MCN Commentary

Dietary Guidelines for Children Under Two Years of Age in the Context of Nurturing Care

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Abstract

Dietary guidelines provide nutritional advice to different subsets of the population, but often do not take into account 'how' to eat. Responsive feeding is a key dimension of responsive parenting involving reciprocity between the child and caregiver during the feeding process and is characterized by caregiver guidance and recognition of the child's cues of hunger and satiety. There is increasing evidence to indicate that providing responsive feeding guidance to mothers on how to recognize and respond appropriately to children's hunger and satiety cues can lead to improved feeding practices and weight status and developmental outcomes among infants and young children. In addition, early and nurturing exposures to foods with different tastes and textures and positive role modeling helps children to learn to eat healthy foods in a nurturing way. The importance of improving caregiver's responsive feeding behaviors to ensure the adequate introduction of complementary foods is becoming increasing recognized, but responsive feeding principles are not used in a comprehensive way in the development of dietary guidelines. The incorporation of responsive feeding principles into dietary guidelines has a strong potential to enhance the impact on early childhood development outcomes for infants and

young children, but will require adaptation to the different contexts across countries to ensure that they are culturally sensitive and grounded in a deep understanding of the types of foods available to diverse communities.

Early childhood development research has unequivocally shown that essential motor, language, cognitive, social, emotional and behavioral skills are acquired during the first years of life, thus, adequate nutrition is essential for optimal growth and development of children. The nurturing care framework recognizes that children need to be surrounded by safe, stimulating environments that promote healthy growth and development. Providing nurturing care to children has been identified as a global priority (Black, Perez-Escamilla, & Rao, 2015; Black et al., 2017) although the feeding dimension remains untapped, in part, as a result of a lack of clear responsive feeding guidelines during the first 1000 days of life.

Dietary guidelines (DGs) have typically focused on the 'what' different subgroups in the population should be advised to eat and 'why' (Herforth et al., 2019). However, little attention has been paid to the 'how' to eat or, in the case of infants and young toddlers, how to feed them. This commentary focuses on the need of more relevant dietary guidelines targeting the first 1000 days of life given that it represents a highly sensitive period of time for the future growth, health and development of human (Black et al., 2017). During this period of time, especially infancy and early toddlerhood, the how to feed is a crucial component of responsive parenting and feeding which in turn are central elements of nurturing care (Black et al., 2017). Responsive feeding (RF) is a key dimension of responsive parenting involving reciprocity between the child and caregiver during the feeding process. It is grounded upon the following three steps: (1) the

child signals hunger and satiety through motor actions, facial expressions, or vocalizations; (2) the caregiver recognizes the cues and responds promptly in a manner that is emotionally supportive, contingent on the signal, and developmentally appropriate; and (3) the child experiences a predictable response to signals (Bentley, Wasser, & Creed-Kanashiro, 2011; Black & Aboud, 2011; Pérez-Escamilla, Segura-Pérez, & Lott, 2017). Ultimately the key outcome sought through RF is for the young child to learn to self-regulate their food intake in response to hunger. RF has been found to have strong potential to help prevent both undernutrition and overnutrition making it highly relevant for dietary guidance in the context of the double burden of malnutrition global epidemic (Pérez-Escamilla & Segura-Pérez, 2019).

In our experience there are five RF aspects that caregivers and health care providers of young children could greatly benefit from if they are incorporated into DGs for infant and young children. First, what the mother eats and drinks during pregnancy and lactation is likely to important for the future development of food preferences in the child (Spahn et al., 2019). Indeed, consistent evidence indicates that flavors such as alcohol, anise, carrot, and garlic; originating from the maternal diet during pregnancy and lactation, can transfer to and flavor amniotic fluid. Furthermore, fetal flavor exposure increases acceptance of similarly flavored foods when re-exposed during infancy and childhood (Spahn et al., 2019). Second, it is important to interpret correctly hunger and satiety cues and how they evolve as the child develops. Consistent evidence from randomized controlled trials indicates that providing RF guidance to mothers on how to recognize and respond appropriately to children's hunger and satiety cues can lead to improved weight status among infants and young toddlers (Spill et al., 2019a), and may improve developmental outcomes (Vasir et al., 2012). Third, beginning at around 6 months of age when complementary foods are introduced for the first time, children benefit from repeated

exposure to a variety of foods and also a variety of textures that are appropriate for their developmental stage (Spill et al., 2019b). Fourth, focusing on establishing pleasant and stimulating eating time experiences, including not pressuring the child to eat and positive role modeling of healthy dietary behaviors by caregivers, and avoiding screen distraction; helps the child learn to eat healthy foods in a nurturing way (Birch & Doub, 2014; Pérez-Escamilla et al., 2017; Spill et al., 2019a).

At the global level, most research assessing comprehensive RF interventions conducted in high income countries has been done in families with high socio-economic status (Hurley, Cross, & Hughes, 2011; Pérez-Escamilla et al., 2017; Redsell et al., 2016; Savage, Birch, Marini, Anzman-Frasca, & Paul, 2016). There is a strong need to understand how low-income families in countries with different levels of economic development can implement RF practices in their households given the lack of access they often have to healthy foods, health care access, resources and the overall stability needed for it to work (Abebe, Haki, & Baye, 2017; Naila et al., 2018; Pérez-Escamilla et al., 2017; Silva Garcia et al., 2018).

In 2003, the Global Strategy for Infants and Young Child Feeding (WHO & UNICEF, 2003) recognized the importance of improving caregiver's RF behaviors to ensure the adequate introduction of complementary foods. Later, the Pan American Health Organization (PAHO) and WHO released the Guiding Principles for Complementary Feeding of the Breastfed Child with RF being one of them (PAHO & OMS, 2004). However, it has not been until more recently that some RF principles have been incorporated into DG's among diverse countries including Canada (Health Canada, Canadian Paediatric Society, Dietitians of Canada, & Breastfeeding Committee for Canada, 2012), Mexico (Bonvecchio et al., 2015), Brazil (Ministério da Saúde, 2018; UNICEF-Brazil, 2018), and Europe (Fewtrell et al., 2017). However, the use of a

comprehensive responsive feeding framework for the development of infant feeding recommendations remains largely unexplored. An exception are the U.S. HER-RWJF RF Guidelines for Infants and Young Toddlers (Pérez-Escamilla et al., 2017) that have now been adopted for use in Mexico's government sponsored child health and education centers as part of the birth to five initial education nurturing care initiatives from the Ministry of Education (Pérez-Escamilla, Segura-Pérez, & García-Martínez, 2018).

Incorporating RF as part of DGs that address early childhood, especially the first 1000 days of life, will require adaptation to the different contexts across countries to ensure that they are culturally sensitive and grounded in a deep understanding of the types of foods available to diverse communities (Gladstone et al., 2018). The design and assessment of UNICEF's C-IYCF Counseling Package in Nigeria is an example as to how this process of adaptation can successfully occur using sound mixed methods implementation science approaches (Lamstein et al., 2018). Lastly, incorporating RF guidelines into the protocols for Early Childhood Development nurturing care home visits such as Care for Child Development (WHO, 2012), and Reach Up (Smith et al., 2018) has a strong potential to enhance even more the impact of these nurturing care interventions on ECD outcomes(Britto et al., 2017; Richter et al., 2017) .

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