

# Exploring a link between language and sleep in children with cleft lip and/ or palate: A PPI study

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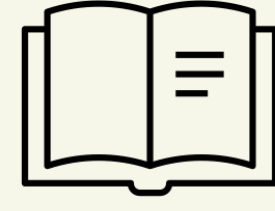
Supervisors: Dr Stephanie van Eeden & Dr Vic Knowland.

## Introduction

Cleft lip and/ or palate (CL/P) is a craniofacial abnormality that occurs every 1 in 700 live births (World Health Organisation, 2001). Speech difficulties are well researched and treated in children with CL/P, however language difficulties are still under researched (Van Eeden & Stringer, 2020). This could mean children with CL/P are not receiving appropriate intervention for their speech and language.

Previous studies have suggested that sleep is important for language development, for example Henderson et al (2012) found that sleep is needed to consolidate children's vocabulary. In children with CL/P sleeping can be difficult (Carlson et al.2017). Robison and Otteson.(2011) found that children with CL/P were around three times more likely to have Obstructive sleep apnoea (OSA) (8.5%) compared to their typically developing peers (2-3%). Links with OSA and oral language has been found (Corrêa et al.2017) The aims of this study were to investigate the relationship of sleep and language in children with CL/P further through three broad stages.

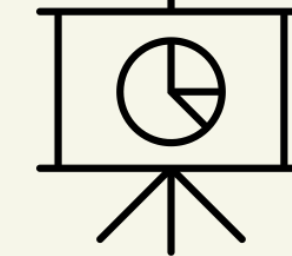
## Plan for current and future research



Stage 1: Exploratory study on sleep data from the cleft collective.



Stage 2: Public and Patient Involvement Project (PPI) asking parents their opinions.



Stage 3: Further observational study of sleep and language outcomes in children with CL/P

Current Project

## Findings from Stage 1

- 44% of parents were concerned about their child's sleep from ages 18 months – 3 years.
- Despite this, most of the time parents were reporting that their children had enough sleep. This could mean that something else was affecting their sleep and causing concern.

Children aged 18 months, 3 years and 5 years all showed a link between language and their sleep, this link got stronger as they a got older.

With this information stage 2 began within this project...

## Aim

To find out from parents of children with cleft lip and/or palate their experiences, and opinions on our study and if they thought it was worthwhile.

## Methodology

Data was collected through semi-structured interviews conducted on Zoom and/or Microsoft teams, and were 1 hour long. The interviews were structured with the following four themes.

- What is their child's sleep like?
- How can researchers better communicate with parents?
- What are the most efficient ways researchers can measure their child's sleep?
- What are the most efficient ways researchers can measure their child's language skills?

These themes were chosen to better understand parents' experience of their child's sleep, including whether they thought further research was worthwhile. These would help us determine meaningful outcome measures for stage three of the study.

Participants were recruited through an advert on social media and through invitation from their cleft team speech and language therapist. There were 5 participants involved, all participants were mums, and their children ranged from ages 1-to 5-years.

## Results

The results were analysed via two forms of analysis

Thematic Analysis

Thematic analysis - flow chart of themes

Practical questions to PPI



## Thematic Analysis

- Generally, there was a parental concern around sleep. Many parents discussed their difficulties with sleep, including whether their child was receiving enough sleep, what would happen during the night and any disruptions such as nighttime activities. This can be seen in the flow chart.
- Parents also spoke about the impact sleep has on them and their child. 3/5 parents discussed daytime behavioural changes their child would experience if they had a poor night sleep, such as becoming more emotional.
- All parents reported that more awareness of CL/P is required, so people will feel less alone. 4/5 parents had children that were struggling with their sleep and they all reported feeling alone.
- Findings from this PPI supports results from previous studies that found that children with CL/P do have difficulties with sleeping. This PPI highlighted areas of sleep that are difficult and the impact it had on parents.

## Practical questions to PPI

- Parents thought this was a subject worthwhile of further research.
- 5/5 parents preferred a watch that measured their child's sleep over written documentation of their child's sleep.
- Nursery/School was the preferred setting for assessments

## Conclusion

- Children with CL/P can have issues with sleep, and there is a parental concern.
- Parents are enthusiastic for this research to continue and are eager to find out more.
- Quality of sleep, nighttime activity, falling asleep and napping should be used as outcome measures for stage 3.
- Stage 3/ further research can and should continue.

## Impact

The PPI findings have been presented to other health professionals who have resonated with the results and are interested to find out more in respect to their areas. A pilot study would be the next step which could lead to a national study with a multidisciplinary team.