

Spectrum of body mass index in patients with celiac disease



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BACKGROUND

- Although generally perceived to be mostly underweight, patients with celiac disease (CeD) can be of normal weight or even overweight/obese.¹⁻³
- There is a lack of data in the Asian population regarding the spectrum of body mass index (BMI) in patients with CeD compared to population controls.

METHODS

- Design:** Retrospective analysis of a prospectively maintained database
- Setting:** Celiac clinic at the All India Institute of Medical Sciences, New Delhi, India
- Patients:** All treatment-naïve CeD patients ≥12 yrs, including adolescents (12-18 yrs) and adults (>18).
- Population controls:** National Family Health Survey 2015-16 (NFHS-4) data was obtained with the required authorizations. Included data on 699,686 women/girls and 112,122 men/boys ≥15 yrs of age.
- BMI classification:**

	BMI in adults (in kg/m ²)	
Adults	<16	Severe underweight
	16-16.9	Moderate underweight
	17-18.49	Mild underweight
	18.5-24.9	Normal
	25-29.9	Overweight
	≥30	Obese
Adolescents	BMI-for-age (Z-score)	
	<-3	Severe underweight
	-3 to -2	Underweight
	-2 to 1	Normal
	≥1	Overweight

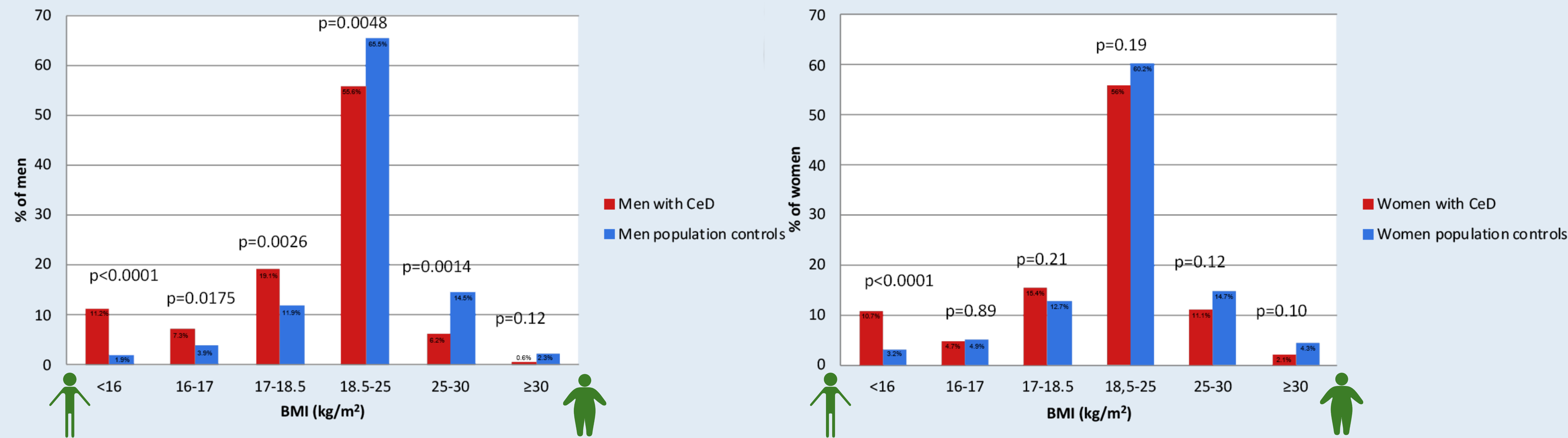


Figure 1: Representation of body mass index (BMI) of adult participants compared to population controls in men (left) and women (right).

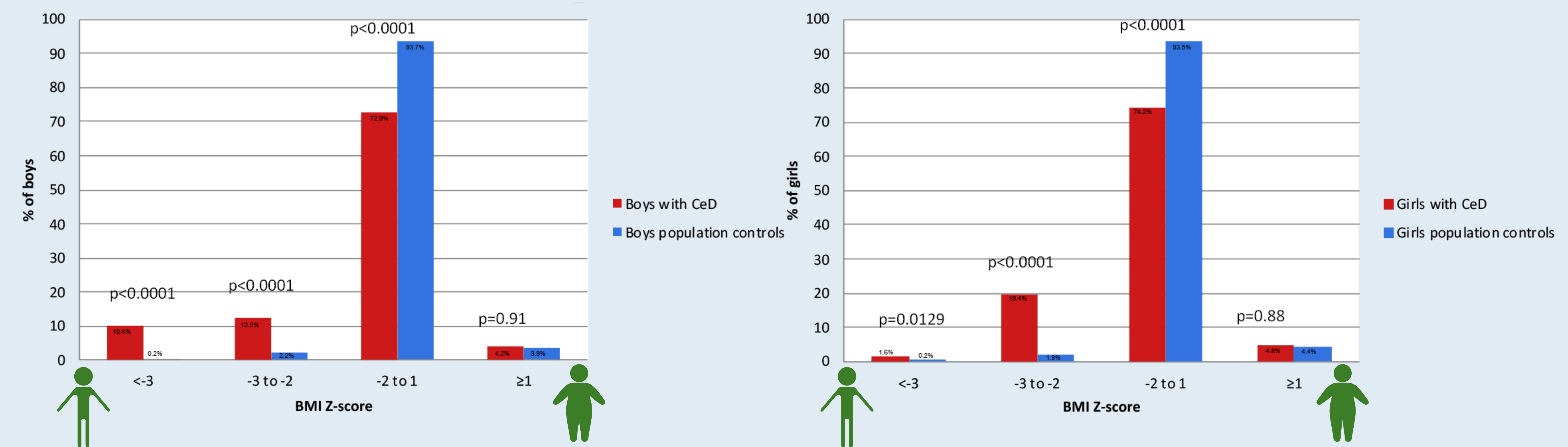


Figure 2: Representation of body mass index (BMI) of adolescent participants compared to population controls in boys (left) and girls (right).



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RESULTS

		Mean BMI (kg/m ² or Z-score)	p-value
Men	Celiac disease (n=183)	19.8±3.4	<0.001
	Controls (n=47,657)	21.8±3.7	
Women	Celiac disease (n=236)	20.5±3.7	<0.001
	Controls (n=327,803)	21.8±4.2	
Boys	Celiac disease (n=48)	-1.4±1.2	<0.001
	Controls (n=8,599)	-0.5±0.8	
Girls	Celiac disease (n=63)	-1.0±1.0	<0.001
	Controls (n=62,716)	-0.4±0.9	

Table 1: Mean body mass index (BMI) of our study participants as compared to population controls

CONCLUSION

- Majority of adult and adolescent patients with CeD have a lower BMI compared to population controls.
- A significant proportion of adult and adolescent CeD patients can be overweight or even obese.

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