

# Assesment of Adherence to Mediterranean diet during a weight loss intervention in children with cardiometabolic risk

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## INTRODUCTION

Dietary patterns have notably change in Mediterranean countries during last decades (1,2). Mediterranean diet (MeDiet) has been reported as a healthy dietary pattern associated with lower prevalence of cardiometabolic disease(3,4). Moreover, metabolic health during childhood can track into adulthood (5).

## OBJECTIVE

To assess adherence to MeDiet in children and adolescents with abdominal obesity during a comprehensive weight loss intervention.

## MATERIAL AND METHODS

Sixty-three children and adolescents with abdominal obesity (considered as waist circumference > P<sub>90</sub>) were enrolled in a randomized study during 8 weeks. Participants were divided into two groups: control (n=17) and intervention (n=46) according to relation 1:3. Conventional nutritional and lifestyle recommendations based in National Health System guidelines were explained to control group. The weight loss program for the intervention participants consisted of a moderate calorie-restricted diet calculated according to children's obesity degree (6). Adherence to MeDiet was evaluated using KIDMED index at baseline and after the weight loss program. Based on their score, participants were classified as having: "very low quality dietary pattern" (from - 4 to 3 points), "need to improve to adherence better to MeDiet" (from 4 to 7 points) or "optimal MeDiet" (from 8 to 12 points) (7).

## RESULTS

**Table 1. Baseline characteristics of participants**

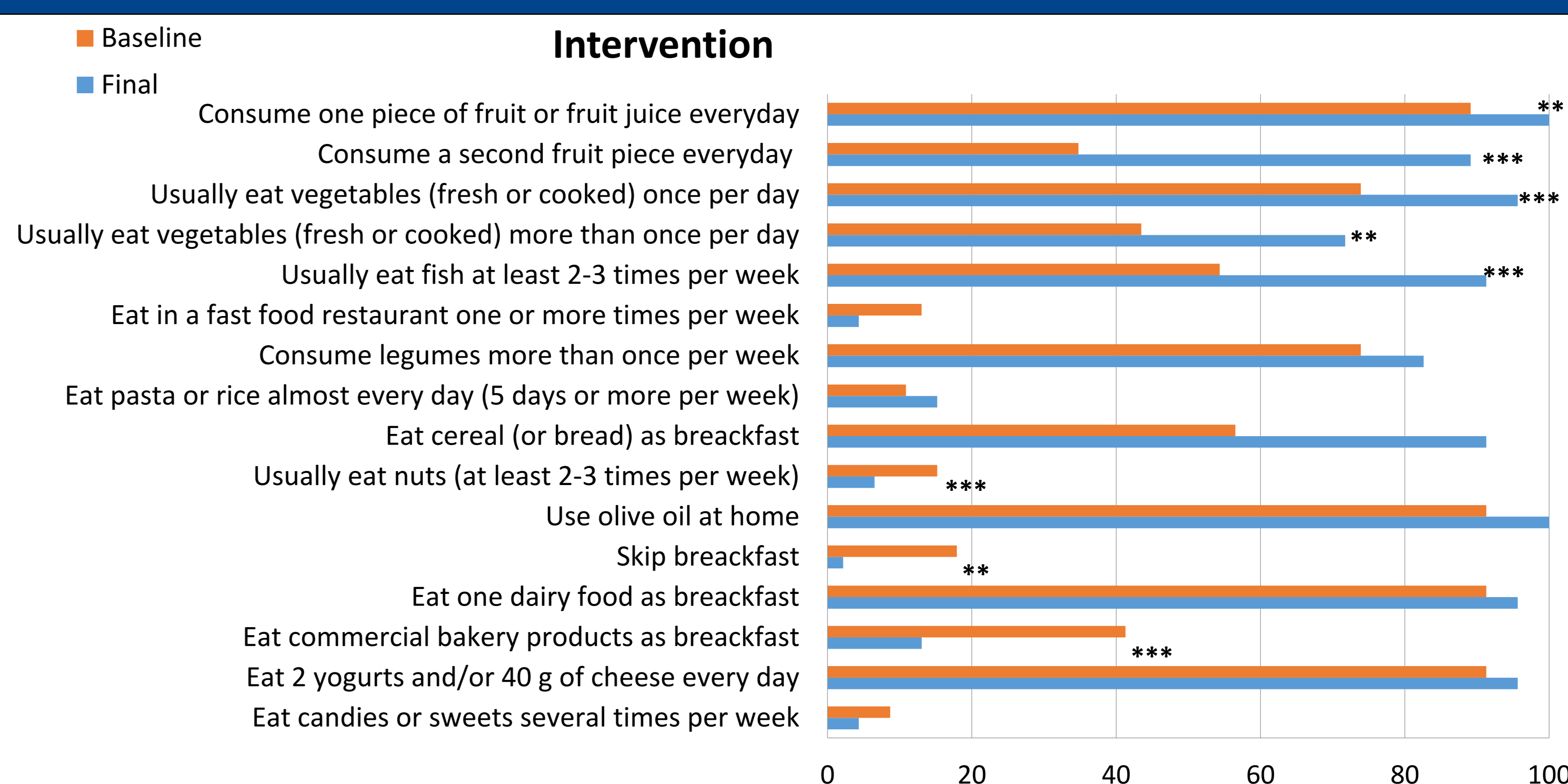
	Control n = 17	Intervention n = 46	p
Sex (B/G)	3/14	15/31	0.199
Age (years)	10.94 (2.27)	11.19 (2.56)	0.720
Weight (Kg)	65.30 (14.14)	66.23 (19.00)	0.855
Height (cm)	151.38 (9.11)	151.27 (12.43)	0.974
BMI	28.24 (3.83)	28.43 (4.43)	0.880
BMI-SDS	2.91 (1.27)	2.89 (0.99)	0.954
KIDMED	5.64 (1.57)	5.97 (2.03)	0.547

Values are expressed as mean(SD). p value for the comparison of baseline values between both groups.

**Table 2. Anthropometric changes after 8 weeks of dietary treatment.**

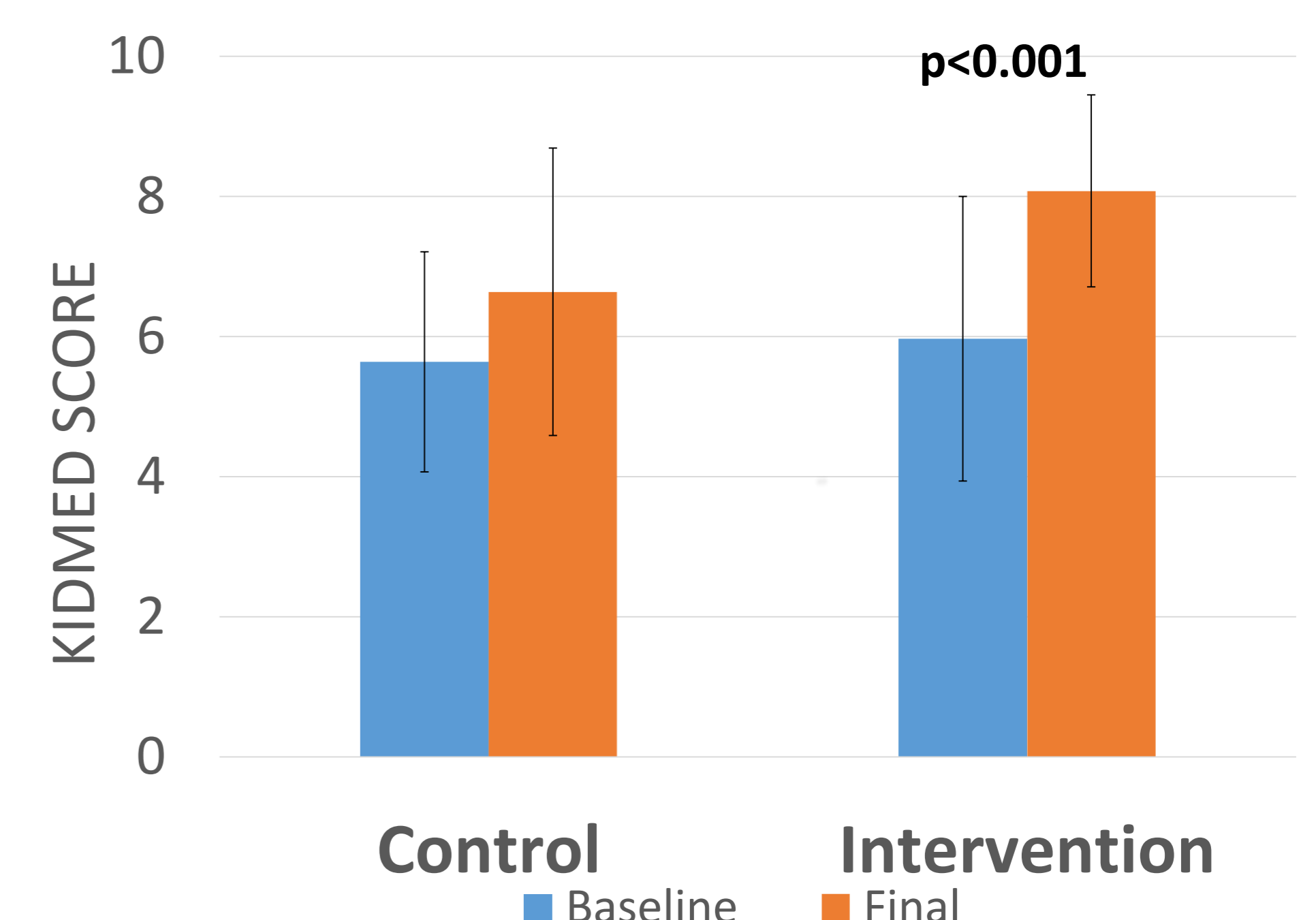
	Control n=17			Intervention n=46			p <sup>2</sup>
	Baseline	Final	p <sup>1</sup>	Baseline	Final	p <sup>1</sup>	
Weight (Kg)	65.30 (14.14)	64.1 (13.92)	0.024	66.23 (19.00)	63.72 (19.15)	<0.001	0.028
Height (cm)	151.38 (9.11)	152.35 (9.18)	<0.001	151.27 (12.43)	152.18 (12.33)	<0.001	0.639
BMI	28.24 (3.83)	27.39 (4.07)	0.001	28.43 (4.43)	27.05 (4.61)	<0.001	0.128
BMI-SDS	2.91 (1.27)	2.67 (1.37)	0.002	2.89 (0.99)	2.35 (1.02)	<0.001	0.010

Values are expressed as mean(SD). P1, P value for the comparison within subjects after the intervention program by group; P2, P value for the comparison of change between control and intervention group.



**Figure 1. Changes on domains of KIDMED score on intervention participants.**

Values are expressed as percentages. P value for the comparison within subjects after the intervention program. \* p<0.50, \*\* p<0.025, \*\*\*p<0.001



**Figure 2. Changes on adherence to MeDiet according to group of intervention.**

## CONCLUSIONS

In children a reduction in BMI-SDS improvement during a weight loss intervention was accompanied by an increase in adherence to MeDiet pattern.

After 8 weeks of intervention 89% of participants of the intervention group has a optimal MeDiet score in KIDMED index.

## ACKNOWLEDGMENTS

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