

COMPARISON OF DIETARY INTAKE, PHYSICAL ACTIVITY, AND SLEEP BEFORE AND DURING RAMADAN AMONG SAUDI ADULTS.

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INTRODUCTION

During the holy month of Ramadan, healthy adult Muslims must abstain from eating and drinking from dawn to sunset. Notable lifestyle changes can occur due to the sudden shift in eating routine with fasting during daylight hours.

AIM

We aimed to examine the changes in dietary intake, physical activity level (PAL), and sleep duration before and during Ramadan among healthy Saudi adults.

METHOD

115 Saudi adults (96 females and 19 males) were recruited. Dietary intake, PAL, and sleep duration data were collected over three months in two separate periods: the first period was before Ramadan (during the two months before Ramadan, 2019), and the second period was during Ramadan (the last three weeks of Ramadan, 2019). Dietary intake was assessed using 24-hour food recall. PAL was assessed using the International Physical Activity Questionnaire Short Form (IPAQ-SF). Sleep duration was assessed using a sleep record for seven consecutive days. Anthropometric measurements were taken before and during Ramadan. Paired t-test, and Chi-square test were used to assess the changes in the study variables in the two periods.

RESULTS

Table 1 displays characteristics of study participants across the study periods.

- There were significant increases in the mean daily energy intake (kcal/day) and carbohydrates (CHO, g/day) during Ramadan compared with before Ramadan.
- The percentage of energy from protein (%) was significantly decreased in Ramadan compared with before Ramadan.
- No significant changes in PAL before and during Ramadan were observed.
- There were no significant changes in sleep duration before and during Ramadan.
- There were significant decreases in body weight and BMI during Ramadan compared with before Ramadan.

Table 1. Characteristics of study participants before and during Ramadan (n=115).

Variables	Before Ramadan	During Ramadan	P-value*
Weight (kg)	66.4±18.1	66.1±17.8	0.04
BMI (kg/m ²)	26.4±6.1	26.3±6.0	0.04
Waist circumferences (cm)	86.1±15.1	86.9±14.9	0.09
Body fat (%)	37.43±0.1	37.32±0.1	0.61
Visceral fat	6.6±3.8	6.5±3.7	0.35
Energy (kcal/day)	1482.9±536.4	1635.5±635.1	0.01
CHO (%)	48.2±9.1	48.1±8.3	0.90
Protein (%)	16.3±4.9	14.8±4.6	0.01
Fat (%)	35.6±9.2	37.1±9.0	0.19
CHO (g/day)	180.8±72.1	202.6±88.7	0.00
Protein (g/day)	59.3±23.0	59.1±23.2	0.90
Fat (g/day)	65.4±63.6	69.7±32.3	0.46
PAL			
Sedentary	60 (52.20)	56 (48.70)	0.19
Moderate	37 (32.20)	47 (40.90)	
Vigorous	18 (15.60)	12 (10.40)	
Sleep duration (hour)	7.54±1.7	7.59±1.0	0.83

Note: Data expressed as mean±SD or frequency and percentage N (%). *p-value tested by paired t-test for continuous variables and Chi-square test for categorical variables, p-value significant < 0.05.

CONCLUSIONS

This study indicates that during Ramadan, there was greater daily energy and CHO intake with no changes in PAL or sleep duration. The study also suggests that Ramadan fasting may be a promising weight loss strategy. Future investigation concerning the potential benefits of Ramadan fasting is needed.

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