

## **Participation in an online music program could enhance vocabulary production in toddlers with cochlear implant (CI) at six months after CI's activation**

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Research in the last decades have shown that children's active involvement in musical activities could have beneficial effects on children's language development. Children with cochlear implant (CI) show large individual differences in language outcomes due to environmental and individual factors, and early participation in musical activities may be a protective factor. The aim of the present study is to investigate the effects of a 12-week online music program for toddlers with CI and their mothers on children's early vocabulary production in the first months after CI's activation. The program consisted of playful activities to be performed online by the mother and her child at home, starting three months after CI's activation. The musical stimuli were characterized by rhythms, pitches and melodies. Activities included listening, movement, playing instrument, and turn taking. Ten toddlers with CI (Mage=13.9 months, SD=7.68) who participated in the program (CIs-T) were compared to ten toddlers with CI (Mage=17.7 months, SD=8.35) who did not participate in the program (CIs-C). Children's expressive vocabulary skills were assessed using the Mac-Arthur Bates Communicative Development Inventories (MB-CDI) at three months (T1), at six months (T2) and at twelve months (T3) after CI's activation. An increase in the lexical production from T1 to T2 emerged for both groups. However, Friedman tests showed that the difference in the vocabulary size between T1 and T2 was significant only for the CIs-T group ( $\chi^2=6.40$ ,  $df=1$ ,  $p<.01$ ). Children with CI display a growth in lexical production early after the CI is activated. Furthermore, participation in an online music program could help foster toddlers with CI's vocabulary. Additional longitudinal data could clarify the potential benefits of the music program in the long term.