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Short Communication

Effects of Infant Feeding Behaviors –from Preterm Infants, Ones with Heart Problems to the Development of Obesity - A Short Communication

Kulvinder Kochar Kaur[1]*, Gautam Allahbadia[2] and Mandeep Singh[3]

[1]*Scientific Director, Dr Kulvinder Kaur Centre for Human Reproduction, Jalandhar, Punjab, India*

[2]*Scientific Director, Rotunda-A Centre for Human Reproduction, Mumbai, India*

[3]*Consultant Neurologist, Swami Satyanand Hospital, Jalandhar, Punjab, India*

***Corresponding Author:** Kulvinder Kochar Kaur, Scientific Director, Dr Kulvinder Kaur Centre for Human Reproduction, Jalandhar, Punjab, India.

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Feeding behavior characterizes the way people feed themselves. The behavioral responses associated with the act of eating behaviour in the quality of life (QoL), and when inappropriate, favour the onset of some chronic degenerative disease. Children's feeding behavior is determined initially by the facility, and subsequently by psychosocial and cultural processes [1].

For the last 2 decades Davison and Birsch [2] proposed a conceptual model which sought to explain the formation of this behavior from the interaction of different factors, like the characteristics of the child, potential practices, and the environment where they are exercised. Two models exist in this perspective with similar characteristics ;one is by Contento and Michela [3] that tries to explain food related choices by referring to physiological, cognitive and environmental factors(including family determinants)and the ecological model [4,5] that analyze the integration of multiple determinants-proximal and distal-in the development of infant feeding behavior. Davison and Birsch [2] and Tabacchi., *et al.* [5] have developed ecological systems by Bronfeabrenner [6] that summarize the environmental influences on behavior, including feeding behaviors, at specific stage of development.

The 6C's model [7] integrate various aspects:culture and society and characteristic of cities. communities, the family and the child. As per this broad view, here Ramos Danlas., et al. focused on the effect of obesogenic environment and of potential lifestyles on feeding behaviors. Using various search engines, they searched MeSH terms like alimentary feeding/behavior/family relations/ ecology. They considered that parents (or primary care givers) are responsible in part for the unhealthy eating behavior presented by children and for them to change it is necessary to change the behavior of the family, ensuring that correct choice of food and the practice of physical activity. The family environment has a marked impact on the development of eating behavior, so adults should provide a good model of this balance for children. Thus concluding that to maintain and develop a healthy eating behavior, it is essential to react to different spheres of life of the individual-physical, social, psychological, family, cultural and mediatic environment [8].

Quierdo Mordeira tried to analyze the frequency, age and time trend of complementary feeding introduction in infants. They conducted a retrospective study of infants data evaluated at nutrition sector of Programs Einsteinna Comunidae de Paraisopolis from 2012 to2015. Survival analysis was performed and the outcomes considered was the time until the introduction of each specific food. There were 700 infants with 5. 5mths of median age. Water was the most consumed supplement (80.0%) followed by infant formula (64.1%) and juice (51.1%). As far as the initiation of complementary feeding was concerned; water, infant formula and tea were the 1st to be introduced, with a median age of 3mths. Important to note is 1/5th of infants had already received processed foods. Water introduction proportion showed a marked tendency to increase over the years and among infants at 6mths of age differed from72.8% in 2012, to 91.1% in 2015. Introduction of processed foods category items presented a marked change in trend, showing a decrease from 30. 8% in 2012 to 15. 6% in 2015 in this same age group. Flour based thickeners (36.3%) and biscuits (26.3%) were the highest consumed among processed foods. Thus they concluded that water and infant formula were the most widely consumed and early introduced foods. Among the studied years water introduction presented a significant tendency to increase and processed foods category to decrease consumption [9].

Ventura., *et al.* explored the longitudinal associations between bottle feeding and maternal encouragement of infant bottle emptying during the 1st 6mths of infancy. Mothers completed questionnaires during the 3rd trimester of pregnancy, then monthly during

the 1st 6mths postpartum. Questionnaires assessed family demographics, maternal and infant weight status, infant feeding patterns and maternal encouragement of infant bottle emptying. This Infant Feeding Practices Study 2 was conducted by the US Centres for Disease Control and Prevention and the Food and Drug Administration. 1776 mothers were included as the subjects. Reported-measures regression was used to explore associations between bottle feeding intensity (BFI: Defined as the percentage of daily feedings that were from the bottle) and encouragement of bottle emptying was also associated with feeding expressed breast milk ($p<0.001$), and lower parity ($p=0.01$), pre pregnancy BMI ($P=0.02$) and infant birth weight ($p=0.001$). Thus concluding that more frequent use of bottles for infant feeding was significantly associated with more frequent encouragement of bottle emptying. Future research using causal designs is required for better understanding if the use of bottles promotes this controlling feeding practice or whether the use of bottles promotes the controlling feeding practices or whether mothers with more controlling feeding practices opt to bottle feed [10].

Infants with hypoplastic left heart syndrome often experience difficulty with oral feeding, that contributes to growth failure, morbidity and mortality. In response to feeding difficulty, clinicians often change the bottle nipple, and thus milk flow rate. Slow –flow nipples have been found to reduce the stress of feeding in other fragile infants, but no research has evaluated the response of infants with hypoplastic left heart syndrome to alterations in milk flow rate. The purpose of the study by Pados., *et al.* was to evaluate the physiological and behavioral responses of an infant with hypoplastic left heart syndrome to bottle feeding with either a slow flow (Dr Brown Preemie) or a standard flow (Dr Brown's Level 2) nipple. A single infant was studied for 3 feedings: 2 slow flow and one standard flow. Oral feeding, whether with a slow flow or a standard flow, was distressing for this infant. During slow flow feeding, she experienced more coughing events, while during a standard flow she experienced more gagging. Disengagement and compelling disorganization were most common during feeding 3, that is slow flow, that occurred 2days after surgical placement of a gastrostomy tube. Clinically significant changes in heart rate, oxygen saturation, and respiratory rate was higher during slow flow. More research is required to examine the response s of infants with hypoplastic left heart syndrome to oral feeding and to identify strategies that will support these fragile infants as they learn to feed. Future research should evaluate an even slower –flow nipple along with additional supportive feeding strategies [11].

Feeding intolerance (FI), defined as the inability to digest enteral feedings associated to increased gastric residuals, abdominal distension and/or emesis, is frequently encountered in the very preterm infant and often =>a disruption of the feeding plan. In most cases FI represents a benign condition related to the immaturity of gastrointestinal function, however its presentation may largely overlap with that of an impending necrotizing enterocolitis. As a consequence, individual interpretation of signs of FI represents one of most uncontrolled variables in the early nutritional management of these infants, and may lead to suboptimal nutrition, delayed attainment of full enteral feeding and prolonged intravenous nutrition supply. Strategies aimed at preventing and/or treating FI are diverse, although very few have been validated in large RCT and systematic reviews. The purpose of this paper was to summarize the existing information on this topic right from pathophysiological and clinical aspects to the prevention and treatment strategies that have been tested in clinical studies with emphasis on practical issues [12].

Bibliography

1. Machado JC., *et al*. "Abordagem do desvio positive para a mundanca de comportamento alimentar: revisao, systematica". *Revista Panamericana de Salud Pública* 36 (2014): 134-140.

2. Davison KK and Birch LL. "Childhood overweight: a contextual model and recommendations for future research". *Obesity Review* 2 (2001): 159-171.

3. Contento IR and Michela JL. Nutrition and food choice behavior among children and adolescent health psychology, Needham Heights. Allyn and Bacon (1999): 248-73.

4. Davison KK., *et al*. "Links between 'parents and girls' television viewing behaviors: a longitudinal examination". *Journal of Paediatrics* 147 (2005): 436-442.

5. Tabacchi G., *et al*. "A review of the literature and a new classification of the early determinants of childhood obesity: from pregnancy to the first years of life". *Nutrition Research* 27 (2007): 587-604.

6. Bronfenbrenner U and Evans CW. "Developing science in 21st century: Emerging questions: theoretical models, research designs and empirical findings". *Social Development* 9 (2000): 415-425.

7. Harrison K., *et al*. "Toward a developmental conceptualization of contributor to overweight and obesity in children –the six-C s model". *Child Development Perspectives* 5 (2011): 50-58.

8. Ramos-Danlas R., *et al*. "The role of obesogenic environment and parental lifestyles in infant feeding behaviour". *The Revista Paulista de Pediatria* (2019).

9. De Queiros Moteira LC., *et al*. "Introduction of complementary foods in infants". Einstein (Sao Paulo 17.3 (2019): 1-6.

10. Ventura AK., *et al*. "Associations between bottle feeding intensity and maternal encouragement of bottle emptying". *Public Health Nutrition* 20.17 (2017): 3090-3098.

11. Pados BF., *et al*. "Effects of Milk flow on the physiological and behavioral responses to feeding in aninfant with hypoplastic left heart syndrome". *Cardiology Young* 27 (2017): 139-153.

12. Fanaro S. "Feeding Intolerance in the preterm infant". *Early Human Development* 89 (2013): S13-20.

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