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Brokering Innovation Through Evidence

Complementary feeding of South Asian infants; reviewing the evidence



Sub-optimal nutrition among children remains a problem across South Asia. One part of early nutrition is complementary feeding which the World Health Organization (WHO) defines as: “the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed”. Appropriate complementary feeding practices are considered important in reducing the risk of short and long-term health consequences such as malnutrition, obesity, vitamin deficiencies and dental problems.

The WHO guidelines about adequate complementary feeding practices are applicable worldwide but are especially relevant for low- and middle-income countries. They define complementary feeding requirements thus:

- Adequacy regarding the timed introduction of complementary feeding is assessed on the proportion of infants aged 6-8 months who receive solid, semi-solid or soft foods.

- Minimum dietary diversity is assessed by the proportion of children 6-23 months of age who receive foods from 4 or more food groups (including grains, roots and tubers; legumes and nuts; dairy products; flesh foods; eggs; Vitamin A rich fruits and vegetables; other fruits and vegetables)
- Minimum meal frequency is assessed by the proportion of infants 6-23 months of age who receive solid, semi-solid, or soft foods according to the WHO recommended minimum number of feeds per day (two times a day for breastfed infants 6-8 months old, 3 times a day for breastfed infants 9-23 months old, and 4 times a day for non-breastfed infants 6-23 months old)

What was the aim of the project?

We reviewed the evidence on complementary feeding behaviours for South Asian children aged 0-2 years in Bangladesh, India, Pakistan and in high-income countries.

What we did

We searched the following databases for relevant studies: MEDLINE, BanglaJOL, Embase, Global Health, Web of Science, OVID Maternity & Infant Care, The Cochrane Library, POPLINE and WHO Global Health Library. Searches were originally conducted in December 2014 and updated twice, in June 2016 and July 2018.

What we found

With assistance from independent reviewers who screened our search results for inclusion we extracted 139 full text articles of which 13 were relevant to high-income countries, 73 relevant to India, 36 to Bangladesh and 17 to Pakistan.

We found most studies reported South Asian infants in high income countries beginning weaning early (before 6 months), compared to the WHO recommendation of between 6-8 months. Later weaning (between 6-8 months) was more common in India, Pakistan and Bangladesh.

The proportions of infants meeting minimum meal frequency (MMF) from South Asian countries varied and MMF rates of 25% or below were common. However, in the only study of this area in high-income countries, good practice was very common.

Dietary diversity was also very variable and was infrequently assessed in line with the WHO definition. Generally, 'grains, roots and tubers' were the most commonly used food group for complementary feeding.

A number of barriers and promoters for good practice were identified, common across all countries. Barriers included being from a low income background, having poor education or low knowledge, and being influenced

by family members. Promoters included education and good advice sources especially from healthcare professionals.

Recommendations

We identified that in many areas, (including high-income countries), complementary feeding practices for South Asian infants were inadequate - which should be considered when South Asian infants present with conditions which may be nutrition-related.

An important influencing factor for appropriate complementary feeding is the provision of information. Greater permeation of the WHO guidelines may improve practices over time, but additional infrastructure and interventions may be necessary to achieve this as well as continual assessment of practices in large, regular, national studies.

Who needs to know?

Our findings will be of interest to clinicians and allied health professionals who care for children and young people, especially those catering to South Asian families. Our study identified extensive practice out of line with WHO guidelines and therefore every effort should be made to ensure that the correct advice is given as early and as frequently as possible in order to optimise health outcomes for these young children.

What next?

This is the first systematic review to evaluate CFP in infants in Bangladesh, India, Pakistan and in high-income countries. It would be useful to repeat this study in other countries and in later years to assess any changes to practice, as well as the efficacy of various public health intervention strategies.

Find out more

Manikam, L.; Prasad, A.; Dharmaratnam, A.; Moen, C.; Robinson, A.; Light, A.; Ahmed, S.; Lingam, R.; Lakhanpaul, M.

Systematic review of infant and young child complementary feeding practices in South Asian families: the India perspective. *Public Health Nutr.* 2017, 1–18, doi:10.1017/S136898001700297X.

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A systematic review of complementary feeding practices in South Asian infants and young children: the Bangladesh perspective.

BMC Nutr. 2017, 3, 56, doi:10.1186/s40795-017-0176-9.

Manikam, L.; Sharmila, A.; Dharmaratnam, A.; Alexander, E.; Kuah, J.; Prasad, A.; Ahmed, S.; Lingam, R.; Lakhanpaul, M.

Systematic review of infant and young child complementary feeding practices in South Asian families: the Pakistan perspective. *Public Health Nutr.* 2017, 1–14, doi:10.1017/S1368980017002956.

Manikam, L.; Lingam, R.; Lever, I.; Alexander, E. C.; Amadi, C.; Milner, Y.; Shafi, T.; Stephenson, L.; Ahmed, S.; Lakhanpaul, M. **Complementary feeding practices for South Asian young children living in high-income countries: a systematic review.** *Nutrients.* 2018, 10, 11, doi:10.3390/nu101111676.

Further reading

WHO Complementary Feeding topic guideline www.who.int/nutrition/topics/complementary_feeding/en

UNICEF Breastfeeding and complementary nutrition www.unicef.org/nutrition/index_breastfeeding.html

The British Dietetic Association www.bda.uk.com/foodfacts/complementary_feeding_weaning

NEON project homepage: [Promoting healthy nutrition in children of Bangladeshi origin in East London – Nurture Early for Optimal Nutrition \(NEON\)](http://www.neonproject.org/)