review – M.C.K.; Writing, Reviewing and Editing – M.C.K.

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