Crying – All the Cool Kids Do It

Every baby cries. A lot. Science and medicine have attempted to explain this through a distinction known as colic. Clinically, colic is defined as persistent crying for more than 3 hours per day for more than 3 days per week for a period of at least 3 weeks. To date, excessive crying (which is normal colicky behavior) is the number one complaint of new parents to their pediatrician. The implications of crying are extremely diverse; for example, it is known to prime and stimulate milk letdown, indicate hunger, discomfort, or fear, and unfortunately even exists as a proximal cause for abuse.

The Science Behind the Sound – What We Know

There exist four main theories behind the evolutionary basis of colic:

1. Historical Hypothesis

Infants have developed a need for frequent close physical contact with their caretakers, presumably stemming from a history of being continuously held. Crying exists as a response that may have evolved to reduce the risk of desertion or isolation and subsequently provoke further contact with caretakers or adoption by other groups. This theory relies on the assumption that crying stops once the relationship is restored.

2. Infanticide Hypothesis

Crying can be interpreted as a sign of vigor, as the act requires a significant amount of energy above what is needed for daily life. An infant who cries is perceived as strong and worth the investment of time, energy, and resources for development. From an evolutionary perspective, it is beneficial for parents and caretakers to rear only those offspring who have proven their fitness and strength. It is more beneficial to terminate weak offspring rather than to commit a significant investment in their development – elimination is favored to both increase fitness of surviving offspring and enhance future reproductive capacity of the parents.

3. Blackmailing Hypothesis

Intensive crying may be a signal of blackmail from offspring to attract predators or signal a dangerous loss of energy – this further increases the attention received and forces parents to exceed their level of investment in their rowdy offspring. This theory supports the existence of temper tantrums as a method evolved to threaten imminent harm and thereby manipulate parents to provide perceived increased needs. Examples include pelicans biting their wings and baboons banging their heads against the ground, as well as small children acting out in the middle of a grocery store.

4. Superchild Hypothesis

This theory supports minimizing costs of sibling competition – the goal is to use up time and resources to delay the birth of another child. By increasing the tiredness and stress of the parents, colic may force parents to increase the interval between births. Increased crying may be perceived as increased hunger, which will increase feeding – this further depletes resources for additional offspring and may deter parents from reproducing further as necessary resources outweigh available resources.

Conundrums of Colic – What We Don’t Know and May Never Know

Although the evolutionary analysis of colic is thorough, it is far from complete. There are many questions that remain to be answered and some that are thought provoking, yet may be nearly impossible to investigate in humans.

From a survival standpoint, does crying increase the risk of predation?
- Crying and vocalization is the most primitive alert system for predators and parents alike
- If blackmailed, the parent has the choice to leave the offspring vulnerable to the attracted predator
  - Although this could be tested in animal models, to prove this evolutionarily for humans would be very difficult as it would be frowned upon to expose crying infants and children to potential predators

Should we condition infants to stop crying?
- What are the implications for suppressing or even preventing a child from crying?
  - This would prove difficult as we cannot selectively mute children in the name of science

Why do we ever stop crying?
- This seems to be the largest philosophical question in the field and one that although may seem silly proves to be quite interesting
- Why do we still cry in certain circumstances?

Are They Going to Cry Forever? – Future Research

The field of evolutionary medicine is actively pursuing research surrounding the significance of colic as both an adaptation and evolutionarily conserved mechanism – questions include:

- Are modified cries specific for certain needs or functions?
  - Difference between cry for feeding, fear, etc.

- What is the most effective way to terminate a crying spell?
  - Although there are many techniques to quell a crying infant or child, some may prove more beneficial than others with respect to long term development
  - This is by far the most researched area in evolutionary medicine focused on colic

Acknowledgements and Citations

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