TIME RESTRICTED FEEDING (TRF) ENHANCES WEIGHT LOSS EFFICIENCY IN DIETARY RESTRICTED WOMEN WITH METABOLIC SYNDROME

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Rationale: In obese patients, weight loss efficiency of dietary restriction is unpredictable and affects patients' compliance. Animal studies demonstrated that limiting feeding time to <12 hrs (i.e., TRF) facilitates weight loss (1, 2). We therefore aimed at assessing whether limiting feeding time during modest dietary restriction enhances weight loss and promotes glucose homeostasis of patients with metabolic syndrome.

Methods: Menopausal women with metabolic syndrome were considered and randomly assigned to consume a moderately hypocaloric diet (1600 Kcal/d) for 45 days either ad libitum (Control group, n=11) or during 8 hrs (7AM-3PM; TRF group, n=12). Anthropometric and biochemical data were collected at baseline and at the end of the study. All patients were followed up by weekly telephone calls. Data were statistically analyzed and are presented as M±SD.

Results: Results are summarized in Table 1. No difference was observed between groups at baseline (TRF group; age: 55,6±5 yrs and BMI: 29,3±4,9; ad libitum group; age: 55,3±5 yrs and BMI: 29±1,2). All patients completed the study. At the end, all patients showed body weight loss, but patients following TRF lost more weight than Control group (-4,4% vs -2%; p<0,01). Fasting glycemia was significantly reduced only in TRF group (Table 1). Triglyceride levels dropped significantly in both groups, and the decline in TRF patients was numerically greater than in Control group (-8,4% vs -2,5%; p=n.s.).

Table 1 - Results

	Control group (n=11)		TRF group (n=12)	
	Baseline	**End of study (45d)**	**Baseline**	**End of study (45d)**
Body weight (kg)	77,2±6,1	75,6±5,8*	75,9±9,2	72,4±8,5*#
BMI	29,0±1,2	28,4±1,3*	29,3±1,8	28,0±1,7*
Waist circumference (cm)	98,6±5,0	97,4±5,3*	96,2±7,7	93,9±7,2*
Fasting glycemia (mg/dL)	97,5±10,7	95,0±8,2	99,4±11,3	93,9±7,4*
Triglycerides (mg/dL)	156,8±55,1	143,7±42,6*	166,6±69,1	142,6±46,5*

*p<0.01 vs baseline, same group; #p<0.01 vs baseline, different group

Conclusion: Limiting feeding time to <12hrs/day appears to facilitate weight loss and restore metabolic homeostasis, and may represent an effective strategy in the prevention/treatment of obesity and metabolic syndrome. The mechanisms behind the metabolic effects of TRF are uncertain. Recent animal studies showed that TRF influence gut microbiota, favoring the restoration of the diurnal dynamics of the gut microbiome (3).

References

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