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Intermittent Fasting Among Adults: Patterns, Prevalence, and Health Benefits

Authors' Contribution:
Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
Literature Search F
Funds Collection G

BCDEG 1 Mashael Alsufyani
ABCFG 1 Alya Alghamdi
ABCFG 2 Fatimah M. Fagieha
ABCDEFG 3 Wajid Syed
ABCDG 4 Osama Samarkandi

1 Community and Mental Health Nursing Department, College of Nursing, King Saud University, Riyadh, Saudi Arabia
2 Master Students at Community and Mental Health Nursing Department, College of Nursing, King Saud University, Riyadh, Saudi Arabia
3 Clinical Pharmacy Department, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia
4 Department of Basic Science, Prince Sultan College for Emergency Medical Services, King Saud University, Riyadh, Saudi Arabia

Corresponding Authors: Osama Samarkandi, e-mail: osamarkandi@ksu.edu.sa, Wajid Syed, e-mail: wali@ksu.edu.sa
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Background: Intermittent fasting (IF) has gained popularity as a weight loss strategy and is associated with managing metabolic diseases, such as diabetes and obesity. This study investigates the prevalence, characteristics, and health outcomes of IF among adults in Saudi Arabia.

Material/Methods: A cross-sectional study was conducted in Riyadh from February to May 2024, involving Saudi adults. Data were gathered through electronic questionnaires, using convenience sampling. The questionnaire included sections on demographics, IF status, chronic diseases, fasting patterns, health impacts, and motivations for IF.

Results: The study found that 60.3% of participants practiced IF. The most common chronic conditions were obesity (11.5%), diabetes (9.7%), and heart disease (8.0%). Symptoms experienced during fasting included energy deficiency (18%), hunger (17.7%), and dizziness (17.7%). Among 109 participants, 33% practiced IF for less than a week, and 12.7% for more than 2 weeks. Notably, 17.7% followed a 12-h fasting pattern, while 15.0% adhered to a 16-h fasting schedule. Weight loss varied, with 11.5% losing less than 2 kg, 16.5% losing 3 kg, and 9% losing between 5 and 9.9 kg. The primary motivations for IF were weight loss (27.4%) and health improvement (26.5%). Additionally, 35.7% reported feeling better, and 22.7% experienced great health benefits after IF.

Conclusions: A significant number of individuals engage in IF, with diverse patterns and motivations. The study results showed meaningful weight loss and health improvements among participants, suggesting IF may offer beneficial health outcomes. These insights underscore the potential of IF as a viable strategy for health management in Saudi Arabia.

Keywords: Health • Intermittent Fasting • Weight Gain • Weight Loss

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Introduction

The World Health Organization estimates that 1 in 8 people worldwide have obesity, and statistics from 2022 showed that 16% of adults aged 18 years and over have obesity [1]. In addition, the prevalence of chronic metabolic diseases has been rising rapidly in recent years, placing a tremendous burden on the healthcare system and the general public [2]. Diabetes and obesity are the most common metabolic diseases among adults [1-4]. Furthermore, by 2030, 439 million adults are expected to develop diabetes [3,4]. Metabolic conditions like obesity are major contributors to the development of diabetes, heart disease, stroke, musculoskeletal conditions, including osteoarthritis, and some malignancies, such as endometrial, breast, and colon cancer [5]. Intermittent fasting (IF) is one of the alternative regimens that have been developed to effectively treat and monitor obesity and excessive weight, in addition to different treatment techniques and medication use [6].

Today, a growing dietary trend in developed and developing countries is IF, which is defined as limiting the amount of time spent on food or drink intake for a specific period [7-15]. The dietetic approach entails planning times for regular eating in between periods of fasting [8]. There are several types of IF, including time-restricted eating, complete-day fasting, alternate-day fasting, and other variations [8]. Each type has distinct frequencies and durations. Common IF methods include the 16/8: fasting for 16 h, eating within 8 h (suitable for beginners) [10,11]; the 5/2: normal eating for 5 days, calorie restriction (500-600 calories) on 2 non-consecutive days [10,11]; and lastly, the 12/12: fasting for 12 h, eating within 12 h [10,11].

Among the alternative methods of reducing weight irrespective of body mass index (BMI) [12] and optimum achievement of glycemic control [7,13], IF is often encouraged and adopted to lose or maintain weight, because it is easy to follow and it does not require any additional cost [7,12]. Furthermore, the literature has revealed multiple health benefits of IF, even beyond weight loss [7,12]. Time-restricted eating can also be effective as an adjunct therapy for some patients with diabetes or prediabetes, to improve their overall health [14,15]. In addition to adequate control over energy production and glucose control, IF has a positive role in inflammation control by the activation of autophagy, a cellular process that helps eliminate damaged cells and proteins, ultimately contributing to reduced inflammation [16]. In addition to this, IF could prevent oxidative stress and adverse metabolic disorders in healthy patients with obesity [17].

Relatively little research has been conducted regarding the individual frequency and health outcomes of IF [18,19]. Nevertheless, a previous study examined if and how IF affects clinical outcomes in a variety of populations [18]. In Saudi Arabia, the literature about IF is very limited; however, some studies assessed fasting in Ramadan [20-22] and its effects on diabetes. One study revealed an IF prevalence of 58% [19]. Furthermore, earlier findings revealed a greater amount of weight loss after IF, and that IF was performed with the main aim to lose weight [19]. Similarly, another study reported that BMI was significantly decreased after IF [23]. A thorough understanding of IF is required to manage metabolic diseases, creating public awareness of the potential outcomes of IF. Therefore, in this study, we aimed to evaluate the pattern, prevalence, and health benefits of IF among adults living in Saudi Arabia.

Material and Methods

Study Design, Setting, and Population

Before initiating the study, the protocol and questionnaires were reviewed and approved by the Human Ethics Committee at King Saud University, Riyadh (reference number 24-603). Furthermore, participants' identities were protected through anonymous responses, ensuring confidentiality. The online survey introduction clearly outlined the study's purpose, risks, and benefits, and the participants' rights. Participants provided implicit consent by proceeding with the survey. The study adhered to the principles outlined in the Declaration of Helsinki. A web-based cross-sectional study was conducted among Saudi adults residing in the capital region in August 2024. Eligibility criteria included were Saudi national status, age over 30 years, residence in Riyadh, and ability to provide informed consent. The exclusion criteria included non-Saudi residents and incomplete responses.

Sample Size Estimation

Following established methodologies, we used the Raosoft sample size calculator [24-27], (http://www.raosoft.com/samplesize.html) to determine the required sample size. Based on a population of 7 820 551, a 95% confidence interval, and a 5% margin of error, we calculated a minimum sample size of 385. This calculation assumed a 50% response rate for each question, given the uncertainty of potential outcomes. To enhance the study's robustness, we aimed to survey 500 individuals, which became the final sample size.

Questionnaire Development

To achieve the study objective, a series of questionnaires were adopted from similar studies published elsewhere [18,19,28] and organized into demographic information (4 items). The first section contained basic demographic information about IF, including respondent classification, age, sex, and whether or not they had ever fasted outside of Ramadan. It also asked if they had any

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ongoing medical conditions. The second section collected information on the duration, pattern, and amount of hydration of IF. In the third section, information was acquired about how IF affected their health, including how much weight they lost after IF, how hungry they felt, how much food they consumed after IF, and any common physical symptoms they had. The most common reasons for practicing IF, how long respondents planned to continue practicing IF, the source information on IF, and whether or not they use fasting applications were all covered in the last part.

After the initial draft of the questionnaires, they underwent translation using forward and backward methods to create a version suitable for the Arabic population. Subsequently, a team of 3 experts (1 professor and 2 senior researchers) reviewed the questionnaires and provided feedback to enhance the final version. To assess the face validity of the questionnaires before the final study, a pilot study was conducted to confirm reliability using the Cronbach alpha coefficient. A subset of 30 randomly selected individuals participated in the pilot study to test the questionnaire, with a Cronbach α threshold of 0.69 considered acceptable for reliability. Arabic versions of the questionnaires were used for data collection and converted into Google Forms. Data were collected through convenience sampling, with self-administered surveys distributed to participants. The survey link was shared on social media platforms frequented by the target population, providing an introduction to the study, its objectives, inclusion/exclusion criteria, and data confidentiality. Participants who agreed to participate were directed to the original questionnaire, which served as informed consent. Data collection continued until the desired sample size was reached. Convenience sampling was chosen for its efficiency in reaching a large number of adults in Saudi Arabia, leveraging the widespread use of social media and online platforms in the region. This method allowed for quick and cost-effective data collection, which was essential given the study's time and resource constraints.

Data Analysis

The data collected online were downloaded onto an Excel sheet and transferred to the Statistical Package for Social Sciences, version 26.0 (IBM Corp, Armonk, NY, USA). Descriptive statistics were used to describe the sociodemographic characteristics, with categorical variables presented as frequency (n) and percentages (%), and continuous variables as means and standard deviations.

Results

From the initiation of the study in March 2024, there were 759 respondents. Of these, 582 were included in the analysis, while 177 respondents were excluded because they did not completely answer the questionnaires. With regards to sex, 53.6% were men, 27.7% of them were aged between 40 and 45 years old; with regards to professional status, 24.2% were students, 22.9% were housewives, and 25.8% were currently employed, as shown in **Table 1**. **Figure 1** shows the study flow chart, including the total number of responses obtained and reasons for inclusion and exclusion to the study. However, 339 (58.2%) reported practicing fasting outside of Ramadan; therefore, only 339 responses were included in the analysis.

Characteristics of IF Among Respondents

Respondents' duration of practicing IF, the IF pattern, and hydration status are shown in **Table 2**. Approximately 32% (n=109) revealed that they practiced IF during 2 weeks other than Ramadan, while 12.7% practiced it for up to 3 weeks. With regards to the pattern of IF, 17.7% used the 12 h fasting/12 h eating pattern, while 15.0% used the 16 h fasting/8 h eating. Slightly less than half of the respondents were hydrated during fasting, while 8.0% sometimes forgot to hydrate during the IF. With regards to comorbid conditions among respondents, obesity was most common (11.5%, n=39), followed by diabetes mellitus (9.7%, n=33), and heart disease (8.0%, n=27), as shown in **Figure 2**.

Health Outcome of IF

With regards to health outcomes, 11.5% of respondents revealed that they lost <2 kg of weight after IF, while 16.5% lost 3 kg of their weight, and 9.4% lost 5 to 9.9 kg of their total weight. In addition, 19.2% did not lose weight, and interestingly, 9.7% gained weight. However, 42.7% of respondents revealed that, after practicing IF, the level of hunger had not changed, while 31.0% reported it had changed. After adhering to IF, the health status was better among 35.7% of respondents, while it was excellent among 22.7% of respondents, as shown in **Table 3**.

Among the respondents, the most common symptoms or adverse effects during IF were decreased energy 18% (n=61), followed by hunger 17.7% (n=60) and dizziness 17.7% (n=60), as shown in **Figure 3**.

Reasons for and Duration of IF Among Respondents

The most common reasons for IF among respondents were weight loss (27.4%, n=93) and health improvement (26.5%, n=90). When we asked, how long you plan to continue IF, 18.9% said less than a month in a year, while 24.8% said until they reach their weight loss goals. With regards to learning IF or the source for IF, 20.1% (n=68) revealed it came from social networking sites, followed by advice of a physician 19.5% (n=66) and through friends and families 17.1% (n=58). The detailed

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Table 1. Demographic characteristics of the total respondents (n=582).

Characteristics	Frequency (n)	Percentage (%)
Sex*		
Male	312	53.6
Female	240	41.2
Age* (years)		
30-35	56	9.6
36-39	93	16.0
40-45	161	27.7
46-50	157	27.0
50 years	115	19.7
Professional classification		
Students	141	24.2
Housewives	133	22.9
Employed	150	25.8
Other	158	27.1
Do you ever practice fasting outside of Ramadan?		
Yes	339	58.2
No	243	41.8

* Missing response.

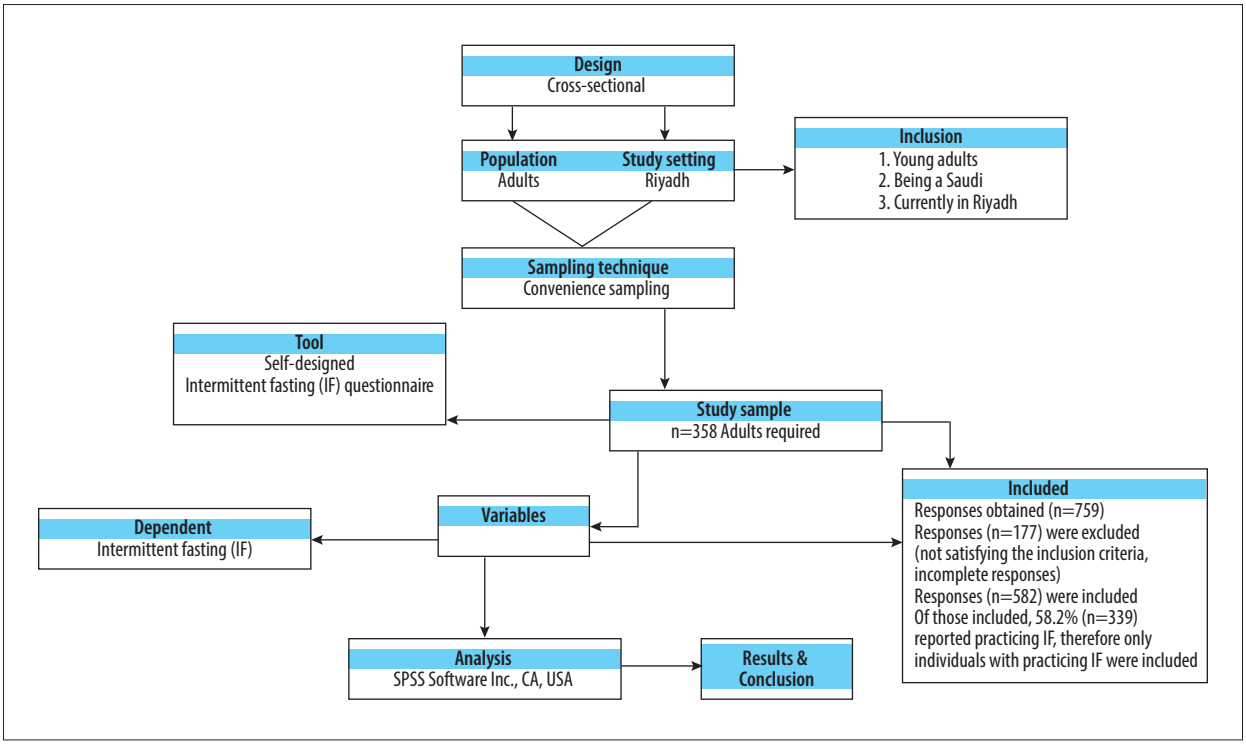

Figure 1. Presentation of research design.

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Table 2. Characteristics of intermittent fasting (n=339).

Characteristics of Intermittent Fasting	Frequency (n)	Percentage (%)
For how long have you practiced intermittent fasting other than Ramadan?		
<2 weeks	109	32.0
3 weeks	43	12.7
A month or less	58	17.2
<2 months	51	15.1
3 months and above	78	23.0
Pattern of intermittent fasting		
12 hours fasting/12 hours eating	60	17.7
16 hours of fasting/8 hours of eating	51	15.0
18 hours of fasting/6 hours of eating	48	14.2
Fasting 2 days a week	81	23.9
Other	44	13.0
Day fasting and day eating	55	16.2
Are you hydrating during fasting?		
Yes	159	46.9
No	153	45.1
Sometimes I forget to drink enough water	27	8.0

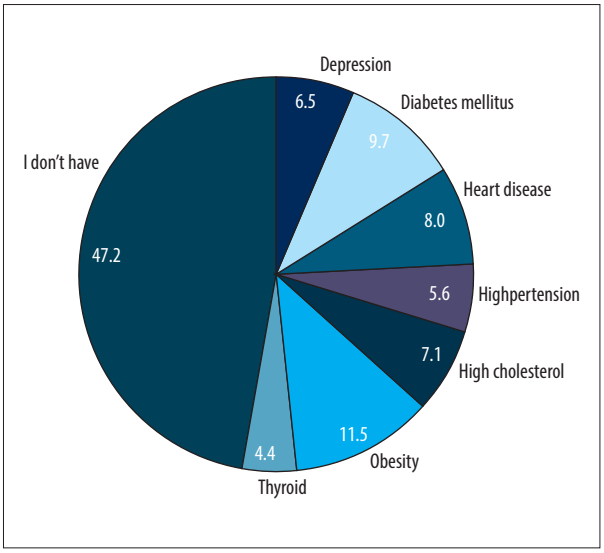

Figure 2. Prevalence of comorbid conditions (%).

frequencies of the responses toward reasons, duration, and source of IF are presented in **Table 4**.

Discussion

The results revealed that 58.2% of respondents practiced IF. These findings were similar to earlier studies conducted by Alnasser and Almutairi [19] among Saudi adults (58%), Ganson et al among Canadians (86.1%) [13], Suhair et al among Saudi adults (60.3%) [28], and Shalabi et al among Saudi adults (70.8%) [29]. The high prevalence of IF can be attributed to several factors, including cultural and religious significance [29,30]. The Islamic nature of Saudi Arabia mandates fasting for adults, particularly during Ramadan [29,30]. This cultural familiarity with fasting can contribute to the high adoption rate of IF outside of Ramadan [29,30]. Additionally, perceived health benefits, such as weight loss, improved metabolic health, and increased longevity, growing awareness about the benefits of IF through social media, healthcare providers, and online resources, and demographic characteristics, such as age, education level, and socioeconomic status, can also influence the prevalence of IF practice among Saudis [29,30].

Although the frequency and duration of practicing IF varied among respondents in the present study, with 32% practicing IF for 2 weeks and 23% for 3 months, these findings were somewhat consistent with previous research in Saudi Arabia and other countries [19]. For example, a study among adults in Saudi Arabia found that 32.5% practiced IF for less than a month, and 25.5% practiced for 1 to 3 months [19]. These findings suggest that a significant number of individuals in the present study adhered to the recommended fasting duration. According to the literature, practicing IF for at least 1 to 3 months can lead to weight loss [31], improved athletic

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Table 3. Health outcomes of intermittent fasting (n=339).

Variables	Frequency (n)	Percentage (%)
After intermittent fasting, how much weight did you lose?		
Less than 2 kg	39	11.5
3 kg	56	16.5
3-4.9 kg	32	9.4
5-9.9 kg	43	12.7
10-14.9 kg	43	12.7
15-19.9 kg	28	8.3
I didn't lose weight	65	19.2
I gained weight	33	9.7
After practicing intermittent fasting, the level of hunger has become		
It hasn't changed	145	42.7
Less	105	31.0
More	89	26.3
Health status after intermittent fasting		
Better	121	35.7
Excellent	77	22.7
Hasn't changed	67	19.8
It's deteriorated	74	21.8
After intermittent fasting, what is the amount of food you eat?		
Less than usual	114	33.6
More than usual	90	26.5
Same amount	135	39.8

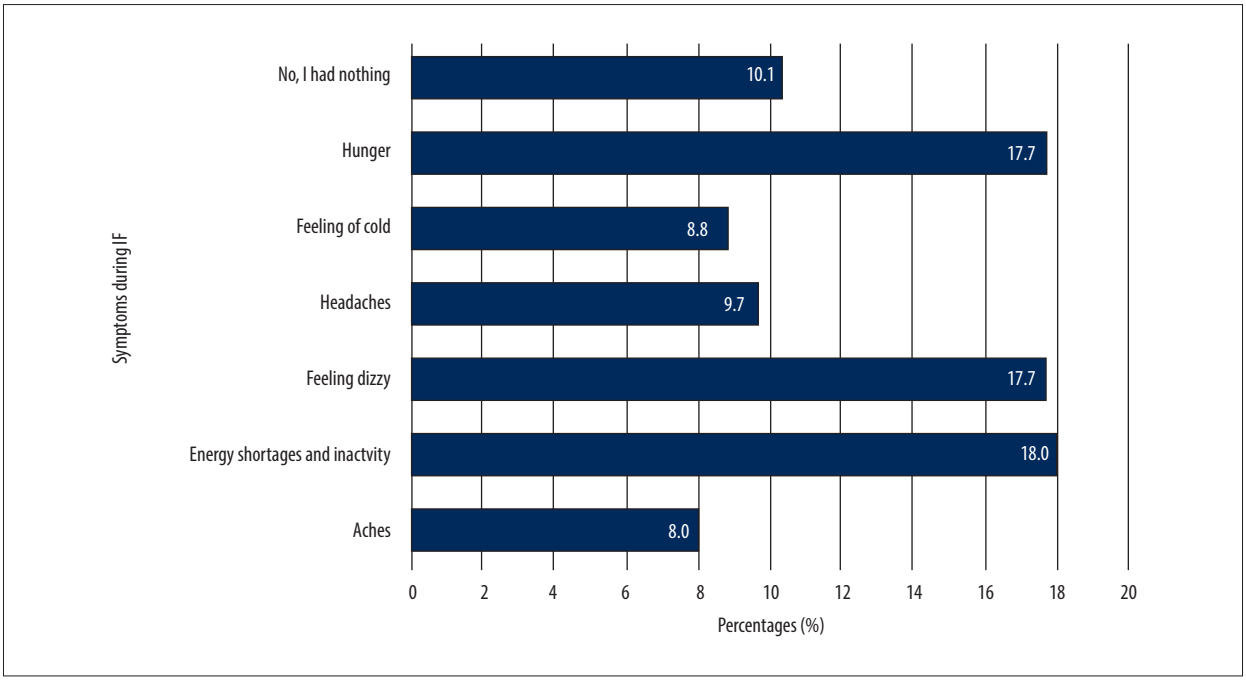

Figure 3. Physical symptoms during fasting.

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Table 4. Reasons for and duration of intermittent fasting (n=339).

Variables	Frequency (n)	Percentage (%)
Why do you practice intermittent fasting?		
To lose weight	93	27.4
To be healthy	90	26.5
Religious reasons	80	23.6
Other	76	22.4
How long do you plan to continue practicing intermittent fasting?*		
Less than a month in a year	64	18.9
Between 1 and 2 months in a year	46	13.6
Three months	36	10.6
I am not sure	45	13.3
I don't know	63	18.6
Until I reach my weight loss goals	84	24.8
How did you learn about intermittent fasting?		
Books and magazines	46	13.6
Discussed with physician	66	19.5
Health programs on television	51	15.0
Pharmacist advice	50	14.7
Through friends and family	58	17.1
Through social networking sites	68	20.1
Did you use any applications to track intermittent fasting?		
I didn't know there were applications for intermittent fasting	97	28.6
I don't need apps to help me fast	117	34.5
No Arabic applications	61	18.0
I used	64	18.9

performance, better gut, liver, and heart health, and reduced inflammation. Additionally, a previous study indicated that long-term IF is beneficial for individuals with chronic diseases, helping to prevent and maintain good health [32].

Regarding the fasting patterns among individuals in this study, 17.7% practiced 12 h of fasting, followed by 15% who fasted for 16 h, and approximately 32% who practiced IF for less than 2 weeks. These findings contrasted with earlier research, in which the most prevalent fasting pattern among adults was 16 h of fasting, followed by 12 h [19]. Similarly, another previous study found that 44% used the 16/8 fasting method, followed by 24% who used 20/4 fasting (n=6), and 32% of the total population practiced alternate-day fasting. The findings revealed that BMI and body weight were significantly reduced in the alternate-day fasting group, which was not observed in other fasting patterns [33]. These findings align with previous research in many ways, suggesting that the main mechanism behind the IF weight loss strategy involves restricting eating for specific periods [34]. This often results in a calorie deficit and hormonal changes that can aid in weight loss and promote good metabolic health [18,34]. Additionally, research indicates that IF can have positive effects on various health outcomes for adults with overweight or obesity, compared with continuous energy restriction or non-intervention diets [18,34]. Furthermore, IF can lead to reductions in waist circumference, fat mass, total cholesterol, triglycerides, fasting insulin, and blood pressure, while also increasing levels of good cholesterol [18,34].

In this study, 35.7% and 22.7% of the respondents revealed that their overall health status was better or excellent, respectively, after practicing IF. The outcomes of IF were reported differently among the respondents. Approximately 16.5% of Saudi

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adults revealed that, after practicing IF, they lost 3 kg of their total body weight, while around 12% lost more than 2 kg, and 19.2% did not find any change in their body weight. Our results are supported by findings indicating that IF was effective in managing overall health and controlling metabolic effects [16,18,34]. For example, a previous study among adults reported that 35% of respondents lost 2.2 kg of their body weight, 25.7% lost up to 5 kg, and 61.3% reported that their overall health was better after practicing IF [19]. Similarly, another systematic review and meta-analysis reported that IF reduced waist circumference, fat mass, fasting insulin, low-density lipoprotein cholesterol, total cholesterol, and triacylglycerol [18].

In addition to the wide variety of health benefits of IF, research has shown that it can alleviate neurological conditions like memory loss and boost anticancer activity in medications [31,34], leading to improved metabolic function and longer lifespans [34]. Furthermore, IF stimulates several biological pathways that promote autophagy, promote cell division, postpone senescence, and stop cancer cells from proliferating and spreading [34]. However, when it comes to individuals of a certain age and sex, IF has distinct drawbacks and restrictions [34]. Therefore, a more thorough investigation into the safety and health-promoting properties of IF is required [34].

Over the last few years, the problem of metabolic and cardiovascular diseases has been actively rising in Saudi Arabia and other countries [18]. Consequently, various established treatment plans have been using allopathic and alternative medications [35,36] for the management of these diseases; however, IF has attracted significant attention in managing various metabolic diseases for weight control, fat reduction, potential health benefits, and lifespan extension [18,37,38]. As such, individuals must be equipped with a solid foundation of knowledge and awareness about practicing IF. Therefore, it is necessary to evaluate the public prevalence of IF among Saudi adults, and its characteristics. The present study can make a significant contribution to the safe and accurate practice of IF by raising awareness about the beneficial and clinical outcomes among individuals in Saudi Arabia and other countries, and can serve as a reference for much-needed future studies. The findings could also be used by educational and healthcare institutions to develop appropriate awareness and clinical guidelines and initiatives to improve the practice of IF, to overcome various metabolic diseases.

This study had limitations. The results were based on a self-administered questionnaire, which increases the likelihood of social desirability bias or recollection bias. In addition, due to the cross-sectional design of our study, we cannot establish causal relationships between IF and health outcomes; therefore, future research with longitudinal or experimental designs would be necessary to determine causality. Next, the data collection was limited to a single region in Saudi Arabia, which may not be representative of other regions or countries. Further, online data collection via Google Forms may have excluded individuals without internet access or those who are not active on social media, potentially biasing our sample. Without a control group, we cannot draw conclusions about the causal effects of IF on health outcomes which is another potential limitation. Furthermore, participants may have over reported or under-reported certain behaviors due to social pressures. Therefore, future studies should consider using other methods of data collection including focus groups or interviews to address this issue. Lastly, there was no control group, as the health outcomes were not considered in those who were not fasting; therefore, no conclusion on the effect of IF can be made. Despite these limitations, our study highlights the importance of educating individuals about IF and addressing misconceptions. This knowledge can empower individuals to make informed decisions and educate others about healthy practices.

Conclusions

Our findings indicate that a significant proportion of individuals practice IF, with varying durations, patterns, and reasons. The most common patterns were fasting for 12 h and 16 h. Furthermore, individuals in our study reported weight loss and feeling better after practicing IF. While IF can be an effective option for health outcomes, it is important to consult with healthcare providers before starting any fasting regimen, especially for those with underlying health conditions. It is also recommended to gradually introduce IF into daily routines, starting with shorter fasting periods and increasing duration as needed. Future research should explore the long-term effects of IF by evaluating clinical health outcomes among adults, including the effects of IF on chronic disease management and mental health outcomes.

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Declaration of Figures' Authenticity

All figures submitted have been created by the authors who confirm that the images are original with no duplication and have not been previously published in whole or in part.

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References:

1. World Health Organization (WHO). Fact sheet. Obesity and overweight. 1 March 2024. Available from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
2. Narmkul P, Songserm N, Woradet S. Effect of weight control intervention on body mass index among adolescents with overweight: A systematic review and meta-analysis. Iran J Nurs Midwifery Res. 2024;29(2):145-51
3. Syed W, Menaka M, Parimalakrishnan S, Yamasani VV. A study on diabetes-related self-care plan and its determinants among diabetes patients in a Warangal region, Telangana, India. Braz J Pharm Sci. 2023;58:e21266
4. GBD 2015 Obesity Collaborators; Afshin A, Forouzanfar MH, Reitsma MB, et al. Health effects of overweight and obesity in 195 countries over 25 years. N Engl J Med. 2017;377(1):13-27
5. Lauby-Secretan B, Scoccianti C, Loomis D, et al. Body fatness and cancer – Viewpoint of the IARC Working Group. N Engl J Med. 2016;375(8):794-98
6. Silverii GA, Cresci B, Benvenuti F, et al. Effectiveness of intermittent fasting for weight loss in individuals with obesity: A meta-analysis of randomized controlled trials. Nutr Metab Cardiovasc Dis. 2023;33(8):1481-89
7. Welton S, Minty R, O'Driscoll T, et al. Intermittent fasting and weight loss: Systematic review. Can Fam Physician. 2020;66(2):117-25
8. Nye K, Cherrin C, Meires J. Intermittent fasting: Exploring approaches, benefits, and implications for health and weight management. J Nurse Pract. 2024;20(3):104893
9. Sanvictores T, Casale J, Huecker M. Physiology, fasting. [Updated 2023 Jul 24]. StatPearls [Internet] Treasure Island (FL): StatPearls Publishing. 2024
10. Cleveland Clinic. Intermittent fasting explained: Benefits and how to do it safely. Avialable from https://health.clevelandclinic.org/intermittent-fasting-4-different-types-explained [Last accessed on March 5, 2025]
11. Templeman I, Gonzalez JT, Thompson D, Betts JA. The role of intermittent fasting and meal timing in weight management and metabolic health. Proc Nutr Soc. 2020;79(1):76-87
12. Ganesan K, Habboush Y, Sultan S. Intermittent fasting: The choice for a healthier lifestyle. Cureus. 2018;10(7):e2947
13. Ganson KT, Cuccolo K, Hallward L, Nagata JM. Intermittent fasting: Describing engagement and associations with eating disorder behaviors and psychopathology among Canadian adolescents and young adults. Eat Behav. 2022;47:101681
14. Che T, Yan C, Tian D, et al. Time-restricted feeding improves blood glucose and insulin sensitivity in overweight patients with type 2 diabetes: A randomised controlled trial. Nutr Metab (Lond). 2021;18(1):88
15. Khalafi M, Habibi Maleki A, Symonds ME, et al. The effects of intermittent fasting on body composition and cardiometabolic health in adults with prediabetes or type 2 diabetes: A systematic review and meta-analysis. Diabetes Obes Metab. 2024;26(9):3830-41
16. Golbidi S, Daiber A, Korac B, et al. Health benefits of fasting and caloric restriction. Curr Diab Rep. 2017;17(12):123
17. Madkour MI, T El-Serafi A, Jahrami HA, et al. Ramadan diurnal intermittent fasting modulates SOD2, TFAM, Nrf2, and sirtuins (SIRT1, SIRT3) gene expressions in subjects with overweight and obesity. Diabetes Res Clin Pract. 2019;155:107801
18. Sun ML, Yao W, Wang XY, et al. Intermittent fasting and health outcomes: An umbrella review of systematic reviews and meta-analyses of randomised controlled trials. EClinicalMedicine. 2024;70:102519
19. Alnasser A, Almutairi M. Considering intermittent fasting among Saudis: Insights into practices. BMC Public Health. 2022;22(1):592
20. AlZunaidy NA, Al-Khalifa AS, Alhussain MH, et al. The effect of Ramadan intermittent fasting on food intake, anthropometric indices, and metabolic markers among premenopausal and postmenopausal women: A cross-sectional study. Medicina (Kaunas). 2023;59(7):1191
21. Ajabnoor GM, Bahijri S, Shaik NA, et al. Ramadan fasting in Saudi Arabia is associated with altered expression of CLOCK, DUSP and IL-1alpha genes, as well as changes in cardiometabolic risk factors. PLoS One. 2017;12(4):e0174342
22. Alotaibi MI, Elsamad G, Aljardahi AN, et al. Changes in dietary and lifestyle behaviors and mental stress among medical students upon Ramadan diurnal intermittent fasting: A prospective cohort study from Taif/Saudi Arabia. BMC Public Health. 2023;23(1):1462
23. Dairi G, Alafghani R, Ghafouri K, Noorwali E. Effect of intermittent fasting on body image satisfaction and appreciation among Saudi adults. Cureus. 2023;15(1):e33468
24. Syed W, Basil A Al-Rawi M. Assessment of awareness, perceptions, and opinions towards artificial intelligence among healthcare students in Riyadh, Saudi Arabia. Medicina (Kaunas). 2023;59(5):828
25. Syed W, Bashatah A, Alharbi K, et al. Awareness and perceptions of ChatGPT among academics and research professionals in Riyadh, Saudi Arabia: Implications for responsible AI use. Med Sci Monit. 2024;30:e944993
26. Syed W, Samarkandi OA, Alsadoun A, et al. Evaluation of clinical knowledge and perceptions about the development of thyroid cancer – an observational study of healthcare undergraduates in Saudi Arabia. Front Public Health. 2022;10:912424
27. Samreen S, Siddiqui NA, Wajid S, et al. Prevalence and use of dietary supplements among pharmacy students in Saudi Arabia. Risk Manag Healthc Policy. 2020;13:1523-31
28. Alsaleh SS, Al Mana AKA, Alsaleh S, et al. Intermittent fasting among individuals in Saudi Arabia: A cross-sectional analysis of characteristics, reasons, and health outcomes. Emerg Med Serv. 2024;1(2):49-55
29. Shalabi H, Hassan AS 4th, Al-Zahrani FA, et al. Intermittent fasting: Benefits, side effects, quality of life, and knowledge of the Saudi population. Cureus. 2023;15(2):e34722
30. Rad MS. From self-deprivation to cooperation: How Ramadan fasting influences risk-aversion and decisions in resource dilemmas. CRESP. 2023;5:100152
31. Bakhsh J, Salvy SJ, Vidmar AP. Intermittent fasting as a treatment for obesity in young people: A scoping review. NPJ Metab Health Dis. 2024;2(1):39
32. Michael Ruscio D. How long does intermittent fasting take to work? Dr. Ruscio DC. July 7, 2024. Accessed July 7 2024. Availabale from https://drruscio.com/how-long-does-if-take-to-work/#: ~: text=One%20to%20three%20months%20of,prevention%20and%20maintaining%20overall%20health
33. Herz D, Karl S, Weiß J, et al. Effects of different types of intermittent fasting interventions on metabolic health in healthy individuals (EDIF): A randomised trial with a controlled-run in phase. Nutrients. 2024;16(8):1114
34. Liu S, Zeng M, Wan W, et al. The health-promoting effects and the mechanism of intermittent fasting. J Diabetes Res. 2023;2023: 4038546
35. Tchang BG, Aras M, Kumar RB, et al. Pharmacologic treatment of overweight and obesity in adults. [Updated 2024 Aug 20]. In: Feingold KR, Ahmed SF, Anawalt B, et al., editors. Endotext [Internet]. South Dartmouth (MA): MDText.com, Inc.; 2000. Available from: https://www.ncbi.nlm.nih.gov/books/NBK279038/
36. Lua PL, Roslim NA, Ahmad A, et al. Complementary and alternative therapies for weight loss: A narrative review. J Evid Based Integr Med. 2021;26:2515690X211043738
37. Vasim I, Majeed CN, DeBoer MD. Intermittent fasting and metabolic health. Nutrients. 2022;14(3):631
38. Persynaki A, Karras S, Pichard C. Unraveling the metabolic health benefits of fasting related to religious beliefs: A narrative review. Nutrition. 2017;35:14-20

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