

## P1509

## Obesity and diastolic function of the left ventricle by echocardiography in a Mediterranean child population

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**Background:** The prevalence of overweight in childhood is 26% and obesity is 12.6% in Spain. Diastolic function assessed with echocardiography shows significant worsening in obese adults compared to non-obese adults. However, few studies describe the association between obesity and diastolic function in the pediatric population.

**Aim:** To investigate the relationship between obesity and diastolic function in a Mediterranean pediatric population.

**Methods:** A random sample of children and adolescents of primary and secondary education was selected, stratifying by age, gender and educational centers in a rural town of 2864 inhabitants of southern Spain. Children between 6 and 17 years old were included. A transthoracic echocardiogram was performed to evaluate diastolic function.

**Results:** A total of 212 children were studied (10.9 ± 3.0 years old and 51.9% males): 163 (76.9%) were not obese and 49 (23.1%) were obese. Age and sex were similar in both groups. Results are shown in the table. Obesity was related to a larger left atrial volume, a higher A-wave velocity, a lower lateral e' wave velocity, a higher average E/e' ratio, and a higher pressure gradient between the atrium and the right ventricle.

**Conclusions:** Obesity in childhood is associated to worsening of diastolic function parameters commonly measured in echocardiography.

Obese Vs non-Obese

	non-obese	obese	p
Age	10,8 ± 3,0	11,0 ± 2,8	0,63
Male (%)	50,1%	57,1%	0,4
A-wave velocity (cm/s)	58,7 ± 13,1	64,8 ± 13,8	0,005
E/A	1,89 ± 0,45	1,75 ± 0,41	0,05
lateral e" velocity (cm/s)	21,26 ± 4,61	19,58 ± 3,97	0,02
average E/e"	6,4 ± 1,1	7,0 ± 1,2	0,001
left atrial volume (mL)	20,8 ± 6,8	27,9 ± 7,4	<0,0005
pressure gradient (mmHg)	15,5 ± 4,5	18,0 ± 4,9	0,02