

Health Status and Intermittent Fasting In the Month of Ramadan

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Abstract:

This research focuses on the studies investigating the effects of Ramadan fasting and intermittent fasting on cognitive, physiological, and lifestyle parameters. Mounir and Ahmed (2012) observed significant fasting effects on recognition reaction time in male resistance athletes. Boumahmaza and Talbi (2010) reported decreased body weight and BMI in females during Ramadan, alongside stable energy and nutrient intake. Ismaeel and Eliakim (2008) found reduced oral temperature and subjective alertness during Ramadan, with increased movement reaction time. Ghazal and Hakkou (2000) also noted decreased daytime oral temperature and subjective alertness. Additionally, a survey methodology for researching appetite and health during intermittent fasting is outlined, incorporating consent, questionnaire design, and a sample of 50 participants. These insights provide a holistic understanding of the health dynamics associated with Ramadan and intermittent fasting practices.

Keywords: Ramdan Fasting, Intermittent Fasting, Right Eating, Fasting Methods.

Introduction:

Ramadan fasting involves intermittent liver glycogen depletion and repletion. During the day, carbohydrate dominates as the main fuel, transitioning to lipid in the afternoon. Intermittent fasting, practiced during Ramadan, aligns with our circadian rhythm, optimizing the natural day/night cycle. The process leverages insulin dynamics, allowing fat cells to release stored sugar when insulin levels drop between meals, facilitating weight loss. Eating right is crucial. After fasting, break with water, dates or fruits, and soup for hydration. Iftar should include complex carbohydrates like brown rice and veggies for sustained energy and fullness. Aim for two servings of vegetables per meal. Opt for highly digestible, lean proteins like fish or chicken for iftar, promoting

satiety without overloading after a day of fasting. Vegetarians can choose legumes and nuts. A light iftar, avoiding excess fat, salt, and sugar, prevents indigestion. Ultimately, mindful nutrition during non-fasting hours maximizes the health benefits of Ramadan fasting, making it a balanced and sustainable practice. While religious fasts primarily serve spiritual purposes, recent scientific inquiry, particularly in the last two decades, has explored their significant impact on physical health. Notable fasting periods studied include Islamic Ramadan, Greek Orthodox Christian fasts (Nativity, Lent, and the Assumption), and the Biblically-based Daniel Fast.

Fasting Methods:

Twice-a-Week (5:2) Method:

How it works: Cut calories to 500 on two non-consecutive days a week, maintaining a regular diet on the other five days.

On Fasting Days: Consume a 200-calorie diet and a 300-calorie meal, focusing on high-fiber and high-protein foods.

Example: Fast on, say, Tuesdays and Thursdays, with a non-fasting day in between.

Alternate Day Fasting:

How it works: "Modified" fasting every other day, limiting calories to 500 (or 25% of normal intake) on fasting days, and returning to a regular diet on non-fasting days.

Example: Eat normally on Monday, fast on Tuesday, eat normally on Wednesday, and so on.

Time-Restricted Eating (16/8 or 14/10 Method):

How it works: Set specific eating and fasting windows, like fasting for 16 hours and eating within an 8-hour window. Often involves skipping breakfast and starting eating at lunch.

Example: If you eat between 12 pm and 8 pm, fast from 8 pm to 12 pm the next day.

24-Hour Fast (Eat-Stop-Eat Method):

How it works: Complete fasting for a full 24 hours, typically once or twice a week. Fast from breakfast to breakfast or lunch to lunch.

Caution: May lead to side effects like fatigue, headaches, irritability, hunger, and low energy.

These intermittent fasting methods offer different approaches, allowing flexibility in choosing a routine that suits your lifestyle. It's crucial to prioritize nutrient-rich foods and stay hydrated during fasting periods, adjusting the chosen method to your individual needs and preferences. Several studies have contributed valuable insights into the impact of Ramadan fasting on body composition, nutrient intake, physical activity, CNS activation, reaction time, and diurnal alertness.

Studies Unveiling Ramadan Fasting Dynamics:

Study 1: Ramadan Fasting and Exercise Effects on CNS Activation (Mounir & Ahmed, 2012)

In this study, nine male resistance athletes, aged 23 ± 3 years, underwent assessments before, during the 1st and 4th weeks of Ramadan, and one week after fasting. The study measured critical flicker fusion (CFF), motor reaction time (MRT), recognition reaction time (RRT), total reaction time (TRT), resting, and post-exercise heart rate (HR), as well as systolic and diastolic blood pressure.

Key Findings:

No significant changes in physical performance and weight compared to control days. Significant fasting effect observed for RRT.

Study 2: Body Composition, Nutrient Intake, and Physical Activity during Ramadan Fasting (Boumahmaza & Talbi, 2010)

Focusing on 57 female subjects during Ramadan in October 2004, this study assessed body weight, fat percentage, muscle mass, body water content, and BMI. Estimated food records for energy, carbohydrates, protein, fat, and sugars were collected, along with physical activity levels using a three-day activity diary.

Key Findings:

Significant decrease in body weight and BMI during Ramadan.

No significant differences in energy and nutrient intake before and during Ramadan.

Study 3: Diurnal Alertness and Oral Temperature during Ramadan Intermittent Fasting (Ismaeel & Eliakim, 2008)

Conducted on 10 healthy young subjects, this study assessed movement reaction time (MRT), critical flicker fusion (CFF), visual analogue scale for subjective alertness, and

oral temperature at different times of the day during the 6th, 15th, and 28th days of Ramadan.

Key Findings:

Daytime oral temperature decreased during Ramadan.

Subjective alertness decreased at specific times.

MRT increased at the beginning of Ramadan, while CFF remained unchanged.

Study 4: Effect of Ramadan Intermittent Fasting on Diurnal Alertness and Oral Temperature (Ghazal & Hakkou, 2000)

Though lacking participant details, this study assessed parameters similar to Study 3, examining MRT, CFF, subjective alertness, and oral temperature at different times during Ramadan.

Key Findings:

Daytime oral temperature decreased during Ramadan.

Subjective alertness decreased at specific times.

MRT increased at the beginning of Ramadan, while CFF remained unchanged.

Methodological Overview: Survey on Ramadan Fasting and Intermittent Fasting

Participants and Study Design:

Obtaining consent from participants involved providing written information and obtaining agreement.

A convenient sampling study targeted a general population, conducted by a student from S.V.T College of Home Science, Santacruz (West), Mumbai. Questionnaire was designed under the supervision of Dr. Sulakshana Mane, Professor of SVT college, SNDT University, Juhu.

Data Collection:

Google Forms were employed for questionnaire preparation, circulated via social networking sites like WhatsApp and Instagram.

A sample size of 50 participants was chosen, with questions covering detailed study descriptions, demographic information, and lifestyle factors related to intermittent fasting.

Inclusion and Exclusion Criteria:

Inclusion criteria encompassed males and females of all age groups practicing Ramadan or intermittent fasting. Exclusion criteria involved infants, individuals not practicing intermittent fasting, those not fasting, diabetics, and pregnant or nursing women.

CHARACTERISTICS	VALUES	N=50	PERCENTAGE (%)	MEAN
Gender	Male	13	25%	-
	Female	37	74%	-
Age	Below 20	14	28%	-
	21-40	27	54%	-
	41-60+	09	18%	-
Height	-	48	-	161.1
Weight	-	48	-	64.0

Table1: Participant's Demographic Details

Above table 1 summarizes the demographic data of the 50 participants in the survey. Out of the total responses, 74% were female (n=37), while 26% were male (n=13). The age distribution was predominantly in the 21 to 40 years range, accounting for 54% of the participants. On average, the participants had a height of 161.1+ cm and a weight of 64.0 +kg. This snapshot of demographic information offers a concise overview of the study population, emphasizing gender distribution, age composition, and average height and weight.

Discussion:

The research provides valuable insights into the diverse impacts of Ramadan fasting and intermittent fasting on cognitive, physiological, and lifestyle aspects. Notable findings include significant effects on recognition reaction time, body composition changes in females, and alterations in diurnal alertness. The survey methodology outlines a systematic approach, involving consent, questionnaire design, and a representative sample. However, the higher female participation may influence generalizability. Balancing the discussion, the study underscores the importance of considering demographic nuances when interpreting fasting-related outcomes, enriching our understanding of the intricate relationship between fasting practices and health dynamics.

Conclusion:

In conclusion, the amalgamation of insights from various studies on Ramadan fasting and intermittent fasting provides a comprehensive understanding of their multifaceted effects on cognitive, physiological, and lifestyle parameters. The findings, including variations in recognition reaction time, body composition, and diurnal alertness, contribute to the evolving scientific discourse on fasting practices. The methodological blueprint for a survey, encompassing 50 participants predominantly comprised of females aged 21 to 40, offers a practical framework for future investigations. While acknowledging potential gender and age biases, this synthesis enriches our knowledge of Ramadan and intermittent fasting dynamics. As these practices continue to intertwine with religious, cultural, and health considerations, the synthesized research serves as a stepping stone for further exploration, fostering a holistic comprehension of their implications on human well-being.

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