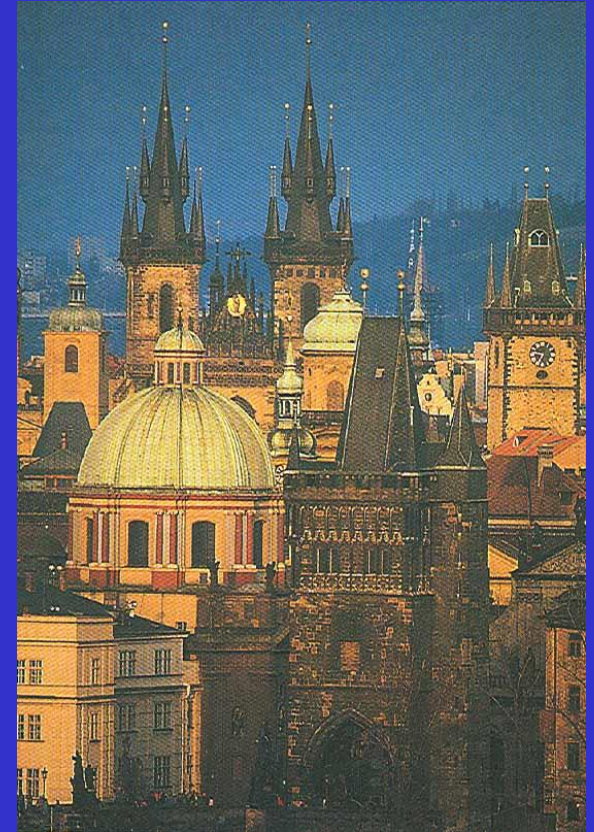




A longitudinal study of children with SLI (specific language impairment)

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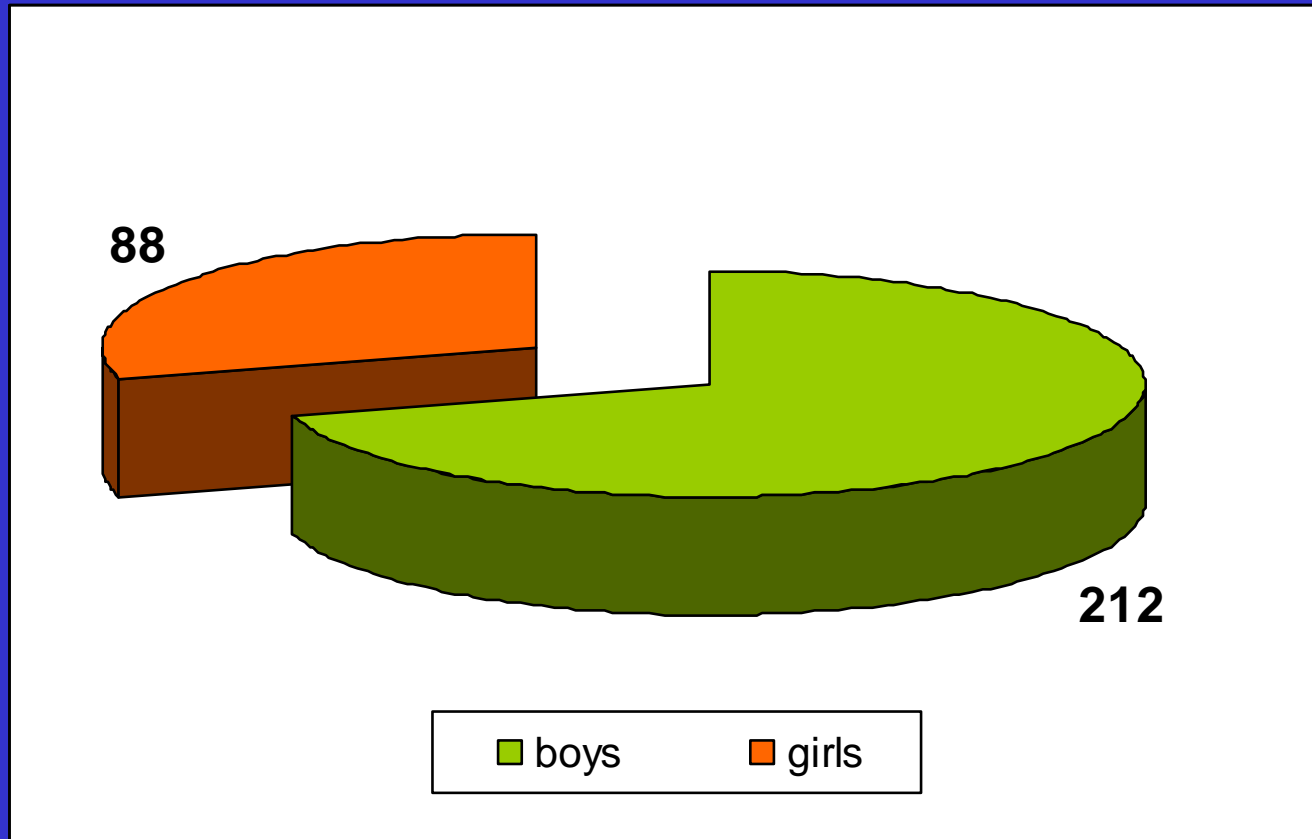
The heterogeneity of SLI (specific language impairment)

- **Sprachentwicklungstoerungen, Develop. dysphasia**
- **Language comprehension is impaired, but the most obvious problems are with expressive syntax and phonology**
- **At the heart of SLI is an disorder of auditory perception**
- **Central auditory deficits may result in/or coexist with difficulties in other CNS-based skills: as speech-language impairment, attention defecot, developmental and learning disabilities**

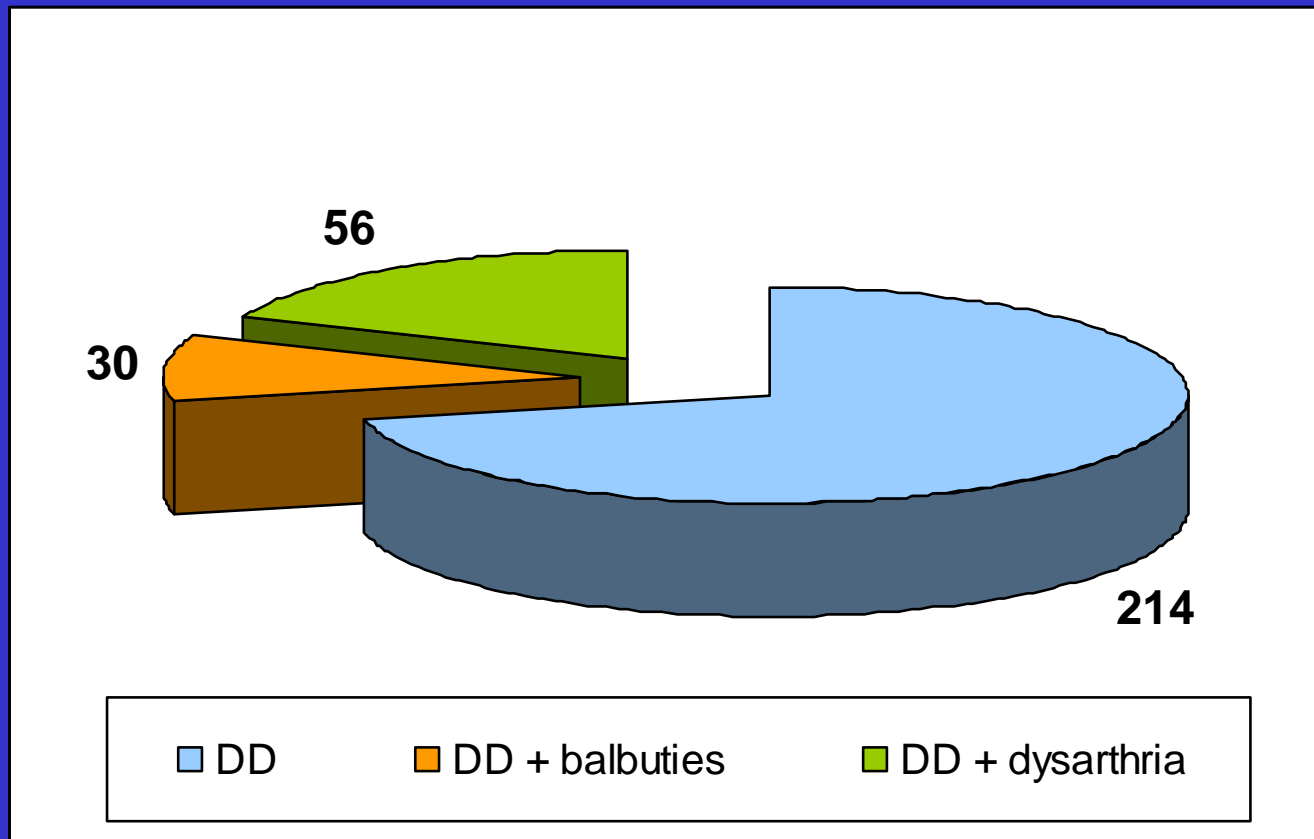
Specific language impairment

- Disorder of the distinctive features and phonemes
- Transpositions and reductions of syllables
- Problems with grammar
- Problems with semantic and association function
- Disorder of the short-time memory
- Auditory processing disorder
- Inability to use intrinsic-extrinsic redundancies to complete speech sounds

Children with specific language impairment N = 300

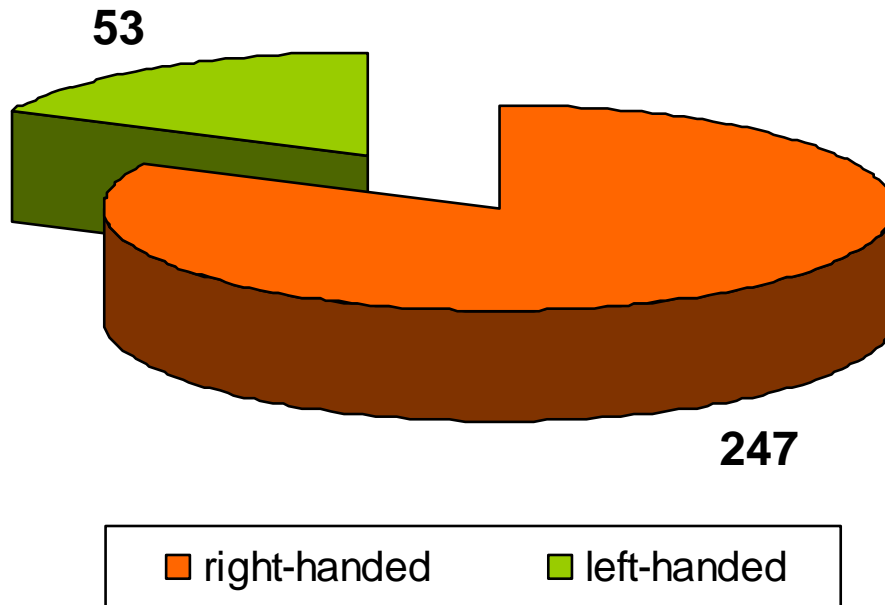


Developmental dysphasia
Developmental dysphasia + stuttering
Developmental dysphasia + dysarthria



Children with SLI - handedness

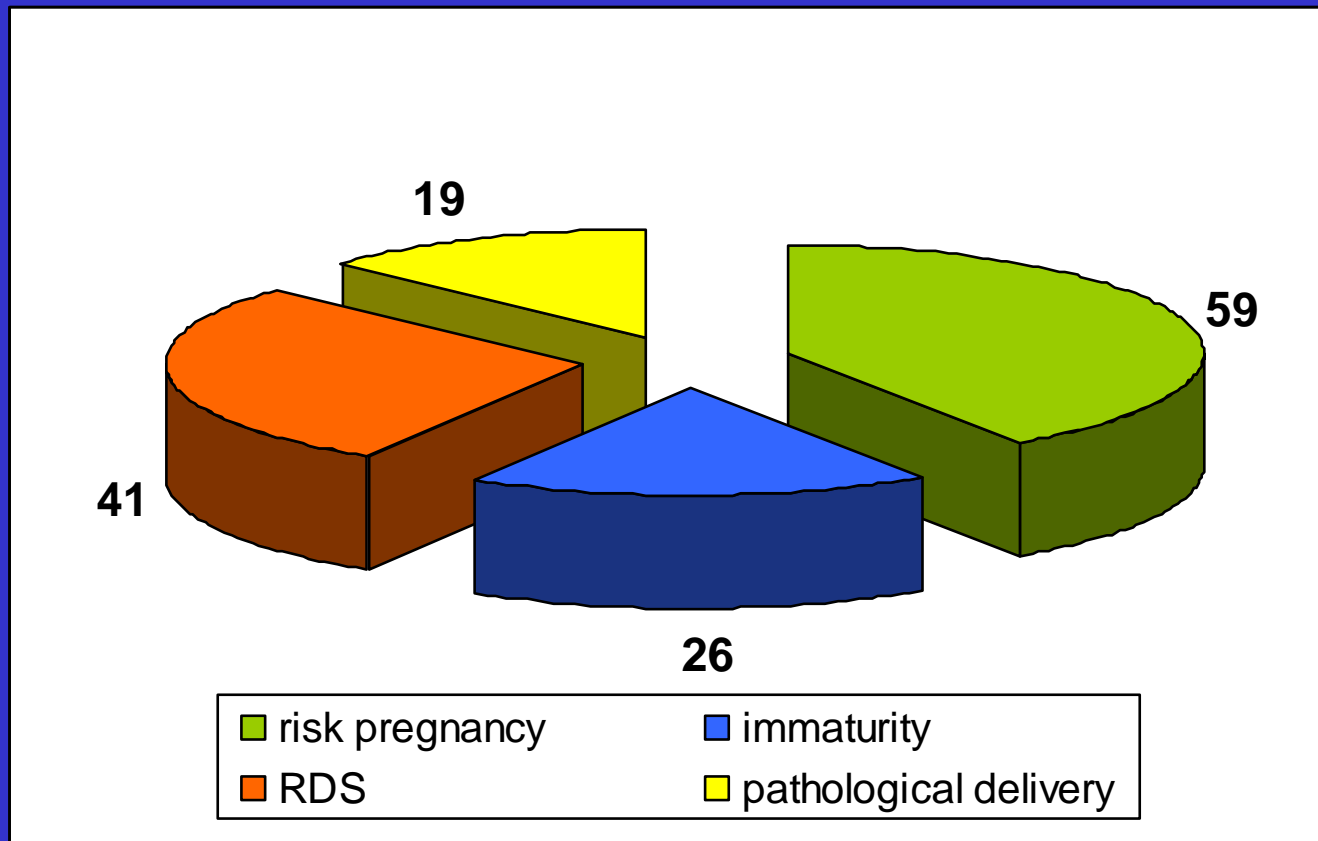
N = 300



Results of study of children with SLI

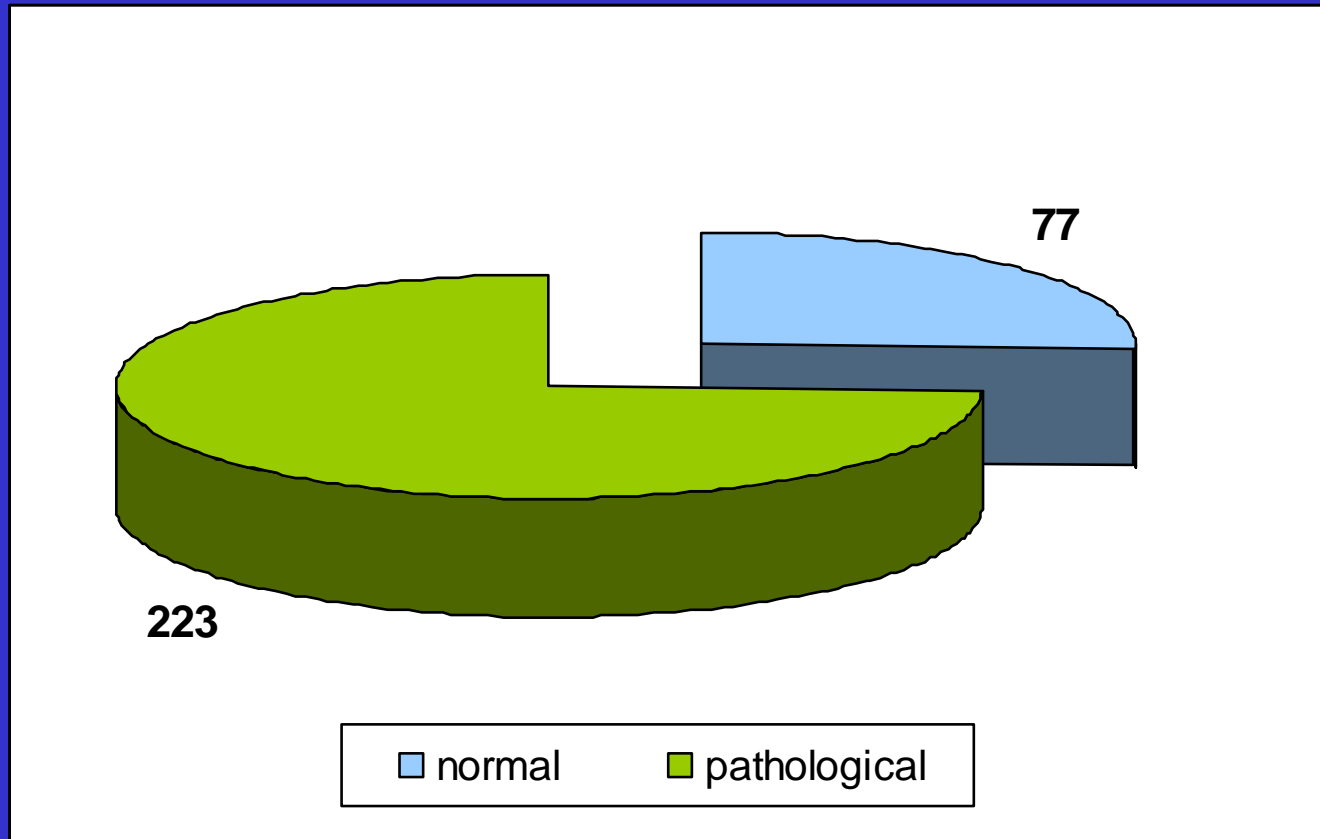
- Positive family history in 185 children
- Positive perinatal history in 145 children
- Disorders of phonemic discrimination in 223 children
- Phonological, lexical and syntactic deficits
- LAEPs with prolonged latency of wave P3
- EEG abnormalities
- Integration deficit in dichotic listening

Children with SLI - positive perinatal risks N = 145

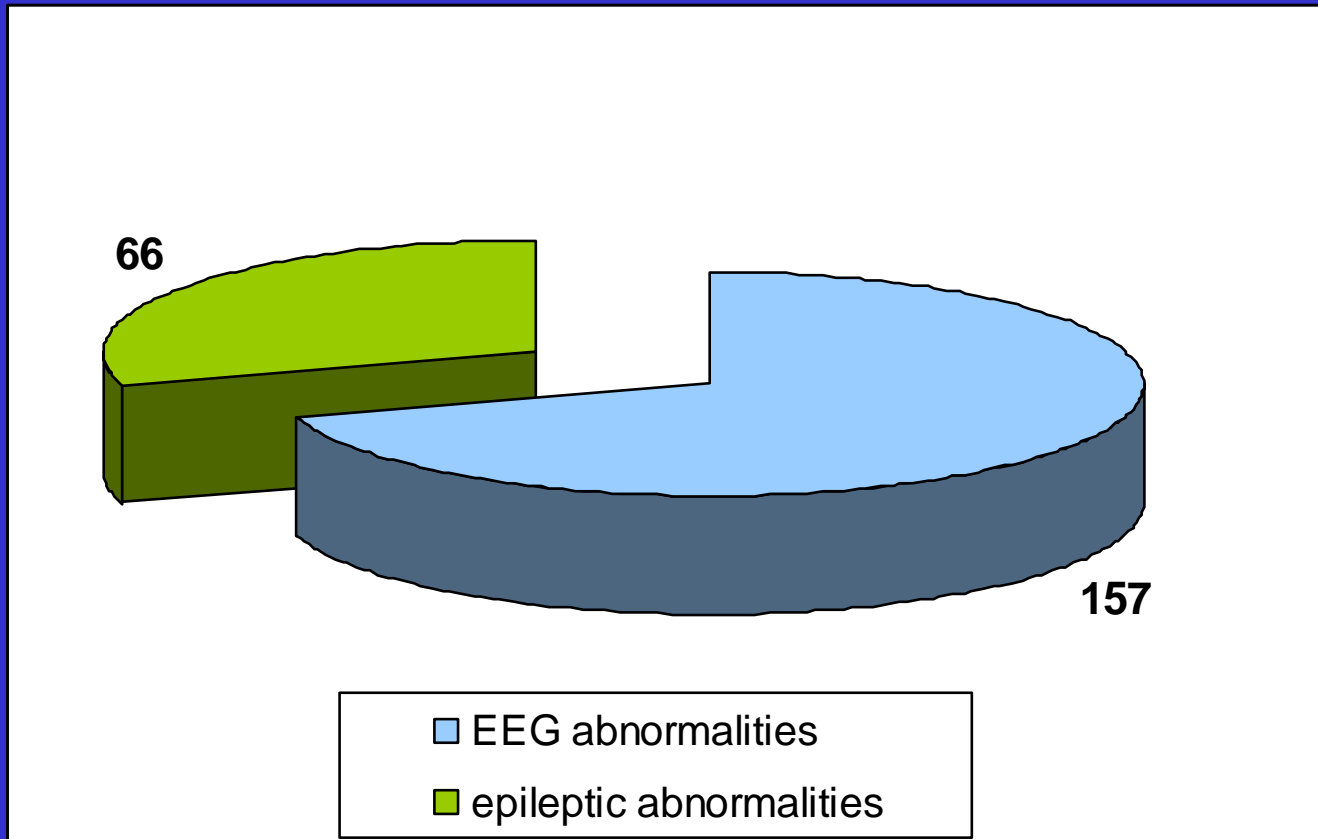


Phonemic discrimination

N = 300



EEG abnormalities

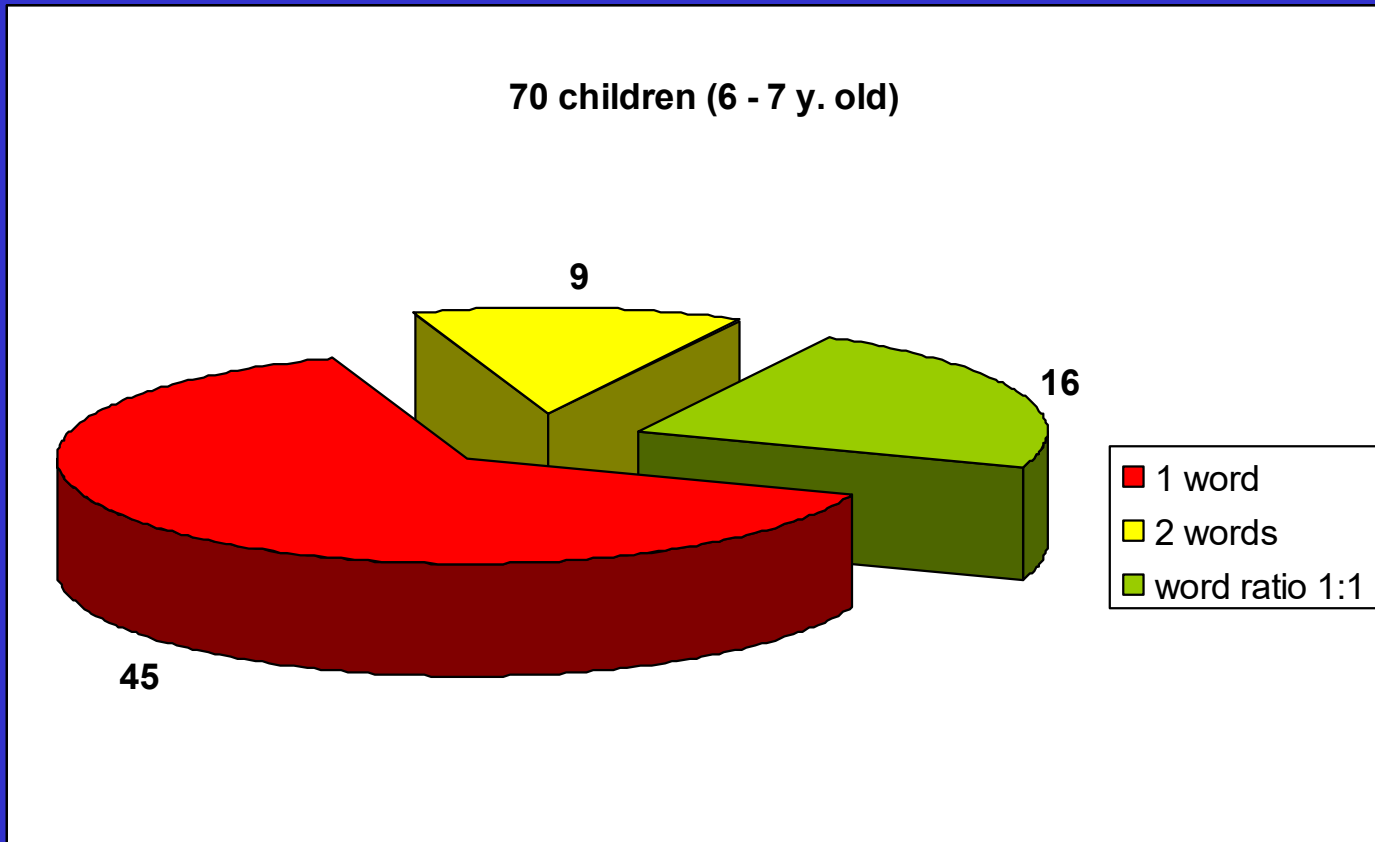


Dichotic speech tests

- **auditory stimuli presented to both ear simultaneously+being different**
- **The aim of study:**
- **to analyse the role of auditory perception in children with developmental dysphasia using speech (dichotic) central tests**
- **The experimental tasks consisted of 3 auditory measures (test 1-3): dichotic listening of two-syllabic target words presented like binaural interaction tests**

Children with SLI - dichotic listening

Disability to synthesize 2 two-syllabic words



Statistical analysis (paired t-test)

confirmed significant differences: $p=0,001$

	test 01		test 02		test 03	
group	mean	SD	mean	SD	mean	SD
control group N=20	91.00	11.00	92.00	10.32	93.00	10.59
SLI group N=70	56.14	17.61	62.43	16.24	61.93	17.68

Conclusions

- **A longitudinal study was conducted to document and compare the evolution of children with linguistic acquisition impairment**
- **Our results indicate the relationship between specific language impairment and central auditory processing disorder**
- **The expressive disturbances are a manifestation of decoding impairment in children with SLI**
- **With an auditory training improve language abilities**

See you in Prague!

