

1 **Parents' experiences of postnatal diagnosis and care following the birth of a**  
2 **child with cleft lip and/or palate**

3

4 **Abstract**

5 Background: Receiving the news that their child has a health condition, such as a cleft  
6 lip and/or palate (CL/P), can have a considerable psychological impact on parents.  
7 Yet previous research has highlighted parental dissatisfaction and service-related  
8 issues.

9 Aims: To investigate the experiences of parents of children born with CL/P in relation  
10 to postnatal diagnosis and neonatal care.

11 Method: Data were collected from 470 parents using an online mixed-methods survey.

12 Findings: The majority of participants received their diagnosis and postnatal care from  
13 a midwife. 61% were satisfied with their overall diagnostic experience. However,  
14 participants also perceived a lack of sensitivity, knowledge and empathy from hospital  
15 staff. Further issues were raised regarding the implications of a 'delayed' diagnosis  
16 including feeding difficulties.

17 Conclusion: Better training and support for midwives is recommended to address the  
18 challenges associated with the postnatal diagnosis and neonatal care of children with  
19 CL/P.

20 **Key words**

21 Cleft lip and palate; parent experience; postnatal diagnosis; neonatal care; feeding;  
22 mixed-methods

23 **Key points**

24 *Why is this research needed?*

25 The accurate, timely, and sensitive delivery of a diagnosis of cleft lip and/or palate is  
26 vital for the health of the child and the psychological adjustment of the family. Yet  
27 previous research has been indicative of parental dissatisfaction and service-related  
28 issues.

29 *What are the key findings?*

30 A considerable proportion of participants perceived a lack of sensitivity, knowledge  
31 and empathy from non-specialist health-professionals, and 39% of participants  
32 expressed dissatisfaction with their overall diagnostic experience. A perceived lack of  
33 knowledge among non-specialist health professionals was associated with parental  
34 psychological distress, feeding difficulties, and a delay in the detection of cleft palate.

35 *How should the findings be used to influence policy/ practice/ research/ education?*

36 The findings indicate a need for further work to understand how to better support non-  
37 specialist health professionals to provide a timely diagnosis and to support new  
38 parents, in addition to improving links between local hospitals and specialist CL/P  
39 organisations.

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## 45 **Introduction & background**

46 A cleft lip and/or palate (CL/P) is one of the most common congenital conditions in the  
47 world and affects one in every 600-700 infants each year in the UK (Cleft Registry &  
48 Audit Network, 2017). It is caused by a complex interplay of genetic and environmental  
49 factors (Dixon et al., 2011), and can affect the lip, the palate, or both. In some cases,  
50 a cleft palate may be associated with additional conditions or syndromes, such as  
51 Pierre Robin Sequence, and 22Q11.2 Deletion Syndrome. While the primary surgery  
52 to repair the cleft is usually performed during the child's first year of life, CL/P can often  
53 lead to issues with feeding, speech, teeth, and hearing. As such, babies born with  
54 CL/P will require ongoing treatment to address the functional and appearance-related  
55 consequences in accordance with the 20-year UK care pathway (NHS England, 2013).  
56 The cleft and its associated treatment may also impact on several domains of the  
57 child's psychological and social functioning throughout the lifespan (Stock & Feragen,  
58 2016).

59 In countries with a high level of resource, cleft lip is usually identified antenatally. In  
60 the UK, it became a requirement to routinely assess the foetal face during the 18-21  
61 week anomaly scan in 2010 (Public Health England, 2013). This has since led to a  
62 75% national standard detection rate for cleft lip. However, a cleft palate is rarely  
63 detected during routine antenatal screening and therefore almost all cases of cleft  
64 palate are diagnosed following the birth. In the case of isolated cleft palate (where the  
65 lip is not affected), the neonatal examination becomes crucial for a timely and accurate  
66 diagnosis, where a diagnosis outside of the first 24 hours following birth is considered  
67 to be 'delayed' (Bannister, 2008). Following the publication of evidence to suggest a  
68 significant and unacceptable delay in the detection of cleft palate, and the adverse  
69 impact of this delay on families (Habel et al., 2006; Cleft Registry and Audit Network,

70 2012), new guidelines were released by the Royal College of Paediatrics and Child  
71 Health (2014). These guidelines incorporate visual rather than digital assessment of  
72 the palate, in efforts to improve the routine new-born palate examination. Following  
73 diagnosis of cleft lip and/or palate, the national standard is for new-borns to be seen  
74 within 24 hours of referral by a cleft Clinical Nurse Specialist for a detailed feeding  
75 assessment and ongoing management.

76 For the parents and the wider family, the discovery that their child has CL/P can be a  
77 shocking and distressing experience, irrespective of whether the diagnosis is made  
78 antenatally or postnatally (Nelson, Glenny, Kirk & Caress, 2012). The manner in which  
79 the diagnosis is delivered can also have an impact on parents' wellbeing and their  
80 ability to adjust to their child's condition in the longer-term (Maes et al., 1998; Matthew  
81 et al., 1998; Chuacharoen et al., 2009; Vanz & Ribeiro, 2011). Yet, previous work in  
82 this field has suggested that parents often report a suboptimal experience with non-  
83 specialist health-professionals, including sonographers, midwives, health visitors, and  
84 GPs (Johansson & Rigberg, 2004; Knape, Bender, Prows, Schultz & Saal, 2010;  
85 McCorkell, McCarron, Blair & Coates, 2012; Stock & Rumsey, 2015), and a lack of  
86 reliable information and support (Searle, Ryan & Waylen, 2016; Young, O'Riordan,  
87 Goldstein & Robin, 2001). Further, infants born with a cleft palate often struggle to  
88 feed; a challenge which can cause additional distress in the parents (Lindberg &  
89 Berglund, 2013; Searle et al., 2016).

## 90 **Aims**

91 Given the critical importance of the diagnosis and the subsequent care the family  
92 receives, the objective of the present study was to examine the experiences of a large  
93 sample of parents in relation to their child's postnatal diagnosis and neonatal care. In

94 doing so, this study hopes to encourage a better understanding of parents'  
95 experiences and to offer pragmatic suggestions for improving practice.

96

## 97 **Method**

### 98 *Design*

99 A mixed-methods survey was designed and distributed by the Cleft Lip and Palate  
100 Association (CLAPA) using the online survey platform, SurveyMonkey. The survey  
101 was designed with comments and feedback from parents and health professionals  
102 from the CLAPA community. The full survey consisted of nine demographic questions  
103 (including the parent's age at the time of diagnosis, and their child's cleft type), 27  
104 quantitative questions (including who provided the diagnosis, and how satisfied  
105 parents were with their diagnostic experience), and five qualitative questions (including  
106 the ways in which the amount, timing and content of diagnostic information could be  
107 improved). A full list of survey questions is provided in Table 1.

### 108 *Procedure*

109 Institutional approval to analyse the data was provided by (*university*), and a data  
110 sharing agreement between the university and CLAPA was signed and agreed by all  
111 parties. The study was conducted in line with ethical guidelines provided by the British  
112 Psychological Society such that participants were made aware that their involvement  
113 was voluntary, that data would remain confidential, and that they could withdraw from  
114 the study at any time up until the completion of the analysis. The survey was advertised  
115 to parents of children born with CL/P on the CLAPA website, e-newsletters and social  
116 media between October 2016 and January 2017. A total of 1,044 eligible survey  
117 responses were collected. Of these, 470 respondents reported receiving a postnatal

118 diagnosis. This manuscript outlines the quantitative and qualitative data provided by  
119 these parents, specifically on the topics of postnatal diagnosis and care.

### 120 *Data analysis*

121 Quantitative data was analysed by (*author*) using descriptive statistics. Since not every  
122 respondent answered all the questions on the survey, percentages are reported along  
123 with the number of responses obtained. Qualitative data was analysed by (*author*)  
124 using inductive content analysis; a method which is appropriate for summarising a  
125 large body of qualitative data (Neuendorf, 2017). (*Author*) read through the dataset  
126 several times and derived common themes using an iterative process. (*Author*) also  
127 coded a proportion of the data to assess reliability. Codes were then compared and  
128 both researchers discussed any discrepancies until full agreement was reached.  
129 Finally, frequency counts were calculated and exemplar quotes were selected to  
130 illustrate each category.

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## 132 **Results**

### 133 *Participant characteristics*

134 Table 2 presents demographic information on the 470 parents who participated in this  
135 study. Figure 1 provides a visual presentation of year of diagnosis (note that year of  
136 diagnosis data is missing for 20 parents).

### 137 *Quantitative Findings – all respondents*

138 Overall, most respondents reported being either very satisfied (15%, 72/466), satisfied  
139 (20%, 93/466), or neutral (26%, 121/466) about their diagnostic experience. However,

140 19% (89/466) reported being dissatisfied and 20% (91/466) reported being very  
141 dissatisfied with their experience.

142 The majority of respondents reported that the news of their child's diagnosis had been  
143 presented very sensitively (32%, 152/466) or somewhat sensitively (38%, 178/466).  
144 However, 16% of respondents (73/466) felt the diagnosis had not been delivered  
145 sensitively, while 11% (52/466) felt the diagnosis had been delivered very  
146 insensitively. Only 50% (177/356) felt the hospital staff were knowledgeable about  
147 CL/P and just 59% (208/356) felt that the hospital staff were sympathetic about what  
148 the diagnosis could mean for feeding. Furthermore, only 67% of respondents  
149 (236/356) reported that hospital staff had used the correct term for 'cleft lip and/or  
150 palate'.

151 Due to the diagnosis, some respondents reported spending less time with their baby  
152 after the birth (46%, 165/356). In 23% of cases (81/356), the baby had been taken  
153 from the room after the birth, even though no additional complications had been  
154 observed.

155 Following the diagnosis, some respondents had received an explanation of what CL/P  
156 could mean for them and their child either immediately (12%, 54/466) or within an hour  
157 (8%, 39/466) of diagnosis. However, 29% of respondents (133/466) had been left to  
158 wait for over an hour, 27% (126/466) had waited for more than one day and 9%  
159 (44/466) had waited for more than three working days. In many cases, a Cleft Clinical  
160 Nurse Specialist (54%, 252/467) or another CL/P specialist health professional (such  
161 as a cleft surgeon; 9%, 42/467) had provided this explanation.

162 At the time of diagnosis, although 50 of respondents (227/452) felt that they had  
163 received the right amount of information, 41% (187/452) felt they had received too

164 little. 3% (13/452) felt they had received too much and 6% (25/452) answered didn't  
165 know/weren't sure. Further, only 40% (183/453) felt that this information had covered  
166 all the right topics and had addressed all the queries they had. Nonetheless, 70% of  
167 respondents (319/454) were told where to get further information and support. The  
168 source of this information and support most often included a Cleft Clinical Nurse  
169 Specialist (70%, 317/453), CLAPA's website (30%, 137/453) and/or a CLAPA leaflet  
170 (29%, 131/453).

171 Further, although the majority of parents reported having had a prior feeding plan of  
172 exclusive breastfeeding (55%, 252/459), only five% (23/457) were able to do this.  
173 Instead, parents reported offering milk from a bottle; using expressed milk (13%,  
174 59/457), a mixture of expressed and formula milk (13%, 60/457) or formula milk (30%,  
175 135/457), as well as nasogastric tube along with breast or bottle feeding (13%,  
176 58/457).

#### 177 *Quantitative Findings – cleft palate only*

178 76% of respondents (358/470) had received a diagnosis of cleft palate within 24 hours  
179 of birth, while 15% (69/470) had received a diagnosis between 24 hours and three  
180 weeks after the birth. According to 5% of respondents (24/470), the diagnosis had  
181 been given more than three weeks after the birth of their child. In the majority of cases  
182 (51%, 239 / 466), the diagnosis had been communicated by the midwife or another  
183 nurse.

184 Parents who had received a 'delayed' diagnosis of cleft palate more than 24 hours  
185 after birth reported that before a diagnosis was made they experienced problems  
186 feeding their baby effectively (83%, 93/112) and had felt personally responsible for  
187 these feeding difficulties (72%, 80/112). In 54% of cases (60/112), respondents had



188 been discharged from the hospital and sent home before the diagnosis was made.  
189 58% (65/112) reported that they had raised concerns but were told by a health  
190 professional that nothing was wrong and a further 72% (81/112) reported that the cleft  
191 had been missed by multiple health professionals on many occasions.

192 It is important to note that years of diagnoses ranged considerably in the current  
193 sample (from before 1980 to 2016; refer to Figure 1). However, no significant  
194 differences were found in overall levels of satisfaction between parents who received  
195 a diagnosis prior to, or after the publication of the 2014 Royal College of Paediatrics  
196 and Child Health guidelines in 2014 ( $t(445) = .507, p < .05$ ).

### 197 *Qualitative Findings*

198 Qualitative data was also collected in regard to parents' experiences of postnatal  
199 diagnosis and care. These findings are summarised alongside exemplar quotes in  
200 Table 3.

201

## 202 **Discussion**

203 This study aimed to explore parents' experiences of receiving a postnatal diagnosis of  
204 CLP, as well as issues pertaining to neonatal care. The findings provide important  
205 insight into the key challenges experienced by parents, in addition to practical  
206 suggestions for how to improve the diagnostic experience in practice.

### 207 *Synthesis of Findings*

208 Unsurprisingly, receiving a diagnosis of CL/P brought about strong emotional reactions  
209 for parents, which echoes previous findings (Nelson et al., 2012). The quality of  
210 diagnostic information as well as the way in which it is delivered is known to be crucial

211 for long-term parental wellbeing (Maes et al., 1998; Matthew et al., 1998; Chuacharoen  
212 et al., 2009; Vanz & Ribeiro, 2011). However, 39% of the participants in this study  
213 reported feeling dissatisfied or very dissatisfied with their overall diagnostic  
214 experience. Parents perceived a lack of knowledge, sensitivity, and empathy from non-  
215 specialist hospital staff, and reported that outdated terminology had been used to refer  
216 to their child's diagnosis (such as "hare lip"). Further, a considerable number of  
217 participants felt that they had received too little information, had been given inaccurate  
218 information, or had felt overwhelmed by the amount of information provided.

219 In the case of isolated cleft palate, a 'delayed' diagnosis can not only cause the family  
220 undue stress, but can also impact upon the child's nutrition, weight gain, and the  
221 parent-child bond, due to undiagnosed feeding difficulties (Habel et al., 2006; Tierney  
222 et al., 2015). Feeding difficulties are not uncommon among children with all types of  
223 cleft, yet these challenges and associated consequences are amplified in regard to  
224 delayed diagnosis of cleft palate. In the present study, respondents who had received  
225 a delayed diagnosis described their pre-diagnosis feeding efforts to be physically and  
226 emotionally exhausting, and some felt personally responsible for the feeding  
227 difficulties. Once the diagnosis had been made, appropriate feeding equipment was  
228 not always immediately available. National guidelines indicate that infants must  
229 undergo a comprehensive feeding assessment by a cleft Clinical Nurse Specialist prior  
230 to the introduction of assisted feeding, emphasising the importance of timely referrals  
231 to cleft teams.

232 In addition, 10% of participants reported that their child's cleft lip had been missed on  
233 one or several occasions during the antenatal pregnancy scans. Given that the  
234 national standard is for 75% of cleft lips to be detected antenatally; as smaller clefts of  
235 the lip can be more difficult to detect on 2D scanning, and complicated by unfavourable

236 foetal position and increased maternal habitus; this finding is not particularly alarming.  
237 Nonetheless, the potential psychological impact on parents of missing the opportunity  
238 for antenatal diagnosis of cleft lip must be acknowledged and appropriately handled.  
239 Health professionals need to be aware of the potential psychological impact that a  
240 diagnosis at birth may have, particularly in relation to the parents' inability to prepare  
241 (Nusbaum et al., 2008), and feel confident in delivering information sensitively, offering  
242 emotional support, and signposting parents to reliable external resources.

243 The findings of this study add to the growing body of CL/P literature in which parents  
244 describe dissatisfaction with the interactions they experience with non-specialist  
245 health professionals (Johansson & Ringsberg, 2004; Knape et al., 2010; McCorkell et  
246 al., 2012; Stock & Rumsey, 2015). This finding has been replicated in related studies  
247 of disability and chronic illness (Anderson et al., 2007; Smith et al., 2015), rare  
248 disorders (von der Lippe, 2017), and other congenital conditions (Wool & Catlin, 2011).  
249 While hospital staff cannot be expected to possess expert knowledge on all of the  
250 health conditions they treat, the consequences of delivering inaccurate or partial  
251 information in a way that is perceived to be insensitive can be considerable and long-  
252 lasting, both in relation to the psychological adjustment of the family, and to the  
253 physical, cognitive, and social development of the child (Anderson et al., 2007; Habel  
254 et al., 2006; Maes et al., 1998; Matthew et al., 1998; Chuacharoen et al., 2009; Vanz  
255 & Ribeiro, 2011; Wool & Catlin, 2011). Health professionals need to be aware that  
256 parents may be distressed and disoriented and as such require the experience and  
257 skill to determine the level of need of each individual and to respond accordingly  
258 (Schuth et al., 1994; Lalor et al., 2008). However, due to recruitment and retention  
259 issues in maternity units, this would necessitate frequent and regular training in each  
260 unit to ensure equal awareness among all staff who may come into contact with babies

261 affected by orofacial clefts. Targeting such training in relation to Continuing  
262 Professional Development, as well as at undergraduate level would help to address  
263 this. A foundation level of training on how to deliver diagnoses in a sensitive manner,  
264 in a written, online and/or face-to-face format has been written to support health  
265 professionals to deliver challenging news (Lalor et al., 2008), and ensure that health  
266 professionals are able to provide up-to-date and accurate information confidently, to  
267 the level of their degree of specialism. Although this level of training is becoming more  
268 prevalent (Royal College of Paediatrics and Child Health, 2014), more could be done  
269 to ensure all trainee and qualified professionals are appropriately equipped and  
270 supported to deliver optimal care. Further research and Public Involvement activities  
271 are needed to guide the development and evaluation of such training and materials.

272 Many participants reported a high level of satisfaction with specialist CL/P cleft teams,  
273 once a diagnosis had been made. This finding replicates previous work (Berggren et  
274 al., 2012; Johansson & Ringsberg, 2004; Stock & Rumsey, 2015), and suggests that  
275 closer links between local hospitals and specialist services could help to close gaps in  
276 the knowledge of congenital conditions such as CL/P, and ensure the timely delivery  
277 of reliable information and optimal neonatal care in primary and secondary health care  
278 settings.

279 It is imperative to fully consider the limitations of the current study. First, the survey  
280 was advertised through CLAPA's website and social media platforms, thus only  
281 reaching parents receiving information and/or services from CLAPA. While CLAPA is  
282 the only dedicated national CL/P charity and has a considerable membership base, it  
283 cannot be assumed that respondents are fully representative of the population.  
284 Further, it is possible that the subgroup of parents who volunteered to take part in this  
285 study share a similar set of traits or characteristics which could make them more likely

286 to volunteer their experiences. Indeed research suggests that those most willing to  
287 discuss their experiences might represent extremes; having had particularly good or  
288 particularly bad experiences; potentially resulting in a sampling bias (Peel, Parry,  
289 Douglas & Lawton, 2006). Additionally, the sample for this study consisted  
290 predominantly of White mothers. The lack of a more diverse sample means that some  
291 parents' experiences may have been missed. A lack of a representative samples is  
292 not uncommon in the health literature and critics note that much of the knowledge  
293 base in relation to CL/P is dominated by (often White) mothers' views and experiences  
294 (Stock & Rumsey, 2015; Zeytinoglu et al., 2016). Further, the survey required parents  
295 to provide retrospective information about their experiences, which means the study  
296 is subject to recall bias. Not all respondents answered all the questions on the survey,  
297 meaning that some data is missing.

298 In the current sample, the years of diagnoses range considerably; from before 1980  
299 up until 2016 (see Figure 1). Nonetheless, no significant differences were found in  
300 overall levels of satisfaction between parents who received a diagnosis prior to, or  
301 after the publication of the 2014 Royal College of Paediatrics and Child Health  
302 guidelines in 2014. These findings demonstrate that delayed diagnosis and the  
303 neonatal care of infants with a cleft is still a significant concern for at least some  
304 parents. However it is imperative to note that guidelines such as these take time to  
305 implement (McElroy et al. 2017), and the sample included in this study cannot be  
306 deemed to be nationally representative. National initiatives, such as the CRANE  
307 database ([www.crane-database.org.uk](http://www.crane-database.org.uk)) and the Cleft Collective Cohort Studies (Stock  
308 et al., 2016) will be better placed to address these questions in the future.

309 In spite of these limitations, the present survey was able to capture a large amount of  
310 mixed-methods data, which add weight to the importance of timely diagnosis, positive

311 relationships between families and health professionals, and the delivery of  
312 appropriate information and support.

313

## 314 **Conclusions**

315 The findings of this study provide important insight into the diagnostic and neonatal  
316 care experiences of parents of children born with CL/P. Several service-related issues,  
317 including delayed diagnosis of cleft palate, parental dissatisfaction with the delivery of  
318 information and support, and the physical and psychological impacts of parental  
319 distress were identified. A foundation level of standardised training for primary and  
320 secondary care health professionals is therefore recommended.

321

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