

"22Q11DS: EVALUATION  
OF THE ORGANS AND  
FUNCTIONS INVOLVED IN  
ORAL COMMUNICATION"



UNIVERSIDAD DE MÁLAGA

UNIVERSITY OF MALAGA.  
LOURDES BARRIGA NÚÑEZ



- There are few studies on the Spanish population
- Existing studies are about psychopathology or dental pathology (Ana de la Hoz (2017), Marta Bravo (2017), Fuensanta Robles (2015) y Ballesta et al. (2008))





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Rosa Bermúdez de Alvear<sup>1</sup>

Ginés Martínez Arquero<sup>2</sup>

Oriol González Hugas<sup>3</sup>

Lourdes Barriga Núñez<sup>1</sup>

<sup>1</sup>School of Medicine. Malaga University

<sup>2</sup>Maternal and Child Hospital of Malaga

<sup>3</sup>OirT Hearing Centers



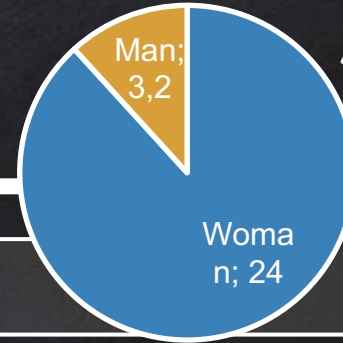


# GOALS

1. Evaluate the morphological and functional alterations that affect speech and motor learning
2. Associate the clinical manifestations found in this population with their possible genomic locations, using the information available in the DECIPHER database
3. Evaluate the impact that SD22q11 has on the quality of life of those affected and their caregivers.

# MATERIAL AND METHODS

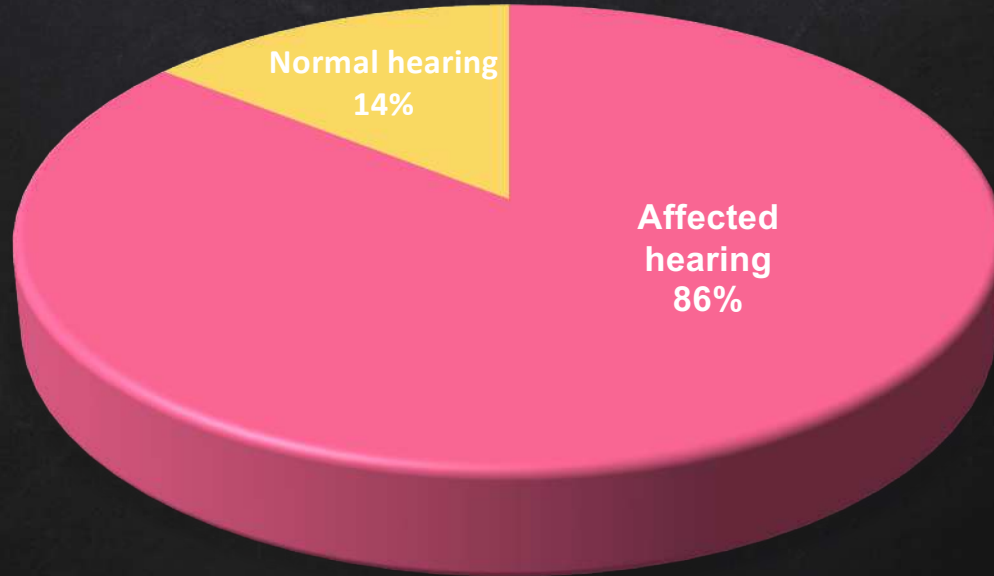
X Subjects: the sample includes 32 subjects, whose ages are between 3–45 years old.



X Interdisciplinary team

Hearing	Audiometry
Swallowing and Chewing	<ul style="list-style-type: none"> <li>○ Bermúdez RA. (2003)</li> </ul>
Speech (articulation, hypernasality, Intelligibility)	<p>Speech articulation exam :</p> <ul style="list-style-type: none"> <li>○ Albor, J.C.(1991): «ELA – Examen Logopédico de Articulación». Madrid: Cepe. Val</li> <li>○ Pennington L y McConachie H. (2001).</li> <li>○ Pennington L, Mjoen T, Andrada MG, Murray J. (2010)</li> <li>○ Sell D, Harding A, Grunwell P. (1999)</li> </ul>
Visual perception (motor coordination, visomotor integration and visual perception)	<ul style="list-style-type: none"> <li>○ Beery, K., &amp; Beery, N. (2004). The Beery–Buktenica Developmental Test of Visual–Motor Integration: (fifth edition). Minneapolis: NCS Pearson Inc.</li> </ul>
Handwriting	<ul style="list-style-type: none"> <li>○ Toro J, Cervera M et al. ELME: Escala Magallanes de Lectura y Escritura: TALE–2000. España: Grupo ALBOR–COHS; 2002.</li> </ul>

# HEARING IMPAIRMENT



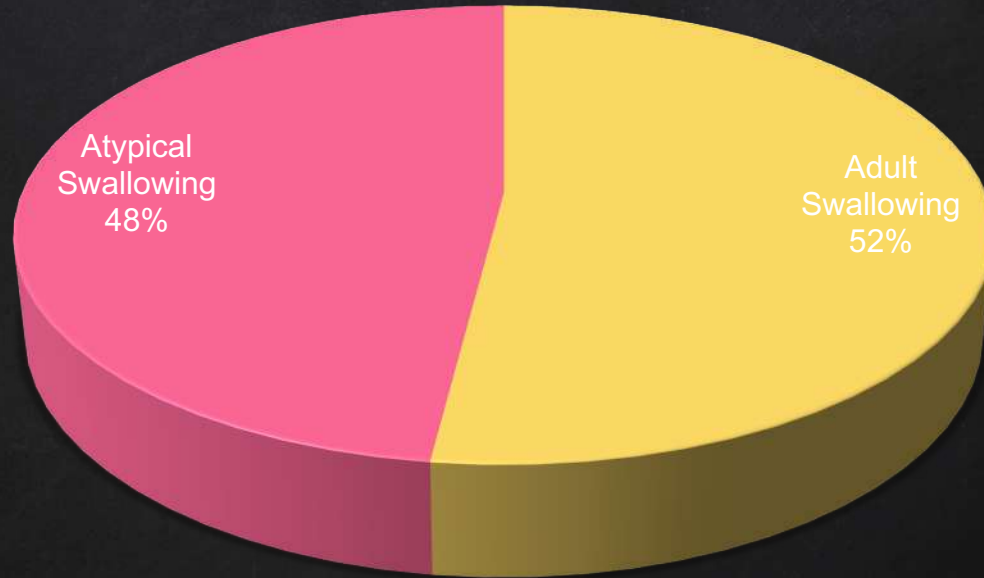
Classification of hearing loss of children and adults  
Northern y Downs (1991) .

Conductive hearing loss



# Swallowing

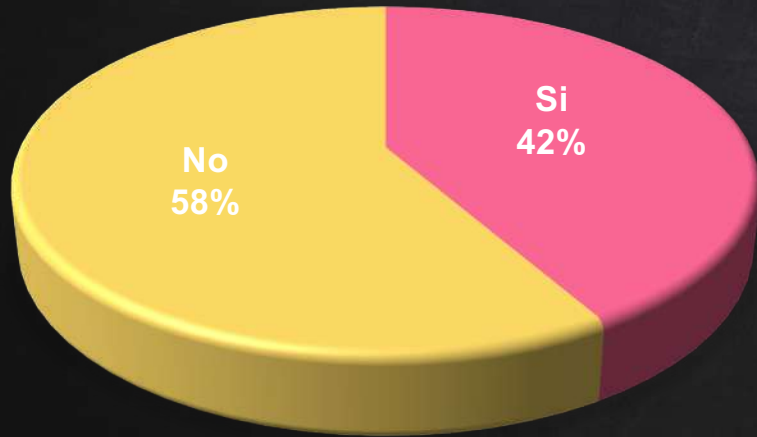
## Atypical swallowing



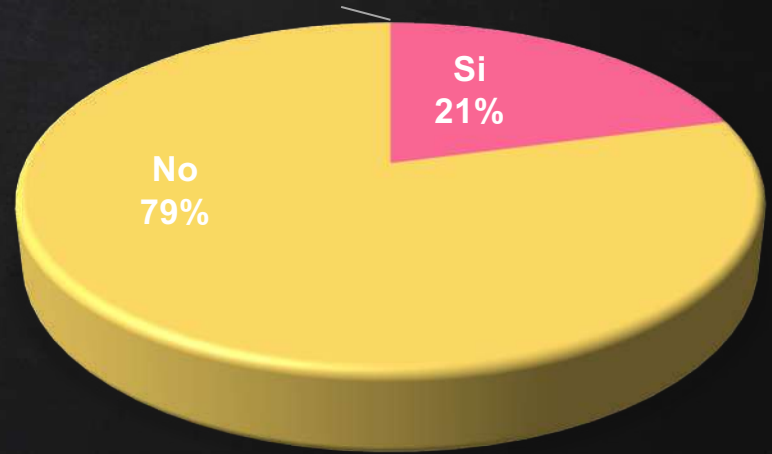
■ Adult Swallowing ■ Atypical Swallowing

# Chewing

## CHEWING WITH THE FRONT TEETH



## CRUSH THE FOOD AGAINST THE PALATE

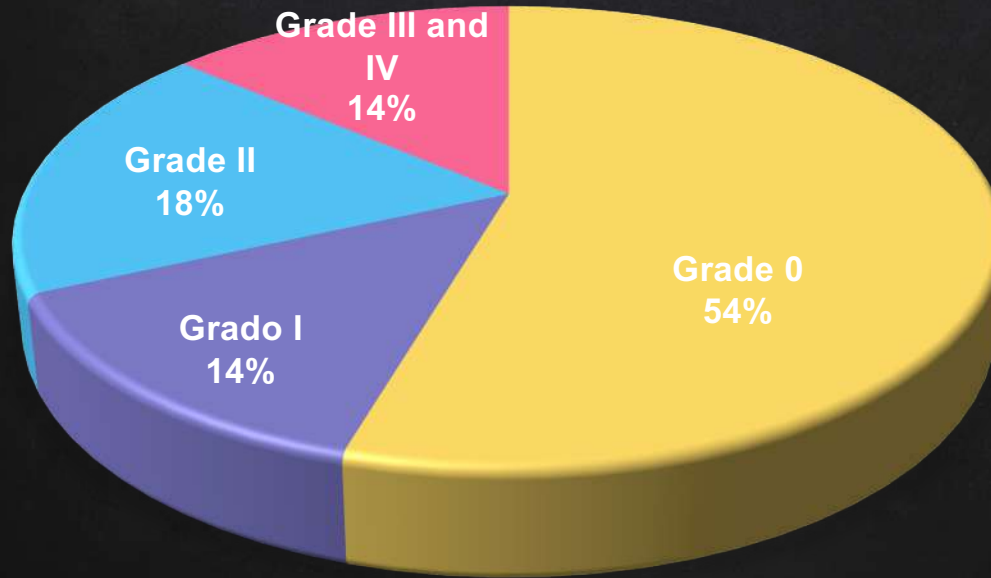


Nutrition



# SPEECH

## INTELLIGIBILITY

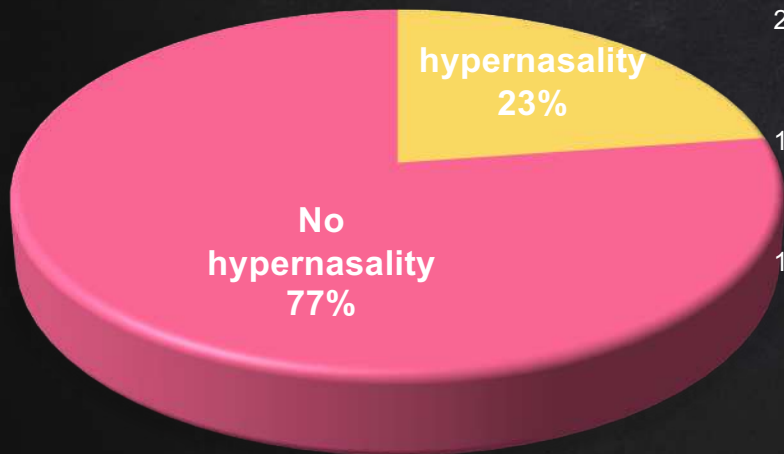


- ✓ Grade 0: speech intelligible
- ✓ Grade I: different from other children's speech, but not enough to cause comment.
- ✓ Grade II: different enough to provoke comment, but possible to understand most speech.
- ✓ Grade III: Only just intelligible to a stranger
- ✓ Grade IV: impossible to understand

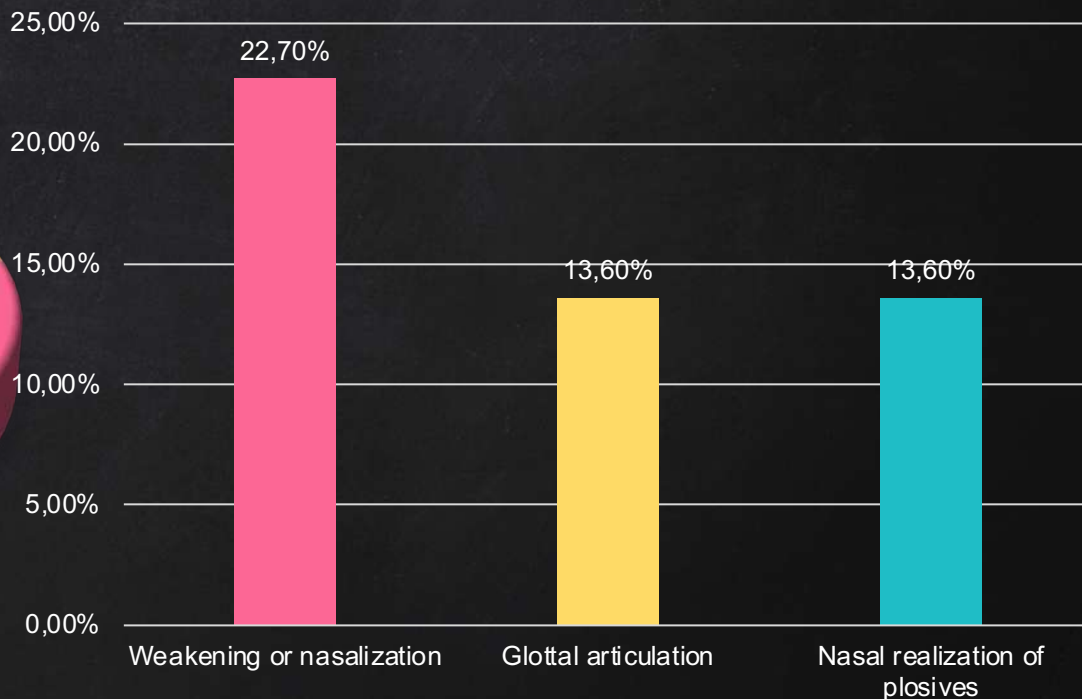
CAPSA PROTOCOL

# SPEECH

## SPEECH HYPERNASALITY



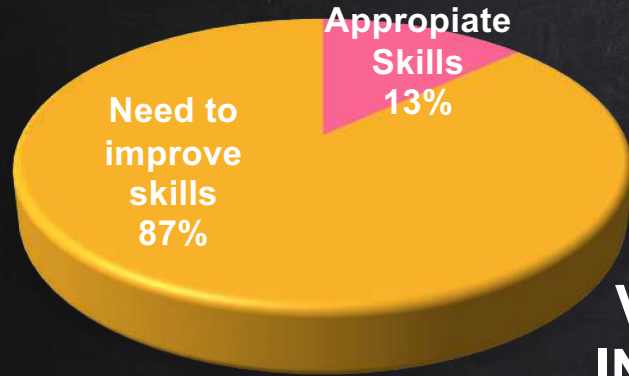
## MOST COMMON ERRORS DUE TO HYPERNASALITY



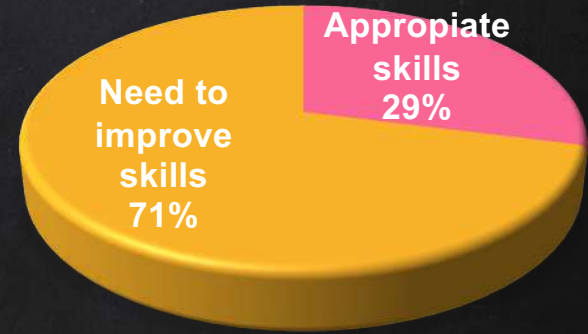
■ Weakening or nasalization ■ Glottal articulation ■ Nasal realization of plosives

PROTOCOL CAPSA

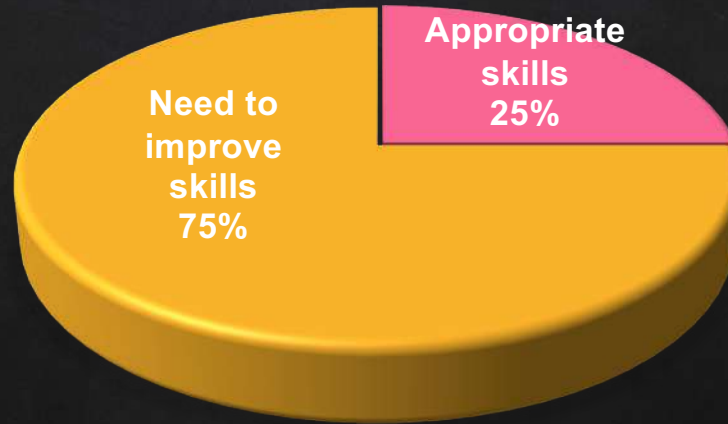
## MOTOR COORDINATION



## VISUAL PERCEPTION



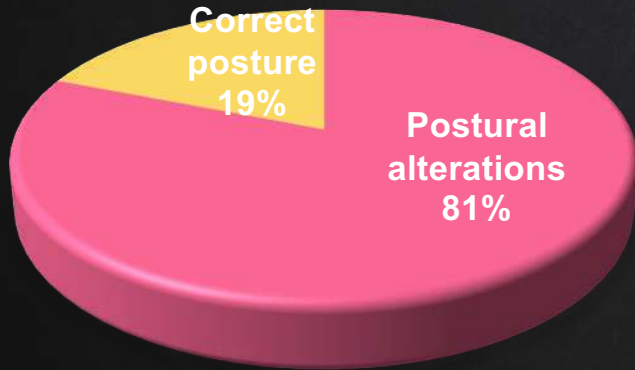
## VISOMOTOR INTEGRATION



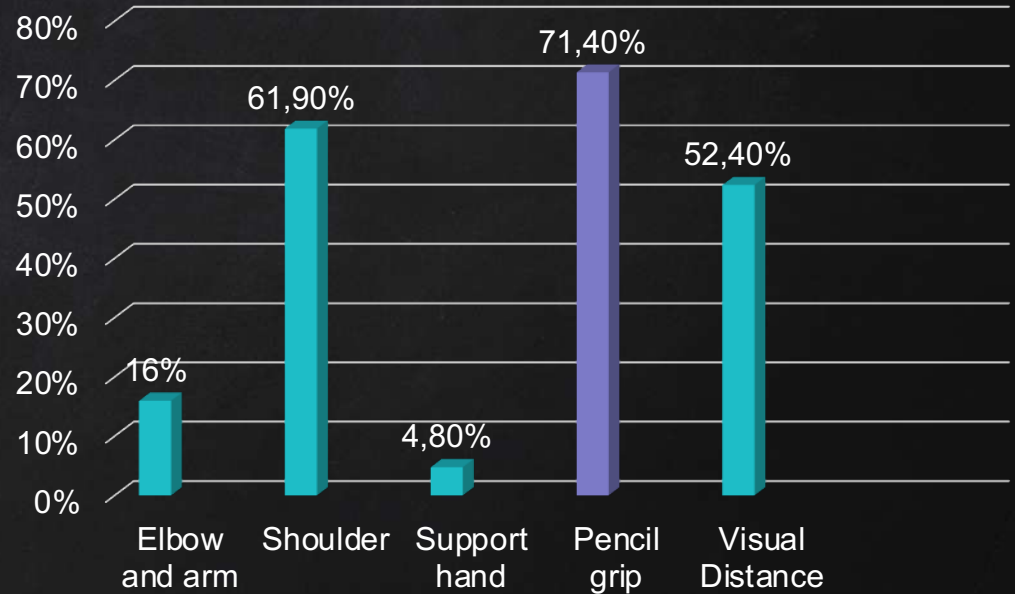
Beery, K., & Beery, N.  
(2004).

# Handwriting

## POSTURAL ALTERATIONS

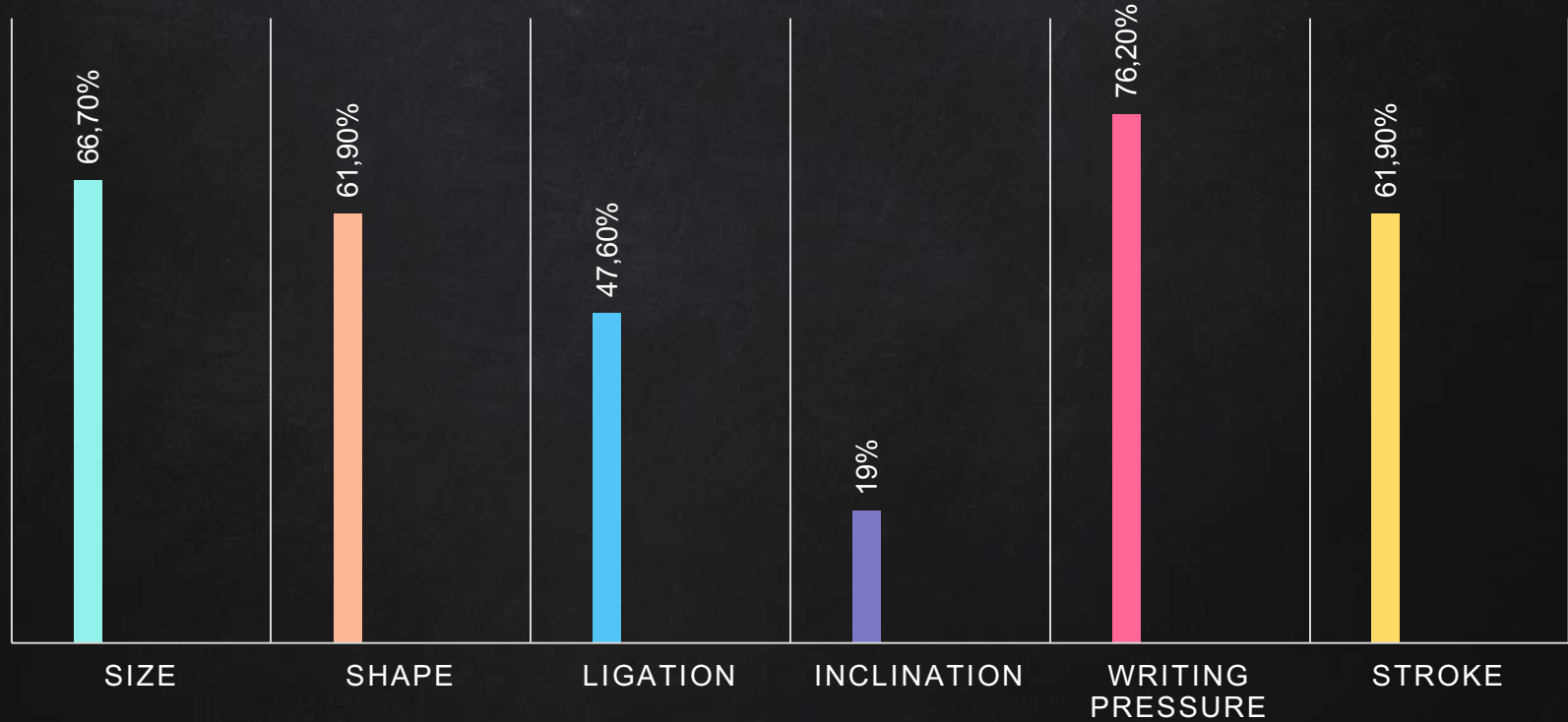


## Types of postural alterations



# Handwriting

## ALTERATIONS IN THE LETTERS



# Conclusions

1. Given the high frequency of hearing loss, we consider hearing surveillance to be of fundamental importance during the first years of life and during schooling.
2. Approximately half of the children have a maturational delay in the pattern of swallowing and chewing.
3. From childhood it is necessary to stimulate all orofacial muscles involved in the functions of chewing, swallowing, speech and breathing to achieve optimal development.
4. Given the high frequency of alterations in eye–hand coordination and writing, we consider it necessary to evaluate these skills and postural habits to favor an adequate development of literacy.