

Why Do Male Infants Have More Flatulence Than Female Infants ?

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1 Introduction

The time spent with their baby is usually the best time for parents. However, during the first three months after the baby has been born repeated screaming of the infant is observed that can be very exhausting for parents. The reason for this screaming is often a colic. The definition of a colic is a healthy baby with periods of intense, unexplained fussing/crying lasting more than 3 hours a day, more than 3 days a week for more than 3 weeks described by Wessel.^[1] However, nowadays, the definition of a colic, called "non-Wessel's" colic, is rather considered when babies start with sudden, severe, unexplained crying lasting less than three hours per day.^[2] It is interesting to note that after three to four months, this frequent appearance of infant colics usually vanishes. For a detailed overview of infant colic see for example Ref. [3].

It is discussed that colics arise due to flatulence. Many possible reasons for flatulence in the baby's digestive system have been presented and numerous suggestions how to avoid them can be found. However, there is one point that is often mentioned but, to the best of my knowledge, has never been investigated in detail so far. It is said that the number of male newborns suffering from flatulence is considerably higher than it is the case for female infants. The aim of this work is to raise the above question and to call attention of researchers in the field to this topic to help millions of parents in the world to better understand their newborns.

This paper is structured as follows. In the second section reasons for flatulence are briefly discussed. Section three deals with possible strategies to avoid flatulence. The conclusion finally summarizes the aforementioned in the context of the open question raised in this work.

2 Reasons for Flatulence

Flatulence usually occur during the first three months after the baby has been born. The reason for colics are widely discussed in the literature^[3,4] and are still unclear. When babies are born they have a very immature gut. For the first thirteen weeks of life the newborn digestive system just learns how to function. Muscles that support digestion do not work properly for moving food efficiently through the digestive tract. Due to this food may move slower than usual through the digestive system leading to an increased formation of digestive gas. The reason for flatulence may also be that newborns do not have developed the bacterial flora that aid to digest. It is also discussed that colics are related to the fact that babies swallow air. This may happen when they are fed using bottles or when newborns start to cry and due to this swallow air. Recently, an extensive study by Shenassa and Brown indicated that a correlation of consuming nicotine by the mother and the occurrence of colics may exist.^[5] Although many reasons for flatulence are discussed in the field it is not clear why these lead to a higher rate of flatulence for male infants.

3 Practical Strategies to Avoid Flatulence

As flatulence are extremely painful for babies and in this way exhausting for parents, practical strategies to avoid them are summarized here. However, the list presented here is not considered complete and many other useful ideas may have been developed over the last centuries. Furthermore, only non-medicinal and noninvasive treatments are discussed in this work.

If the baby is fed using a baby bottle, parents should pay attention that the infant does not drink too fast. Otherwise, the baby swallows much air. In this context it is important to realize that only teats are used having a suitable hole size corresponding to the infant's age. An alternative here may be to breastfeed the baby as long as possible. After feeding, babies should have the chance burp to reduce the amount of air in the stomach.

For the case that flatulence cannot be avoided it is recommended to massage the infant's belly clockwise to make the baby feel comfortable. Furthermore, the flying position, i.e., the baby lies on the belly on the forearm, as well as feeding fennel-anise-caraway-tea are discussed to help to reduce the pain. Especially the "5 S's" approach is worth to be mentioned at this point as it more or less summarizes all the techniques that parents can use to calm their babies, namely swaddling, side or stomach (laying the baby on the side or on the stomach), "Shhh" sound, swinging and sucking.^[3]

4 Conclusion

In this paper the question has been raised why male infants suffer from flatulence more often than female newborns. Although the discussion above points out reasons for colics in general it is not clear why the statement exists that especially male babies are more prone for flatulence and how they differ in this context from their female counterparts. Further studies need to be carried out to confirm that male infants indeed have a higher rate of flatulence and to identify the reason for this. The author will continue his research in the front line. Beginning in October, investigations will be intensified to get new insight. The author also appreciates further discussions and hints that can help to unravel this open question.

5 Acknowledgments

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[1] M. A. Wessel, et al. *Pediatrics* 14 (1954) 412.

[2] R. G. Barr, A. Rotman, et al, *Pediatrics* 90 (1992) 14.

[3] http://en.wikipedia.org/wiki/Baby_colic, accessed July 21, 2010.

[4] http://www.coliccalm.com/baby_infant_newborn_articles/gas_problems_treatment.htm, accessed July 21, 2010.

[5] E. D. Shenassa, M.-J. Brown, *Pediatrics* 114 (2004) 497.

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