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Infant Crying Behaviour: Comments on Oberlander, and St James-Roberts

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Introduction

If an infant is crying excessively during the first months of life, the disturbance caused in the family may last well beyond the time period of the problem of crying.[1] Indeed, the considerable impact of excessive crying on family life is a testimony to the compelling force a behaviour otherwise regarded as benign. If the psychosocial resources of a family are already extenuated, an infant's crying problem can sorely try family coping capacities and prevent it from providing sensitive and consistent infant caregiving. One of the most common problems exhausting the coping capacities of families of young infants is postpartum depression. Is the crying of an infant in these families depriving the infant from optimal care? This important question is raised in a paper by Tim F. Oberlander, who points out that depression affects maternal responsiveness to the infant (and infant crying), which may affect later infant/child development. Oberlander cites convergent evidence from the literature supporting the hypothesis that infants of depressed mothers may also cry more and suggests that infant crying could be used as an opportunity to offer help to such families, with the ultimate goal of improving maternal mood and child

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development. What kind of help should be offered, and for whom, in the context of infant crying? This question is discussed more generally in a paper by Ian St James-Roberts. St James-Roberts points out the large gaps in our understanding of infant crying, despite expanding research on this topic, namely: We do not know what causes excessive crying (regarded as a problem in a given percentage of otherwise normal infants), what should be done about it, and whether crying predicts a poor development in some settings.

Research and Conclusions

A substantial proportion of families with young infants are affected both by infant crying (regarded as a problem) and by postpartum (and antenatal) depression. Papers on this subject have done much to raise essential questions and point out shortcomings in the literature.

There have been three main approaches in assessing infant crying:

1. Subjective perceptions of the problem of excessive crying from caregivers
2. A more objective quantification through diary-keeping (usually by parents)
3. An analytical qualification of the acoustics of a segment of the cry sound.

Perceptions, quantifications and qualifications of crying problems may all be affected by maternal depression, and combinations thereof may affect parent–infant interaction. Subjective maternal perceptions of crying are most likely influenced by maternal psychological factors. Subjective parental perceptions of infantile “colic” and parental assessments of how much crying is too much have been found to be associated with the psychosocial risks specific to the family during pregnancy.[2,3] Moreover, parental complaints regarding excessive crying are not proportional to the amount of crying involved. The fact that an infant may cry a great deal may not concern some parents, while average levels of crying may be a real concern to other parents. [4] The amount of crying may, itself, be influenced by biological and environmental factors as described by Oberlander. These factors may also be categorized as antenatal and postnatal factors as it is possible that maternal depression affects infant crying both before and after birth. There is evidence summarized in a review by Van den Bergh[5] that maternal anxiety and stress influence fetal behaviour and later child development as the developing fetus is influenced by a maternal neural and hormonal balance. Furthermore, maternal anti-depressant medication during pregnancy has be shown to alter the acoustic quality of infant crying after birth.[6] Therefore, in addition to *post partum* depression, the role of depression and its medication

during pregnancy needs to be clarified in future research.

Infant crying affects parent–infant interaction even in normal populations. Dyadic parent–infant (both father and mother) interactions were affected by higher amounts of crying during the crying period,[7] and there still were differences in family interaction one year later.[8] In another cohort, the perception of “colic” was related to fewer younger siblings three years later[9] which may indicate a significant impact of “colic” on the family. In the context of maternal depression, problem infant crying is likely to have even more consequences and in order to find ways to alleviate possible adverse effects, interventions are needed. Our starting point: We do not know enough to provide evidence-based advice to either professionals or the parents of infants who cry excessively. The fundamental questions regarding this knowledge gap are posed in the paper by St James- Roberts.

First, we need to identify those infants whose organic etiology leads them to cry. For example, as St James-Roberts clearly shows, there are major disadvantages to implementing a cow’s milk elimination diet to a breastfeeding mother as it radically restricts the mother’s diet or it prevents breastfeeding. Breastfeeding has been shown to have many health benefits as it is more economical for the parents and may also strengthen the mother–infant relationship, which is important to support in a context of infant crying. Even in formula-fed infants, an elimination diet with hypo-allergic milk products is much more costly than a regular formula diet. Studies about elimination diets as treatments for excessive crying suffer from selection biases: the problem has to be long-lasting and severe to meet the inclusion criteria. Without a similar wait-and-see period in clinical practice, we cannot expect similar results with a dietary intervention. It would be very helpful for pediatricians to have tests to screen those infants who would benefit from dietary interventions or other procedures targeting organic etiologies.

As most infants presenting with excessive crying are likely exhibiting normative behaviour at the high end of its range, a critical examination of (cost)-effective intervention methods regarding the majority of infants with crying problems should be carried out. Crying may be tolerated by one family, but not by another. As St James-Roberts formulates it, we should identify vulnerable parents and the ways in which such cases should be managed. Mothers suffering from depression may be one of the vulnerable groups, as also discussed by Oberlander. Conversely, excessive crying may be tolerated in a family without any consequences, but multiple or long-lasting problems may lead to later consequences. St James-Roberts suggests that infants with multiple and prolonged behavioural problems, especially in combination with psychosocial risks,

may define one of the potential risk groups.

The third question raised by St James-Roberts is an important one for primary care because infant crying is such a common problem. The question is should we intervene, and if so, how, and when, in the case of a crying infant who has not undergone an organic disturbance and parental vulnerability. Many simple interventions such as increased carrying,[10] baby massage[11] or swaddling[12] have not been superior to control care in the treatment of excessive crying. As it is largely questionable if the amount or quality of crying can be affected by any intervention in cases of normal age-appropriate behaviour, interventions may be geared towards parental perceptions of crying. If crying is explained as signalling vigour, health and robustness,[13] and appropriate information is provided to this effect, parents may see the positive side to crying: their crying infant may be showing a superior ability to increase his/her food supply (by expressing him/herself regarding hunger) and attract more interactions with caregivers compared to a quiet infant. Increased interaction may serve in the long run as a benefit for the infant. St James-Roberts et al.[14] showed that holding children a great deal and more mother–infant interaction were related to a change from high to low negativity (crying) in infants.

Implications for the Development of Research and Policy

In future research, a broader picture of crying problems could be drawn if studies measured a broader spectrum of factors. Future research could quantify 1) the magnitude of a perceived infant crying problem within the family; 2) the amount (duration and frequency) of crying; and 3) the acoustic quality of crying. How infant crying is affected by prenatal and postnatal factors such as maternal depression and the treatments used for it should also be explored. Further, it should be assessed which aspects of excessive infant crying most affect parent–infant interactions, along with the long-term consequences of excessive crying on child development in different settings. From a clinical perspective, it is crucial to formulate intervention methods that alleviate parental distress and prevent the adverse effects of crying disorder on child development in various family settings. It might be argued that the highest demand for this research concerns families with multiple risks.

In addition to the families with a depressed mother, there are other groups of families in which infant crying may be affected by biological and environmental factors and where psychosocial resources may be exhausted in advance of any problem with infant crying. Groups at risk include

families of very preterm infants and substance-abusing parents. In such groups, the additional problem of infant crying may exacerbate the family situation and later affect child outcomes. Very preterm infants are born at early stages of the brain development and are exposed to psychological separation (more or less so, even today) and a radically unnatural environment compared to a physiological *in utero* environment. If environmental factors dictate infant crying at all, there should be differences in the crying behaviour of very preterm infants. Furthermore, the parent–infant relationship of this infant group is affected by several stressors, which are likely to alter parental responses to the infant and to infant crying. The unfortunate fact that preterm infants are a risk group for shaken baby syndrome may indicate different responses to infant crying in this group. The infants born to substance-abusing mothers cry more during withdrawal, and the quality of crying is high-pitched. There is a paucity of research on crying after a withdrawal period. It is questionable whether addicted mothers have the ability to be responsive and sensitive in a consistent way towards their crying infant. It is not known whether the amount of crying continues to increase or if crying subsides without adequate responses. In all of these groups (families with maternal depression, or drug abuse or families with a very preterm infant), infant crying may serve to indicate a need for closer evaluation and as an acceptable reason for the family to comply with interventions supporting sensitive and consistent parenting.

Public health information and interventions should be studied in rigorous research settings to find evidence-based ways of managing infant crying and to help build cost-effective and efficient services for the families of young infants. The optimal timing for some information and interventions may be before the birth of an infant, and other types of interventions may be necessary for those with multiple and prolonged infant behavioural problems. Such work is vital and will serve a large group of families today and possibly in future generations.

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