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Title: Prevalence of sleep disordered breathing in coeliac children

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Body: Introduction Coeliac disease (CD) is a chronic disease with a various clinical presentation. However sleep disordered breathing (SDB) has not yet been studied. Aims and objectives To evaluate the prevalence of SDB in a cohort of coeliac children at diagnosis and at least 6 months after starting gluten free diet (GFD). Methods We enrolled 74 children attending the our Pediatric Department and receiving a diagnosis of CD in the period 2010-2012. We included children without conditions that might lead to potential bias (obesity, congenital syndromes and undergoing pharmacological, orthodontic or surgical treatment). A medical SDB symptoms questionnaire was administered to parents of 66 coeliac children with inclusion criteria (62,1% female, age ranged 1-16 years; mean age 6,75±4). The questionnaire scored the SDB's hallmark symptoms and identified four clusters of severity: 0-5 negative, 6-15 mild, 16-25 moderate, >25 severe. Results Five of 66 children (7,6%) showed a severe SDB and 14/66 (21,2%) a moderate SDB. A significant difference is present between mean scores of severe and moderate patients before and after GFD, respectively from 29,8±2,7 to 17,2±9,8 (p<0,001) and from 19,1±2,3 to 12,4±4,8 (p<0,001). The prevalence of key SDB symptoms at CD diagnosis is as follows: snoring 13,6%, apnea 10,6%, mouth-breathing 16,7%, restless sleep 25,8%, drowsiness 45,5% and diurnal restlessness 40,9%. Conclusions Our study demonstrates that SDB prevalence in coeliac children is higher than general population and the GFD is able to reduce it. Positive children to our questionnaire should be undergone polysomnographic recording to confirm the diagnosis and avoid the well-known complications of SDB.