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Does Intermittent Fasting Lead To Development Of Eating Disorders?

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Abstract

Background: Intermittent fasting (IF) has gained popularity as a weight management strategy; however, concerns have emerged regarding its potential association with disordered eating behaviors. Although IF is known for metabolic benefits, its psychological and behavioral effects remain unclear, particularly in relation to eating disorder symptomatology.

Objective: To evaluate eating disorder symptoms among individuals practicing intermittent fasting and to determine whether fasting duration and patterns are associated with the severity of eating disorder symptomatology.

Methodology: A cross-sectional study design was conducted on 65 participants recruited through non-probability convenience sampling from university and hospital settings. Data were collected using the Eating Disorder Examination Questionnaire (EDE-Q 6.0). Quantitative analysis was performed using SPSS version 26.0, including descriptive statistics, independent samples t-tests, one-way ANOVA, Pearson correlation, and chi-square tests. Ethical approval was obtained, and informed consent was ensured.

Results: The mean age of participants was 25.62 years, with 81.5% females. Female participants showed higher global eating disorder scores (22.80 ± 4.59) compared to males (18.33 ± 5.55), with a significant difference ($t = -2.926$, $p = 0.005$). Fasting duration was longer in males (145.00 ± 146.32 days) than females (80.57 ± 69.53 days; $p = 0.025$). No significant differences were found in global scores across fasting windows ($F = 1.294$, $p = 0.281$). Correlation analysis showed weak, non-significant relationships between age and global score ($r = -0.212$, $p = 0.090$) and fasting duration

and global score ($r = 0.138$, $p = 0.272$). Chi-square analysis also revealed no significant association between gender and fasting window ($\chi^2 = 2.107$, $p = 0.349$). However, behavioral findings indicated notable prevalence of disordered eating patterns, including fasting for weight control (44.6%), overeating episodes (36.9%), and body dissatisfaction (32.3%).

Conclusion: Intermittent fasting was not directly associated with significant differences in eating disorder severity across fasting patterns; however, notable eating disorder–related behaviors were observed, particularly among females. These findings suggest that IF may not cause eating disorders directly but could contribute to disordered eating behaviors in vulnerable individuals.

Introduction

Intermittent fasting has gained considerable attention in recent years as a popular dietary approach for weight management and overall health improvement. Most research in this area has focused on its physiological benefits, including reductions in body weight, body fat, and improvements in cardiovascular health markers (Fanti et al., 2021; Brocchi et al., 2022). Intermittent fasting involves restricting food intake for a specific period each day while allowing consumption during a defined eating window. During fasting periods, individuals typically consume only non-caloric beverages such as water, coffee, or green tea (Cuccolo et al., 2022). Common fasting durations range from 12 to 16 hours, although some individuals may extend fasting up to 20 hours or adopt alternate-day fasting patterns. Unlike traditional dieting strategies, intermittent fasting emphasizes meal timing rather than dietary composition, which contributes to its simplicity and widespread adoption (Ganson et al., 2022).

Despite these benefits, concerns have emerged regarding its potential psychological and behavioral effects, particularly its association with disordered eating. Prolonged fasting can activate physiological hunger mechanisms, increasing appetite and potentially leading to episodes of overeating during feeding periods. This cycle may increase the risk of binge eating behaviors, which over time can develop into eating disorders such as binge eating disorder or bulimia nervosa. Additionally, intermittent fasting may promote an unhealthy relationship with food by encouraging individuals to ignore natural hunger and satiety cues (Langdon-Daly, 2016).

Research indicates that fasting is associated with several established risk factors for eating disorders, including psychological distress, low self-esteem, and internalization of thin body ideals. Furthermore, individuals who experience initial weight loss may become psychologically reinforced to continue or intensify fasting behaviors, potentially leading to restrictive eating patterns and, in severe cases, eating disorders (Donaldson, 2019). Nutritional inadequacy during restricted eating windows may also contribute to poor dietary quality and increase the risk of adverse health outcomes (Fanti et al., 2021).

Another concern is that intermittent fasting focuses primarily on the timing of food intake rather than its nutritional quality, potentially neglecting essential dietary requirements (Langdon-Daly, 2016). Disordered eating behaviors are particularly concerning among vulnerable populations, especially young adults and females, who are more likely to engage in weight-control practices and body image–related concerns (Ganson et al., 2022).

Therefore, although intermittent fasting is widely practiced, its potential role in the development of eating disorders remains unclear. This study aims to explore whether intermittent fasting contributes to the development of eating disorder symptoms and to better understand its psychological implications.

OBJECTIVES AND HYPOTHESES

The main objective of the current study is to assess eating disorder symptomatology among individuals practicing intermittent fasting and to compare the severity of eating disorders across different durations of fasting. Based on these objectives, the

null hypothesis states that there is no significant relationship between intermittent fasting and the development of eating disorder symptoms, nor any difference in the severity of eating disorders across varying fasting durations. In contrast, the alternative hypothesis proposes that intermittent fasting is significantly associated with the development of eating disorder symptoms and that the severity of these symptoms varies according to the duration of intermittent fasting.

METHODOLOGY

A cross-sectional study design was employed to investigate the association between intermittent fasting and eating disorder symptomatology. A non-probability convenience sampling technique was utilized to recruit participants for the study. The inclusion criteria comprised individuals of both genders aged between 18 and 65 years with a measurable body mass index (BMI). Participants were excluded if they were children, underweight, pregnant, or breastfeeding. The required sample size was calculated to be 65 participants at a 95% confidence level using the RaoSoft sample size calculator (Raosoft, 2004).

Data were collected using the Eating Disorder Examination Questionnaire (EDE-Q 6.0), a standardized self-administered instrument consisting of 28 items. The EDE-Q is derived from the Eating Disorder Examination (EDE) interview and is designed to assess core features of eating disorders. It comprises four subscales: Restraint, Eating Concern, Shape Concern, and Weight Concern, along with a global score representing overall disorder severity (Fairburn & Beglin, 1994; Fairburn, 2008). The global score is calculated by summing the scores of the four subscales and dividing by four. The EDE-Q has demonstrated strong reliability and validity across populations, with reported Cronbach's alpha values ranging from 0.70 to 0.93 in different studies (Berg et al., 2012; Mond et al., 2004).

The study was conducted on 65 participants recruited from university settings and hospital environments. Data were collected from individuals meeting the inclusion criteria using the EDE-Q 6.0 questionnaire, which evaluates eating disorder symptomatology across four domains and provides a composite global score (Fairburn, 2008). Participants were informed about the purpose and significance of the study prior to data collection. Written informed consent was obtained, and participation was voluntary. The sampling approach followed a non-probability convenience method.

Data analysis was performed using IBM SPSS Statistics version 26.0. Quantitative variables were summarized using mean, standard deviation, range, and graphical representations such as histograms. Categorical variables were presented as frequencies, percentages, cross-tabulations, bar charts, and pie charts.

The study was conducted in accordance with the ethical guidelines approved by the University of Management and Technology Ethics Committee. Written informed consent was obtained from all participants prior to data collection. Participants were assured of confidentiality and anonymity, and all collected data were securely maintained. Participation was entirely voluntary, and individuals were informed of their right to withdraw from the study at any stage without any consequences. Additionally, participants were assured that there were no risks or disadvantages associated with their involvement in the study.

RESULTS

Table 1: Demographic Characteristics of Participants (n = 65)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	Mean ± SD	25.62	—

Gender	Male	12	18.5
	Female	53	81.5
Intermittent Fasting Status	Yes	65	100

The mean age of participants was 25.62 years. The majority were female (81.5%), and all participants reported practicing intermittent fasting.

Table 2: Intermittent Fasting Patterns (n = 65)

Variable	Category	Frequency (n)	Percentage (%)
Fasting Duration (days)	≤30 days	18	27.7
	31–90 days	30	46.2
	>90 days	17	26.1
Fasting Window	16:8	36	55.4
	14:10	13	20.0
	18:6	16	24.6

Most participants followed intermittent fasting for 31–90 days (46.2%). The most commonly adopted fasting window was 16:8 (55.4%).

Table.3: Eating Disorder–Related Behaviors Among Intermittent Fasters (n = 65)

Variable	Category (Most Reported Duration)	Frequency (n)	Percentage (%)
Limiting food intake	23–27 days	22	33.8
Fear of losing control over eating	16–22 days	19	29.2
Dissatisfaction with body shape	16–22 days	21	32.3
Feeling fat	23–27 days	19	29.2
Uncomfortable seeing own body	16–22 days	19	29.2
Loss of control over eating	13–15 days	18	27.7
Dissatisfaction with weight	16–22 days	19	29.2
Feeling guilty after eating	13–15 days	22	33.8
Episodes of overeating	13–15 days	24	36.9
Strong desire to lose weight	23–27 days / daily	18	27.7
Fear of gaining weight	23–27 days	23	35.4

Fasting for long periods to control weight	23–27 days	29	44.6

The response categories for eating disorder–related behaviors included "no days," "13–15 days," "16–22 days," "23–27 days," and "every day." Although all these categories were recorded and analyzed, the table presents only the most frequently reported category for each variable to highlight the dominant trends.
The findings indicate that disordered eating behaviors were predominantly observed in the moderate to higher frequency ranges. The highest proportion of participants reported engaging in prolonged fasting to control weight within the 23–27 days category (44.6%). Similarly, fear of gaining weight (35.4%) and deliberate restriction of food intake (33.8%) were also most frequently reported within this duration.
Episodes of overeating (36.9%) and feelings of guilt after eating (33.8%) were most commonly observed in the 13–15 days category, indicating the presence of compensatory and maladaptive eating patterns. Furthermore, body image–related concerns, including dissatisfaction with body shape (32.3%), dissatisfaction with weight (29.2%), and discomfort in seeing one's body (29.2%), were primarily reported in the 16–22 days category.
Additionally, fear of losing control over eating (29.2%) and actual loss of control (27.7%) were also reported in mid-frequency ranges, suggesting variability in symptom severity.

Global Score and Fasting Duration by Gender

Table 4: Group Statistics for Global Score and Fasting Duration by Gender (n = 65)

Gender	N	Global Score (Mean ± SD)	Fasting Duration (Days) (Mean ± SD)
Male	12	18.33 ± 5.55	145.00 ± 146.32
Female	53	22.80 ± 4.59	80.57 ± 69.53

Female participants demonstrated higher global scores, indicating greater eating disorder symptom severity, whereas male participants reported a longer mean duration of intermittent fasting.

Table 5: Independent Samples t-Test for Global Score and Fasting Duration by Gender

Variable	F	Sig.	t	df	Mean Difference	95% Confidence Interval	p-value
Global Score	1.284	0.261	-2.926	63	-4.464	-7.512 to -1.415	0.005
	—	—	-2.592	14.594	-4.464	-8.144 to -0.784	0.021
Fasting Duration	16.755	0.000	2.293	63	—	8.272 to 120.596	0.025
	—	—	1.488	12.147	—	-29.793 to 158.661	0.162

Significant differences were observed between genders for both global score and fasting duration under equal variance assumption ($p < 0.05$), while the unequal variance result for fasting duration was not statistically significant.

One-Way ANOVA for Global Score

Table 6: ANOVA Results for Global Score Across Fasting Windows

Source	SS	df	MS	F	p-value
Between Groups	65.293	2	32.646	1.294	0.281
Within Groups	1564.223	62	25.229	—	—
Total	1629.515	64	—	—	—

No statistically significant difference was found in global scores across fasting windows ($p > 0.05$).

Post Hoc Analysis (Tukey HSD)

Table 7: Multiple Comparisons

Comparison	Mean Difference	p-value	95% CI
16:8 vs 14:10	-2.408	0.307	-6.31 to 1.49
16:8 vs 18:6	-1.545	0.565	-5.17 to 2.08
14:10 vs 18:6	0.863	0.890	-3.64 to 5.37

No significant differences were found between fasting windows.

Correlation and Chi-Square Analysis

Table 8: Association Between Study Variables and Gender Distribution Across Fasting Windows (n = 65)

Analysis Type	Variables / Category	Statistic	df	p-value
Correlation	Age vs Global Score	r = -0.212	—	0.090
	Fasting Duration vs Global Score	r = 0.138	—	0.272
Chi-Square	Gender × Fasting Window	$\chi^2 = 2.107$	2	0.349

Correlation analysis demonstrated weak, non-significant relationships between age and global score, as well as between fasting duration and global score. Chi-square analysis also indicated no significant association between gender and fasting window ($p > 0.05$), although the 16:8 fasting window was the most commonly followed pattern among participants.

DISCUSSION

The findings of this study can be explained through an interaction of physiological, psychological, behavioral, and sociocultural mechanisms associated with intermittent fasting (IF). Although IF is widely recognized for its benefits in weight management and metabolic health, emerging evidence also highlights potential risks related to eating behavior regulation, particularly when practiced without structured guidance (Harvie & Howell, 2017; Rynders et al., 2019). The focus on strict eating windows

rather than nutritional quality may contribute to irregular eating patterns, heightened food preoccupation, and disrupted self-regulation of eating behavior.

Physiologically, prolonged fasting alters energy balance regulation and disrupts appetite-related hormonal signaling, including ghrelin and leptin activity. These hormonal fluctuations may intensify hunger sensations, increase food responsiveness, and reduce satiety control, which helps explain the observed overeating episodes, loss of control during eating, and subsequent feelings of guilt. Repeated cycles of restriction and refeeding may further reinforce dysregulated eating patterns and increase physiological sensitivity to food intake over time (Duregon et al., 2021; Haupt et al., 2021). Additionally, prolonged fasting may influence reward pathways, making food intake during feeding windows more psychologically and physiologically reinforcing.

Psychologically, IF promotes rigid dietary structures that encourage cognitive restraint, obsessive monitoring of eating schedules, and heightened focus on food, weight, and body image. This can increase body dissatisfaction, fear of weight gain, and emotional distress, all of which were prominent findings in the present study. Such restrictive cognitive patterns are well-established risk factors for disordered eating behaviors and may explain the elevated eating disorder symptom scores observed among participants (Rantala et al., 2019). Furthermore, strict adherence to fasting rules may contribute to anxiety, guilt when rules are broken, and increased self-criticism related to eating behaviors.

Behaviorally, IF can create a reinforcement cycle in which initial weight loss encourages continued restriction and stricter adherence to fasting regimens. This positive reinforcement may gradually shift behavior from structured dieting toward compulsive restriction and loss of flexibility in eating habits, thereby increasing vulnerability to maladaptive eating patterns. This mechanism aligns with the observed prolonged fasting duration, strong desire for weight loss, dietary rigidity, and persistent control-oriented eating behaviors reported in participants (Harvie & Howell, 2017; Rynders et al., 2019).

Sociocultural influences, particularly internalization of body image ideals and appearance-related pressure, may further intensify these effects, especially among female participants who demonstrated higher eating disorder symptomology. Gender differences may reflect stronger societal pressure toward thinness in females, while males may engage in fasting more for fitness, muscular definition, or performance-related goals, which may not always translate into psychological distress.

Although IF is associated with metabolic advantages such as improved insulin sensitivity, reduced inflammation, and potential disease-preventive effects, its psychological consequences should not be overlooked (Ahmed et al., 2018; Clifton et al., 2021). In vulnerable individuals, restrictive eating patterns may interact with stress, poor emotional regulation, and pre-existing body image concerns, thereby increasing the risk of disordered eating behaviors.

Overall, the findings suggest that intermittent fasting does not directly cause eating disorders; rather, it may act as a behavioral trigger in psychologically vulnerable individuals. The combined influence of physiological hunger dysregulation, cognitive restraint, reinforcement of weight-control behaviors, and sociocultural pressure provides a comprehensive explanation for the eating disorder symptomatology observed in this study.Overall, the results suggest that intermittent fasting does not directly cause eating disorders in all individuals, but may increase vulnerability in those with underlying psychological and behavioral risk factors.This study has several limitations, including its cross-sectional design, which restricts the ability to establish causal relationships between intermittent fasting and eating disorders, making it unclear whether fasting leads to disordered eating or if individuals with such tendencies are more likely to adopt fasting behaviors. The relatively small and gender-skewed sample further limits the generalizability of the findings, while

reliance on self-reported data may introduce recall and social desirability bias, particularly in reporting sensitive eating behaviors. Therefore, future research should employ longitudinal designs to better understand causal pathways and include larger, more diverse populations. Additionally, psychological factors such as body image, self-esteem, and emotional regulation should be explored as potential mediators. It is also recommended that healthcare professionals screen individuals for disordered eating tendencies before suggesting intermittent fasting, and that public health strategies promote balanced, sustainable dietary approaches rather than restrictive eating patterns.

CONCLUSION

Intermittent fasting may contribute to the development of disordered eating behaviors through physiological dysregulation of hunger and psychological reinforcement of restrictive patterns. The findings suggest that eating disorder symptomatology is more strongly influenced by individual vulnerability than by fasting duration or type alone. Therefore, caution is warranted when adopting intermittent fasting, particularly among individuals at risk of eating disorders.

REFERENCES

Ahmed, A., Saeed, F., Arshad, M. U., Afzaal, M., Imran, A., Ali, S. W., ... & Imran, M. (2018). Impact of intermittent fasting on human health: an extended review of metabolic cascades. *International Journal of Food Properties*, *21*(1), 2700-2713.

Berg, K. C., Peterson, C. B., Frazier, P., & Crow, S. J. (2012). Psychometric evaluation of the eating disorder examination and eating disorder examination-questionnaire: A systematic review of the literature. *International Journal of Eating Disorders*, *45*(3), 428-438.

Brocchi, A., Rebelos, E., Dardano, A., Mantuano, M., & Daniele, G. (2022). Effects of intermittent fasting on brain metabolism. *Nutrients*, *14*(6), 1275.

Clifton, K. K., Ma, C. X., Fontana, L., & Peterson, L. L. (2021). Intermittent fasting in the prevention and treatment of cancer. *CA: a cancer journal for clinicians*, *71*(6), 527-546.

Cuccolo, K., Kramer, R., Petros, T., & Thoennes, M. (2022). Intermittent fasting implementation and association with eating disorder symptomatology. *Eating Disorders*, *30*(5), 471-491.

Donaldson, F. (2019). *Comparing the effects of Intermittent Fasting and Continuous Calorie Restriction on eating disorder and mood symptoms in healthy dieters* (Doctoral dissertation, UCL (University College London)).

Duregon, E., Pomatto-Watson, L. C., Bernier, M., Price, N. L., & de Cabo, R. (2021). Intermittent fasting: from calories to time restriction. *Geroscience*, *43*(3), 1083-1092.

Fairburn, C. G. (2008). *Cognitive behavior therapy and eating disorders*. Guilford Press.

Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire?. *International journal of eating disorders*, *16*(4), 363-370.

Fanti, M., Mishra, A., Longo, V. D., & Brandhorst, S. (2021). Time-restricted eating, intermittent fasting, and fasting-mimicking diets in weight loss. *Current obesity reports*, *10*(2), 70-80.

Ganson, K. T., Cuccolo, K., Hallward, L., & Nagata, J. M. (2022). Intermittent fasting: Describing engagement and associations with eating disorder behaviors and psychopathology among Canadian adolescents and young adults. *Eating Behaviors*, *47*, 101681.

Harvie, M., & Howell, A. (2017). Potential benefits and harms of intermittent energy restriction and intermittent fasting amongst obese, overweight and normal weight subjects—a narrative review of human and animal evidence. *Behavioral Sciences*, *7*(1), 4.

Haupt, S., Eckstein, M. L., Wolf, A., Zimmer, R. T., Wachsmuth, N. B., & Moser, O. (2021). Eat, train, sleep—retreat? Hormonal interactions of intermittent fasting, exercise and circadian rhythm. *Biomolecules*, *11*(4), 516.

Langdon-Daly, J. M. J. (2016). Protection, risk and dieting: Intermittent fasting diets and disordered eating.

Mond, J. M., Hay, P. J., Rodgers, B., Owen, C., & Beumont, P. J. (2004). Validity of the Eating Disorder Examination Questionnaire (EDE-Q) in screening for eating disorders in community samples. *Behaviour research and therapy*, *42*(5), 551-567.

Rantala, M. J., Luoto, S., Krama, T., & Krams, I. (2019). Eating disorders: an evolutionary psychoneuroimmunological approach. *Frontiers in psychology*, *10*, 457759.

Raosoft, I. (2004). Raosoft sample size calculator. *Raosoft, Inc., Seattle*.

Rynders, C. A., Thomas, E. A., Zaman, A., Pan, Z., Catenacci, V. A., & Melanson, E. L. (2019). Effectiveness of intermittent fasting and time-restricted feeding compared to continuous energy restriction for weight loss. *Nutrients*, *11*(10), 2442.