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Introduction

It is estimated that people with intellectual disabilities are more likely to develop negative self-concepts and low self-esteem. In people with Prader Willi syndrome (PWS), self-concept and body perception can be affected.

The aim of this study was to assess whether people with PWS have the ability to accurately identify their actual body habitus and how this self-perception is influenced by their neuropsychological profile.

We also attempted to explore whether body self-perception is related to the intelligence quotient (IQ) and perceptual reasoning index (PRI).

Methods

This observational study included people with a confirmed genetic diagnosis of PWS, that were evaluated using Stunkard Scale and Wisc - IV and Wais II questionnaires, focusing on one of the intelligence aspects of the technique, perceptual reasoning index (PRI). The body mass index (BMI) and nutritional diagnosis were also evaluated.

The Stunkard figure rating scale consists of nine images (male and female silhouettes) that are presented to each of the individuals, with a pre-established association between each image and the BMI.

For the study participants, silhouette 1 corresponded to low weight (BMI < 18.5), silhouettes 2 to 4 with normal weight (BMI between 18.5 and 24.9), silhouette 5 with overweight (BMI between 25 and 29.9) and silhouettes 6 or higher with obesity (BMI > 30), equivalences that will also be used in this work.

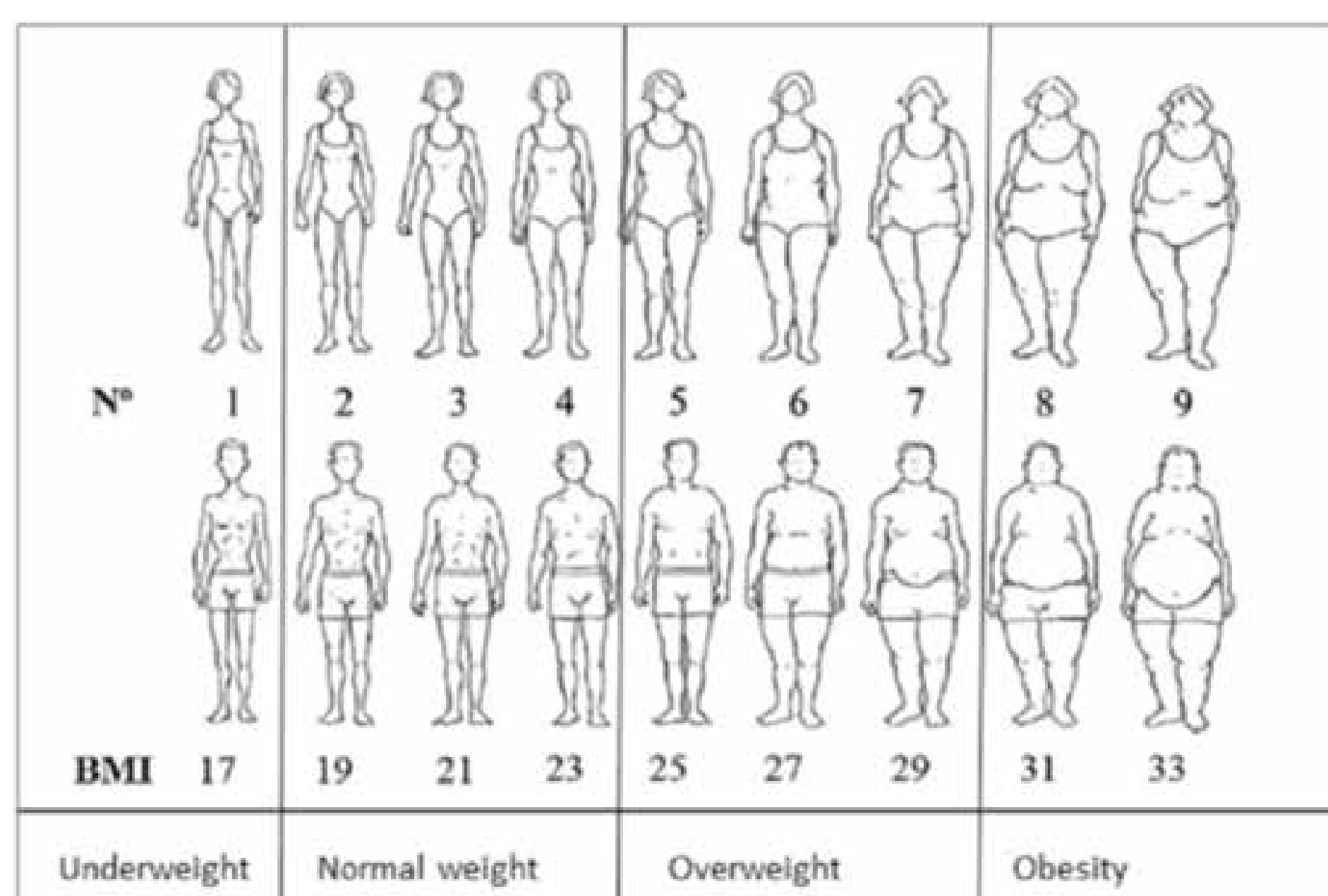


Figure reference: Naigaga, D et al. (2018). Body size perceptions and preferences favor overweight in adult Saharawi refugees. *Nutrition Journal*. 17. 17. 10.1186/s12937-018-0330-5.

Results

Of 21 patients evaluated all were cognitively impaired, with a mean IQ of 56.9 ± 6.9 . However, intellectual disability was mild in 91%.

Considering the BMI of our patients, 9 (43%) patients were at normal weight, 6 (29%) were at overweight, and 6 (29%) were obese.

According to Stunkard Scale, 11 (52%) underestimated (BMI perceived as lower than actual BMI) their body image, 8 (39%) identified correctly their body image, and 2 (10%) overestimate their body image.

PWS subjects who correctly identified their image showed a slightly higher IQ (60.0 ± 4.9 vs. 55.0 ± 7.5 , $p=0.08$) and PRI (67.6 ± 8.1 , vs. 60.2 ± 7.2 , $p=0.043$).

Intelligence quotient (IQ), Perceptive reasoning index (PRI), and current BMI according to body image perception:

	IQ	PRI	BMI
Underestimation	54.7 ± 8.1	60.7 ± 7.8	30.6 ± 7.6
Accurate	60.0 ± 4.9	67.6 ± 8.2	26.6 ± 8.8
Overestimation	56.5 ± 0.7	57.5 ± 0.7	19.4 ± 2.9
p value	0.27	0.12	0.18

Conclusions

In this study, we identified that most patients with PWS tend to distort their body image perception, predominantly underestimating their BMI.

Of note, patients inaccurate self-perception was related to a lower IQ and PRI.

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