

8<sup>th</sup> International Conference on

# CLINICAL NUTRITION

December 08-10, 2016 Dubai, UAE

## Impact of Ramadan fasting on psychology, anthropometric measurements and performance for soccer players

Amjad Hasan Amin Jarrar

United Arab Emirates University, UAE

**Aim:** To study the impact of Ramadan fasting (RF) on the psychology, anthropometric measurements and soccer performance for Aljazira soccer players Abu Dhabi, UAE.

**Subjects & Methods:** Forty one healthy male soccer players (1st National League), aged (22±4 years) were included in this study which includes questionnaire, anthropometric measurements, soccer performance which was measured by ProZone technique with the mean of two games before Ramadan (BR) and at 4th week of Ramadan (4th R).

**Results:** According to the questionnaire there was negative effect for Ramadan on duration and regulatory of sleeping, however there was no differences on physical performance and concentration in the games BR and 4th R. With respect to anthropometric measurements there was a significant difference in body weight, BMI and % body fat BR and 4th R, however; there were no significant difference in muscle mass, medium running, top running and high speed running BR and 4th R.

**Conclusions:** Although there was a significant difference in body weight, BMI and percentage body fat before BR and 4th R, but this significant difference did not affect muscle mass and physical performance.

amjadj@uaeu.ac.ae

## The effect of a moderate energy restricted and abundant protein diet on metabolic and body composition in adults with type-2 diabetes

Ayla Coussa, Errol B Marliss, Stephanie Chevalier, Jose A Morais, Marie Lamarche, Michael Tsoukas and Rejeanne Gougeon

McGill University, Canada

**Background:** Visceral adiposity is an important factor in insulin resistance as it contributes to blunted protein anabolism in diabetes, also known as sarcopenic obesity. Insulin sensitivity of protein metabolism (rate of anabolism and catabolism) in obese type-2 diabetics does not improve with glycemic control with medication or when enhancing dietary protein, although rates of protein turnover decrease. Maintaining protein intakes at a fixed percentage of energy in weight-loss diets exacerbate insulin sensitivity of protein metabolism.

**Purpose:** To investigate changes in insulin sensitivity of glucose and protein metabolism in obese diabetic adults over 5 weeks of energy restriction with maintained abundant protein intake.

**Methodology:** 6 adult diabetics were enrolled. The energy-restricted diet provided 60% of energy requirements with 26% as protein (1.8-1.9 g/kg lean body mass/day). Isotopic tracers were used to quantify whole-body glucose (3-3H-glucose) and protein (13C-leucine) metabolism both pre and post weight loss, post absorptive and during a hyperinsulinemic (~500 pM), isoglycemic (149.4±9.0 Pre vs. 104.4±5.4 mg/dl post), isoaminoacidemic clamp. Changes in body composition were measured by dual-energy X-ray absorptiometry.

**Results:** At 5 weeks of energy restriction, weight-loss was mainly attributed to total and visceral fat losses, while lean mass was preserved. Fasting plasma glucose was near normal and serum insulin, C-peptide and HOMA-IR decreased significantly as well as other cardiovascular risk factors. Post absorptive protein turnover decreased by 12% and rates of oxidation by 32% resulting in sparing of body protein, rates of glucose turnover decreased by 29% and glucose metabolic clearance rate improved by 24%. During clamp, protein turnover rates were lower and catabolism was suppressed by 12%.

**Conclusion:** Maintaining abundant protein intake preserves lean body mass in conditions of energy deficit and insulin resistance. Our data is critical to guide future clinical trials and serves as a gauge for future clinical applicability of new medical practices.

ayla.coussa@mail.mcgill.ca