

Effects of Intermittent Fasting Among Adults in Urban Population Chennai – A Cross-Sectional Study

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Abstract

Background: Nowadays among youth, especially in urban population, there is significant trend towards dieting and fitness, this study aims at finding the health effects and the attitude towards intermittent fasting among adults in urban population – Chennai.

The study will help us know the effects of intermittent fasting as a lifestyle practice and their adherence to meals.

Objective: There are two main objectives in this study:

- To find out the health-related effects of intermittent fasting among adults in urban population – Chennai
- To study the attitude towards intermittent fasting among urban population – Chennai.

Methods: A Cross sectional study was conducted among urban population Chennai which included individuals between 18- 35 yrs of age for a period of 100 days. Data was collected using a self semi-structured, standardized questionnaire assessing demographic characteristics, knowledge on intermittent fasting, various health effects like gastritis, mood disorders, sleep patterns. Data was analyzed using Jamovi software version 2.7.18. Descriptive statistics summarized 95% confidence interval. Chi square test was used.

Results: The study was conducted among 18 to 35 yrs adult population through semi self-structured questionnaire, out of the 50 responses obtained (sample size 50), out of the 86 % of individuals who practiced intermittent fasting ,69.76 % of them did not skip any meal and there is no statistically significant association between intermittent fasting and gastritis , mood of an individual , quality of sleep , bowel habits such as constipation and diarrhea and drowsiness. However, there is a statistically significant association between skipping of meals and quality of sleep ($p < 0.001$).

Conclusion: Intermittent fasting did not have any statistically significant effect on the health of individual such as gastritis, mood disturbances, quality of sleep, constipation or diarrhea and drowsiness. However, there is statistically significant association between skipping of meals and quality of sleep of an individual. And also, there is found to be an increased trend towards the practice of intermittent fasting in adults aged between 18 to 25 in urban population – Chennai.

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Introduction

Intermittent fasting diets have become very popular in the past few years as they produce clinically significant weight loss [1]. It is preferred by many adults nowadays for various reasons. The main reason being its zero cost and efficiency in weight loss performance. There is a huge doubt on how much health benefits it has got. There are different types of intermittent fasting. Few of the types are alternate fasting, eat stop eat method.

Intermittent fasting is also known as lifestyle diet. Here in our research, we focus on the reason behind the prevalence of intermittent fasting among 18-35 years old adult in urban population-Chennai and the way of practice, their adherence to diet and consequent effects on individuals health [2].

16:8 Method – Fast for 16 hours and eat all your meals within 8 hour window period. The common practise is eat between 12 pm to 8 pm skipping

breakfast. Usually people tend to consume junk in those 16 hour period. There is a popular trend among adults to consume junk food in that window period. Some who strictly eat low calorie nutritious food within that window period achieve significant weight loss.

Method

Eat a normal healthy diet for 5 days of the week and severely restrict calories to about 500 to 600 calories on the other two consecutive day. Some people tend to normally eat for 5 days and then tend to limit themselves to one meal per day for two days [3].

Alternate Day Fasting: Eats well balanced normal diet on day 1 followed by 24 hrs reduced calories diet followed by balanced normal diet, that is eats well balanced normal diet for 4 days in a week with reduced calorie intake diet in the remaining 3 week time [4]. Pathophysiology behind intermittent fasting is Fed state (0 to 4 hrs) – Increased blood glucose level causes increased insulin production, glucose used for energy and excess glucose stored as glycogen and fat.

Post absorptive state (4 to 12 hrs) – Blood glucose level decreases, insulin level decreases, level of glucagon in blood increases through glycogenolysis which maintains blood glucose level in blood. Fasting state (12 to 24 hrs) – Glycogen depletion, lipolysis begins where fat gets converted into free fatty acids which further gets converted into ketone bodies [5].

Objectives

There are two main objectives in this study:

- To find out the health-related effects of intermittent fasting among adults in urban population – Chennai
- To study the attitude towards intermittent fasting among urban population – Chennai.

Methodology

This is a Cross Sectional Study done for a study population of 18-35 yrs old adult in urban population – Chennai. Study design – Cross sectional study. Data is collected by google forms using a self-semi structured standardised questionnaire.

Study Setting: Urban population Chennai

Inclusion Criteria: 18-35 YRS old adult in urban Chennai who are willing to participate in the study

Sampling Procedure: Convenient Sampling

Study Period: 100 DAYS

Data Collection: Based on a self-semi structured questionnaire

Data Analysis: Data were entered in excel sheets and analysed using Jamovi software version 2.7.18. Descriptive statistics summarized 95% confidence interval. Chi square test was applied. A p-value < 0.05 is considered statically significant.

Results

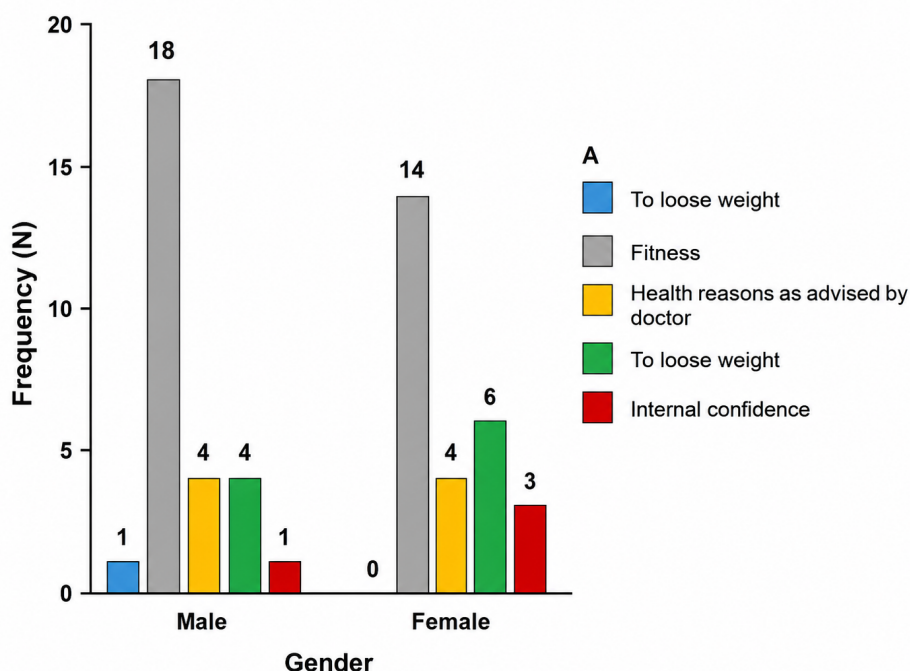


Figure 1: Bar Graph Depicts the Relationship Between Gender and Purpose of People Following Intermittent Fasting

Table 1: Chi Square Test Relationship Between Quality of Sleep and Frequency of Skipping Meals

χ^2 Tests			
	Value	Df	P
χ^2	33.7	6	<.001
N	50		

Figure 1 illustrates the relationship between gender and the primary purposes for individuals practicing intermittent fasting. The bar graph shows that fitness is the most frequently reported motivation among both males and females, followed by weight loss and internal confidence, while health reasons advised by a doctor were the least cited. A chisquare test confirmed a statistically significant association between gender and purpose of intermittent fasting ($\chi^2 = 33.7$, $df = 6$, $p < .001$; $N = 50$), indicating that motivational factors vary meaningfully across genders. Table 1 further presents the chisquare analysis examining the relationship between sleep quality and frequency of meal skipping. Results revealed a significant association, suggesting that individuals who regularly skip meals as part of intermittent fasting tend to report better sleep quality. Taken together, these findings highlight that intermittent fasting is primarily driven by selfdirected goals such as fitness and confidence, with gender differences influencing motivations, and that the practice may also contribute to improved restorative outcomes such as enhanced sleep quality.

Discussion

Intermittent fasting has emerged as a widely studied dietary intervention with promising effects on metabolic health and overall wellbeing [6]. A growing body of evidence suggests that structured fasting regimens can positively influence weight management, lipid profiles, and other physiological parameters. Bhavani et al. conducted a notable investigation into alternateday fasting (ADF), demonstrating that when combined with regular exercise, this approach significantly reduced body weight and lowdensity lipoprotein (LDL) cholesterol levels in obese individuals [7]. These findings highlight the synergistic benefits of dietary restriction and physical activity in addressing obesityrelated complications and improving cardiovascular risk markers [8]. Complementing this, Raveendiran et al. examined fasting during Ramadan among healthy adult males and reported substantial improvements in several health indicators, thereby underscoring the potential of culturally embedded fasting practices to yield measurable health benefits [9]. Collectively, these studies reinforce the notion that intermittent fasting, whether practiced in clinical or cultural contexts, exerts a meaningful impact on human physiology [10]. Building upon these established insights, the current study extends the scope of inquiry by

examining the relationship between intermittent fasting and sleep quality. Sleep is a critical determinant of physical and psychological health, influencing metabolic regulation, cognitive performance, and emotional resilience. The findings of this study reveal that individuals adhering to intermittent fasting protocols exhibit superior sleep quality compared to those who do not engage in fasting practices. This suggests that the benefits of intermittent fasting may transcend metabolic outcomes, contributing to improved restorative processes and overall wellbeing. By situating sleep within the broader framework of fastingrelated health improvements, the present research adds a novel dimension to the existing literature, emphasizing that intermittent fasting may serve not only as a dietary strategy but also as a holistic lifestyle intervention with multifaceted health advantages.

Conclusion

It is evident from the current study that intermittent fasting did not have any statistically significant effect on the health of individual such as gastritis, mood disturbances, quality of sleep, constipation or diarrhea and drowsiness. However, there is still a statistically significant association between skipping of meals and quality of sleep of an individual and it is also clear that there is an increasing trend pattern towards the practice of intermittent fasting in adults aged between 18 to 25 in urban population – Chennai.

Reference

1. Khan, M.A., Khan, S.A., Annadurai, K., Parajuli, S.B., Ahmed, W.N., Altamimi, S., Ashok, T., Shah, D., Sayyad, Y., Dubey, A. and Tariq, A., 2024. Determinants of body weight changes during Ramadan fasting in India amid COVID-19: A cross-sectional study. *Medicine*, 103(4), p.e37040.
2. Salis, S., Shefa, S., Sharma, N., Vora, N., Anjana, R.M., Mohan, V. and Ranjani, H., 2022. Effects of intermittent fasting on weight loss in asian indian adults with obesity. *J Assoc Physicians India*, 70(9), pp.11-2.
3. Muniyapillai, T., George, N., Dharmaraj, R.B., Parthasarathi, A., Panneerselvan, N., Thirumalraj, A., Jeganish, A., Kulothungan, K., Dharmaraj, R.B. and Kulothungan Sr, K., 2024. Dietary modification patterns and interventions among weight loss seekers in Tamil Nadu, South India: A cross-sectional analysis of

- intermittent fasting and alternative dietary approaches. *Cureus*, 16(12).
4. Aarthi, G.R., Pradeepa, R., Ulagamathesan, V., Fecht, D., Venkatasubramanian, P., Forouhi, N.G., Chambers, J.C., Mohan, V. and Anjana, R.M., 2026. Food and Physical Activity Environments and their Impacts on Diabetes in South India Adults. *Journal of Diabetology*, 17(1), pp.83-92.
 5. Anjana, R.M., Sudha, V., Abirami, K., Gayathri, R., Manasa, V.S., Deepa, M., Pradeepa, R., Unnikrishnan, R., Joshi, S., Saboo, B. and Gupta, A., 2025. Dietary profiles and associated metabolic risk factors in India from the ICMR–INDIAB survey-21. *Nature Medicine*, 31(11), pp.3813-3824.
 6. Thomas, S., 2017. A Cross-Sectional Study on Screening for Diabetes Mellitus Using Indian Diabetes Risk Score (IDRS) Among Adults Aged ≥ 18 Years Residing in Urban Slums of Mandya City (Doctoral dissertation, Rajiv Gandhi University of Health Sciences (India)).
 7. Bhavani, V. and Devi, N.P., 2020. Effect of Dietary Habits on Body Mass Index of the Selected Population in Tamil Nadu. *Shanlax International Journal Of Arts, Science And Humanities Учредители: Shanlax International Journals*, 8(1), pp.163-171.
 8. Anjana, R.M., Deepa, M. and Pradeepa, R., 2025. Prevalence of diabetes in urban and rural India—ICMR-INDIAB study. In *Cardiometabolic Diseases* (pp. 37-48). Academic Press.
 9. Raveendiran, A.G., Pradeepa, R., Ulagamathesan, V., Chambers, J.C., Mohan, V., Venkatasubramanian, P. and Mohan, A.R., 2023. Prevalence of and risk factors for diabetes in urban Chennai. *Journal of Diabetology*, 14(1), pp.34-40.
 10. Anuradha, R., 2010. A Study on prevalence of overweight and obesity among women aged 20 years and above in an Urban Slum of Chennai (Doctoral dissertation, Madras Medical College, Chennai).