Review Article

Feeding practices among Indonesian children above six months of age: a literature review on their potential determinants (part 2)

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Background: Feeding practices among young children are not optimal in Indonesia. Improving these practices is crucial to prevent and reduce malnutrition among young children. A better understanding of the underlying factors to appropriate practices is essential to address barriers and identify opportunities to optimal practices. This paper aims to shed light on potential determinants of feeding practices among children above 6 months of age. **Methods**: A systematic research of several databases using combinations of different search terms: feeding, child, Indonesia, *MPASI*/complementary food, *gizi*/nutrition, factor, determinant, *praktek*/practices was conducted. All documents were reviewed using a three-step procedure to assess content appropriateness and research quality. Data were analyzed using the Hector's framework on behaviour change. **Results**: Available data on individual factors influencing feeding practices related mainly to mother's attributes, namely knowledge, perceptions, attitudes, beliefs and skills. Some of them are positively linked to good practices. Some environmental-related factors such as health services, home and peer environment were conducive to improved practices. Studies on societal factors were mostly restricted to food systems which do not favour optimal feeding practices. **Conclusions**: The review provides insights on underlying factors conducive to optimal feeding practices. Yet, relevant and quality research is required to get a better understanding on factors related to the environment and society as well as on how they are related with each other and operate in different contexts. Indonesia has already experimented successful programs which can be used as a reference to strengthen young child feeding practices.

Key Words: determinants, feeding practices, mother's attributes, environments, Indonesia

INTRODUCTION

Planning of effective nutrition programs to promote adequate feeding practices among young children requires adequate knowledge of these practices but also an understanding of their underlying factors. Different models which include a range of factors or determinants have been proposed to explain behaviours/practices. With regards to child feeding practices, the understanding of these factors, their relative importance, how they are related and respond to interventions is limited.

The critical role of feeding practices and, especially, of adequate complementary feeding practices along with continued breastfeeding among children six months and onwards to reduce young child malnutrition and mortality is well recognized.[1-4] Available information indicates that feeding practices are not optimal among Indonesian infants and young children. Recent national data[5] indicate that only 34% and 43% of breastfed and non-breastfed children aged 6-23 months, respectively, are fed according to the WHO recommendations.[6] Disparities have been noted between locations and socioeconomic characteristics. Complementary feeding practices also seem to improve with increasing child's age but worsen in the presence of illness and under-nutrition. Overall, practices related to dietary diversity, active feeding, consumption of iron-rich/fortified iron-foods and hygiene at times of child food preparation/feeding are not optimal. The part of the review paper on the magnitude and quality of child feeding practices was elaborated in the first part of the review paper. Moreover, nationally,[5] continued breastfeeding among children aged 20-23 months is at 55%.

Various studies have been conducted to identify underlying factors to feeding practices among Indonesian children above six months of age. However, as for feeding

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practices, no attempt has been made to reconcile available literature and identify gaps in the current knowledge. The aim of the paper is to provide a review of the current literature on potential determinants of feeding practices among Indonesian children above six months of age. Results of the review will be used to provide guidance on the development and refinement of strategies to improve feeding practices. This paper is the second part of the literature review.

METHODS

Census of literature

Materials and methods were explained in detail in the first part of the review paper. In short, a systematic literature research was conducted in different databases to find available documentation on feeding practices and their underlying determinants. Publications from 1990 up to 2012 were identified by a search using the following key words (English and Indonesian languages) either used individually or combined: feeding, children, Indonesia, *MPASI*/complementary food, *gizi*/nutrition, factor, determinant, child, *praktek*/practices. All combinations included Indonesian words. The research yielded a maximum of 37 references and 11 reports from organizations and local research institutions.

Analysis

All documents namely peer-review papers, reports and theses were included if they were complete and if they had data on a) at least one component of complementary feeding practices among children under-five, and/or b) underlying factors to those practices. Scripts and abstracts were not included.

As many as 43 documents were retained. Each publication retained was read thoroughly by at least two authors. Detailed information on objectives, methods (sampling, data collection and analysis) and results was extracted and compiled. The quality of each document was then analyzed using a previously used review template.[7] The second screening process identified 34 papers, theses and reports which were read thoroughly again and considered to be included by at least two authors. However, in this current review paper, only publications investigating determinants of feeding practices were retained (Table 1). Result of the literature review pertaining to the quality of the child feeding practices is presented in the first part of the review paper.

To guide the analysis of all publications on underlying factors affecting feeding practices among children six months and above, conceptual framework from Hector et al[8] on behaviour change was used (Figure 1). Relevant information from each document was extracted and classified under the appropriate category of potential determinants of child feeding practices namely individual, group, and societal factors. Although originally the framework was developed to assess the determinants of breastfeeding practices, it was considered suitable for the purpose of the current review.

In the Hector's model,[8] factors at the individual level relate directly to the mother, infant/child, and the "mother-infant dyad" attributes. They include the mother's intention to practice the suitable behaviour, her knowledge, skills and parenting experience, the birth experience, health and risk status of mothers and children, as well as the nature of the early interaction between mother and child. The analysis of the current review paper was

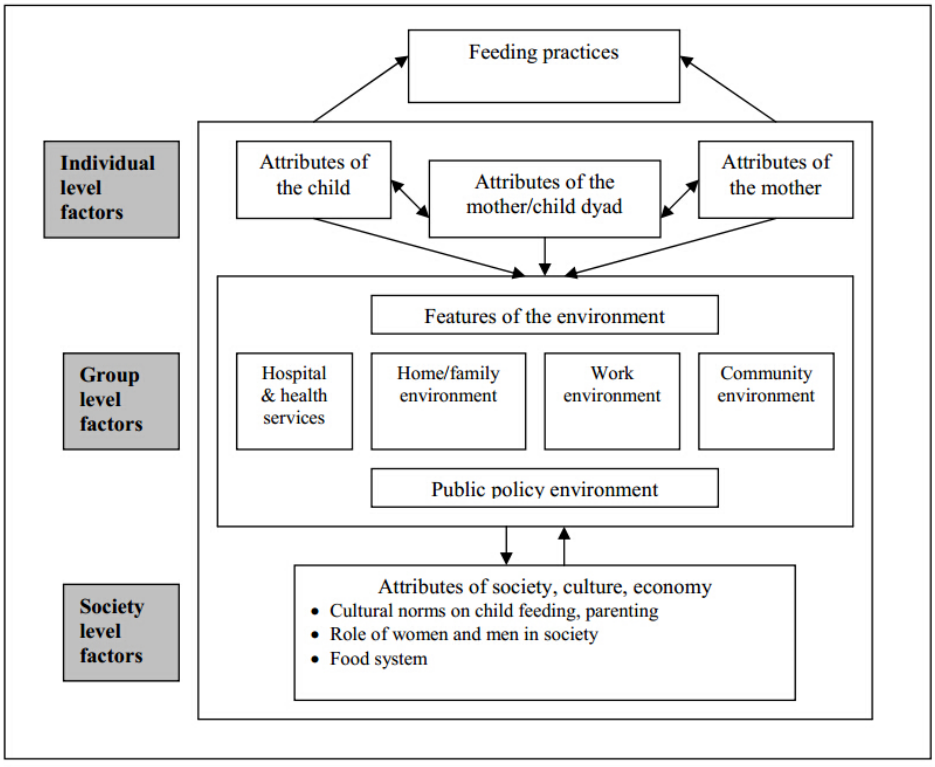

Figure 1. Conceptual framework of determinants of feeding practices among children above six months of age (modified from Hector et al[8])

Table 1. Procedure for validity assessment: design and methodological characteristics of all included documents

Characteristics	Reference No
References included in the review and their related number[†]	
Authors	
Inayati et al (2012a)	1
Gryboski (1996)	2
Sarbini and Rahmawaty (2008)	3
Padang (2008)	4
Utami (2010)	5
Gibbs et al (2011)	6
Santika et al (2009)	7
SEAMEO (2010)	8
Manoff Group Inc. (1991)	9
Action Against Hunger (2010)	10
University of Indonesia (UI) and UNICEF (2012)	11
SEAMEO and UNICEF (2012)	12
Davelyna (2006)	13
SEAMEO/WFP (2008)	14
Anwar et al (2010)	15
Inayati et al (2012b)	16
Roshita et al (2012)	17
Rospita (2009)	18
Location (provinces)	
West Java	7,13,15, 18
Central Java	2, 3, 12
North Sumatra	1, 4, 16
NAD	11, 14
NTB	5, 9
NTT	10, 12
DKI Jakarta	6, 17
East Java	9
Gorontalo	8
West Papua	12
Design	
Longitudinal	2
Cross-sectional	1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18
Others	6, 17
Aim clearly stated	
Yes	1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 15, 16, 17
No	5, 10, 13, 14, 18
Theoretical basis	
Explicitly theory based	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17
Partially	4, 13, 18
No theory or unclear	3, 14
Sample size	
Not reported	None
<30	None
30-49	3, 5, 6, 13, 17
50-100	2, 7
>100	1, 4, 8, 9, 10, 11, 12, 14, 15, 16, 18
Response rate	
Not reported	5, 9, 18
<50	None
50-90	None
>90	1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17
Representative sample	
Information not available	None
Not representative beyond study population	1, 2, 3, 5, 8, 10, 11, 12, 13, 14, 16, 17, 18
Representative for restrictive area	4, 6, 7, 9, 15
Indicators and criteria description	
All well defined	1, 2, 4, 6, 7, 8, 9, 11, 12, 15, 16, 17
Some items well defined	3, 5, 10, 13, 14, 18
Instrument for assessing underlying factors of feeding practice	
Questionnaires	1, 2, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18
Notes from direct observations	2, 5, 9, 13
Others	2, 6, 7, 8, 9
Not mentioned	3, 4, 5, 10

[†]For practical purpose, reference numbers are used in Tables 1 and 2.

Table 1. Procedure for validity assessment: design and methodological characteristics of all included documents (cont.)

Characteristics	Reference No
References included in the review and their related number[†]	
Validity of applied measurements	
No information	3, 4, 5, 8, 10, 13, 14, 15, 18
Only reference to former publications	7
Validity assessed for all or some items/scales within the applied study population	1, 2, 6, 9, 11, 12, 16, 17
Analysis	
Univariate	4, 9, 14, 15
Multivariate	4, 12, 16
Descriptive	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18
Not specified	None
Language	
English	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
Indonesian	3, 4

[†]For practical purpose, reference numbers are used in Tables 1 and 2.

extended to also cover additional maternal individual attributes such as attitudes, perceptions and beliefs.

Group level factors are the attributes of the environments in which mothers and children find themselves, the attributes that enable mothers to the practice. Environments with a direct influence on mothers and children include: 1) hospital and health facilities environment, in which practices and procedures to allow good feeding practices and good support for child nutrition are implemented, 2) home and peer environment, where physical and social factors such as parity, family circumstances, partner attitudes and support, and peer support may influence practices, 3) work environment, in which policies, practices and facilities such as working hours and flexibility, facilities and policies that enable continuous support for mother's appropriate child care and care during pregnancy are present, 4) community environment, which signals the extent to which good complementary feeding are recognized as a norm, and are reinforced by facilities and policies in public places, and 5) public policy environment, which modifies how each of these environments influence mother's decisions.[8]

Societal level factors influence the acceptability and expectations about complementary feeding practices and provide the background or the context in which these practices occur. They include cultural norms on child feeding, and parenting, the role of women in society, the extent to which men's social role includes support for women, and the food system.[8]

When available, data on the relationships between underlying factors and practices were extracted and analyzed.

RESULTS

In total, 18 documents were included in the review. Data on determinants of feeding practices among children above six months of age included in this review have been mainly collected in 10 out of a total of 33 provinces in Indonesia. Some of them such as West and Central Java, East Nusa Tenggara (NTT in Indonesian), West Nusa Tenggara Barat (NTB in Indonesian), DKI Jakarta as well as North Sumatra provinces were the location of more than one assessment (Table 1).

The majority of the studies were in English language. Most of them used a cross-sectional design and were not representative beyond the survey site (Table 1). Average sample size was above 100 individuals and response rate above 90%.

Underlying determinants have been mainly assessed using semi-structured questionnaires combined or not with other instruments. Results of most studies were generally descriptive. The section below presents data on the potential underlying factors influencing feeding practices among children six months and above.

Individual factors

Differences in the quality of feeding practices are reported in the first part of review paper according to diverse child's attributes such as age and health/nutrition status. Regarding mother's attributes, it showed that about half of caregivers possessed elements of knowledge on some components of feeding and hand washing practices (Table 2). A larger proportion of them had a positive attitude toward appropriate feeding practices and food storage but some lack of confidence in adopting these practices.

In Tapanuli Tengah district of North Sumatra, mothers' knowledge was not associated with child complementary feeding practices.[9] Nevertheless, positive attitude of mothers towards complementary feeding was associated with better complementary feeding practices ($p<0.05$). The result of the study conducted in three districts of Nanggroe Aceh Darussalam (NAD) province showed that more than two thirds of mothers were aware about the relationship between diarrhea and hand washing with soap.[10] Yet, in Tangerang district (West Java), the majority of mothers (80%) were not conscious about the possibility of diarrhea transmission through food, personal hygiene, nor person to person.[11] Moreover, even though mothers considered the food cabinet as the best place for food storage, direct observations revealed that it was often improperly closed.[12]

Several perceptions and beliefs have also been identified. They are related to some issues ranging from breastfeeding and complementary feeding in special circumstances, food frequency and diversity, value attributed to food (eg, rice) and hand washing with soap. Lastly, in

Table 2. Results of the literature review on individual factors underlying feeding practices among children 6 months and above

	Indicator	Results	Reference No[†]
Knowledge			
Appropriate child feeding practices: Early initiation, duration/benefits of breastfeeding, healthy foods, meal/snack frequency, age of introduction/consistency of foods, use of local/manufactured complementary foods (CF), consequences of early introduction of CF, consequences of early weaning, signs of insufficient child food intake	% mothers with a score >75%	52	4
Appropriate child health and nutrition practices: Child healthy growth, healthy foods, benefits of colostrum, duration of exclusive breastfeeding	% mothers with a score ≥60%	20-30	8
Adequate age of introduction of complementary semi solids/solids foods	% mothers who mention at 6 months	35	11
Introduction of foods between 6-11 months	% mothers saying yes		
• All types		13-41	11
• Red meat		26-53	11
• Eggs		63-84	11
Introduction of foods between 12-23 months	% mothers saying yes	54-80	11
Hand washing with soap	% mothers saying yes		
• Before feeding the child		31-59	11
• Preparing a meal		27-56	11
		12	18
Appropriate food storage	% mothers who mention covering food	60	18
Appropriate food preparation	% mothers mentioning reheating foods before eating	60	18
	% mothers knowing the importance of reheating food thoroughly	79	18
Attitudes			
Appropriate attitudes towards child feeding: Statements on appropriateness of age of introduction of CF, consequences of early introduction of CF, influence of teeth eruption on CF, introduction of CF, comparison between local/manufactured complementary foods	% mothers with a score >75%	71	4
Adequate food preparation	% caregivers mentioning that it is acceptable:		
	• For a child to eat fish/chicken/meat cooked rare/medium rare	14	18
	• To reheat child food until warm	64	18
Perceptions			
Continued breastfeeding	Interferes with consumption of family foods		1
	To be pursued if the child is ill		9
Food frequency	Giving foods in small quantity is better especially among undernourished children		9
Responsive feeding	Lack of appetite is not a good sign and remedies shall be given to restore it		2
Valued foods	Rice has a high nutritive value		10
Hand-washing with soap	Necessary only if hands are dirty/smell		11
	Necessary before touching foods		13
Food storage	Food cabinet is the best place to store foods		13
Beliefs			
Important to please the child			9, 11
Restricting food is part of leaning good manners			9
Restricting food especially expensive foods (eg. fish) is a way to not create expensive habits			9
Giving foods during illness will worsen it/when the child is ill, he/she is less hungry			9
Pea and coffee cause diarrhea			13
Pregnant women cannot breastfeed			1
Rice prevents diarrhea			2
Not eating well if not eating rice			2
Skills			
Lack of confidence in preparing child foods			9

[†]The reader shall refer to Table 1 for authors' names.

the presence of under-nutrition, feeding practices were often not optimal.

Group factors

Hospital and health facilities environment

In Surakarta district (Central Java) child feeding practices improved from 68% to 98% as a result of a training provided to the community health workers (CHWs) to enhance their knowledge on how to prepare child food using local foods.[13] In districts of NTB and East Java province, the results of the Weaning project[14] showed that when CHWs were equipped with counselling skills on child feeding, mothers viewed them much more as a credible source of information for feeding as demonstrated by the results of the project evaluation (33% vs 15%, project vs control group). Capacity-building of CHWs also contributed to the increased advice on child feeding during weighing sessions (76% vs 40%, project vs control group). Supervision was associated with more time spent on teaching the mothers. It is also shown that, through improved knowledge of health workers and caregivers, child feeding practices could be improved. As such, the evaluation of the Weaning project has revealed that after 10 months of active behaviour change efforts, children from the project area received a greater variety of foods than their counterparts in the comparison areas (median of food groups consumed was 4.2 vs 3.7 respectively) and more children fulfilled their energy and protein requirements. The results also showed that almost every mother who tried to improve the feeding practices could do so. Low income or scarcity of resources was rarely the reason for not trying.

Anwar et al[15] observed that the knowledge score on nutrition was higher among mothers of Cianjur district (West Java) who have a high attendance (4-6 times in the past 6 months, score of 7.4) at the *Posyandu* (i.e. integrated health and nutrition service centre for women and children located at the community level) compared with women with low attendance (1-3 times, score of 7.1). In Nias Island located in North Sumatra province,[16] an intensive nutrition education (INE) program (4 weeks with simple messages on child feeding and hygiene practices) has led to a significant improvement of caregivers' knowledge (increased proportions of correct answers on questions about nutrition from 30 to 76%) and practices (from 52% to 78%). Higher maternal education and participation in the INE program were found to be independently and positively associated with better nutrition knowledge. Differences in the knowledge and practice scores remained significant even after controlling for potential confounders such as paternal age, parental education and number of children.

In Gorontalo district of the northern part of Sulawesi, 55% of child's caregivers who attended the *Posyandu* ≥4 times in the last six months received nutrition education but yet no information has been collected to assess if child feeding practices improved or not.[17] In Aceh districts, 58% of mothers mentioned that CHWs never provided nutrition and health education to them while 12% mentioned that they provided nutrition and health education at every *Posyandu* monthly session and 28% mentioned occasionally.[18]

Home and peer environment

In three selected districts of NTT province, women's workload was identified as one cause of health and nutrition problems among children[19] as well as of poor nutrition practices.[11] The results of the Weaning Project in East Java and NTB provinces also showed that mothers who worked tended to wean earlier. Mothers who worked outside home tended to entrust the care of the child to someone else, whilst those working at home did everything themselves. Yet, it indicates that mother's employment did not seem to affect child's nutritional status, caloric adequacy, or eating frequency.[14]

A study in three districts (i.e. Sikka - NTT, Klaten - Central Java, and Jayawijaya - Papua) shows that 96% of the households had mothers as the primary child's caregiver.[19] In NTT province, the results of a survey conducted by Action Against Hunger[20] showed that children at 2 years of age often spent time with grandparents and/or siblings, but overall, mothers remained the major child`s caregiver (92% of the time). It appears that grandparents provided advice on child care in several occasions (54% of the time). In addition, child care practices in Nias Island were also strongly influenced by paternal grandmothers.[21] Grysboki's study[22] in Central Java highlighted that one or more non-maternal caregiver participated in the infant care. In fact, during 90% of the total sample days, caregivers, others than the mother, were involved in child care. They participated in child feeding approximately one third of the time. As such, grandmothers, sisters, and fathers were involved in 32%, 30% and 55% of sample days respectively. Non-maternal care was also substantial during days of illness (days of symptom-reported). On this occasion, grandmothers, sisters, and fathers participated in the infant care during 84% of sample days, and fed the child during 28% of sample days.

In Tapanuli Tengah district (North Sumatra), it was reported that 87% of mothers of children aged 6-24 months received support from family/community with regard to child's feeding.[9] Support was defined as suggestions given by the family members on complementary foods and breastfeeding. Children whose mothers received support were almost three times more likely to have optimal feeding practices. Exposure to media (eg, brochure/leaflet, magazine/newspaper, TV/radio) was also associated with better complementary feeding practices ($p<0.05$).

In Depok (West Java), Roshita et al[23] have observed that non-working mothers living in extended families benefited from support from other family members to arrange child's menu most of the time and cook child's food daily. Most working mothers trusted family members and allowed them to decide and prepared child's foods. It also seems that working mothers benefiting from family support were more confident in performing child's care and preparing foods. On the other hand, the level of trust of working mothers towards domestic paid caregivers depended on whether they had a long-standing engagement or not. Overall, the role of fathers was very limited and women still carried the greater share of domestic work including child care. It was also underlined that domestic tasks in wealthiest Indonesian households were outsourced rather than having the workload being shared with fathers.

Work, community and public policy environments

In Indonesia, current national legislation supports a three-month maternity leave to be taken as follows: 1.5 month before and 1.5 month after delivery.[24] In public places, breastfeeding rooms are accessible but not common. However, according to the national policy, employers should provide a suitable place for breastfeeding mothers to nurse their children or to express milk during working hours.[25]

National policies, plans and strategies are in place to support appropriate feeding practices among children six months and above.[26] Current plans of action on food and nutrition as well as on community nutrition, operationalized policy documents were focusing mainly on breastfeeding promotion with a limited attention to complementary feeding.[27,28] In addition, a new household targeted conditional cash-transfer program (i.e. *Program Keluarga Harapan* - PKH in Indonesian language) aimed to increase supply and demand towards nutrition education among mothers of young children.[29]

Societal factors

The results of the 2012 SEAMEO/UNICEF study in three districts showed that the decision for seeking child health care was generally made by the mother, either solely (37%) or jointly with her husband (46%). Food related decisions, such as food purchase, food cooked/served and food choices for the children were mainly the responsibility of the caregiver.[19]

In terms of food system, the results of an analysis of food samples conducted by Gibbs et al[30] show that most processed cereal-based complementary foods from ten low-income countries including Indonesia failed to provide breastfed infants aged 9-11 months with the WHO estimated needs for iron, zinc, or calcium when consumed at the recommended ration size. Of all complementary foods scrutinized, 83%, 79%, and 42% provided less than 50% of the WHO estimated needs for iron, zinc, and calcium respectively, if consumed at the daily ration size recommended for a child aged 9-11 months. These deficits existed even though most of the complementary foods were specified as fortified by the manufacturer. Although manufacturers claimed to fortify 84% of the foods, 79%, 10% and 32% had molar ratios for phytate: iron, phytate: zinc, and phytate: calcium respectively above the desirable levels. Despite fortification, only around 4% of the complementary foods met the WHO estimated needs for breastfed infants aged 9-11 months for iron, 2% for zinc, and around 4% for calcium.

In addition, a study conducted in Bogor[31] aiming at formulating food-based recommendations for improving complementary food of children aged 9-11 months old showed that iron requirements could not be achieved using local food sources. Adequate levels of niacin, zinc, and calcium were also difficult to fulfil. Fortified foods, meatballs, chicken liver, eggs, tempe-tofu, banana and spinach were considered the best local food sources to improve the quality of the child's diet if provided in adequate quantity and frequency. In contrast, Utami's research[32] investigating ways to enhance the nutrient content of local recipes showed that iron and zinc requirements (using the 2004 Ministry of Health recommended dietary allowance) could be fulfilled by adding chicken liver to the child's diet.

DISCUSSION

Although the assessment of the relationship between practices and their underlying determinants is not commonly conducted, several determinants that impact feeding practices among children six months and above have been identified in this review. The available information on individual factors is related mostly to mother's attributes such as knowledge, attitudes and beliefs, and also to child's attributes. Group factors concern health services, peer and family environment while societal factors are mainly limited to food system.

As highlighted in the first part of the review paper, feeding practices are not optimal among Indonesian children from six months of age and upwards. This situation is an impediment to stunting reduction, and it also constitutes a barrier to the reduction of other forms of malnutrition such as child wasting and overweight.

At the individual level, potential underlying factors of poor child feeding practices are related to the lack of knowledge of caregivers and to certain beliefs and perceptions limiting optimal feeding practices such as the fear of developing expensive food habits later in life if a child eats costly foods during childhood. Limited knowledge is also a constraint for building a woman's self-confidence and skills in preparing adequate and hygienic foods for her child. Lack of knowledge is pronounced with regard to the importance of hand washing with soap. Moreover, good knowledge is not always translated into practices though positive attitude seems to be. Beneficial perceptions should be reinforced such as continued breastfeeding during illness.

Strengthening the health system by building capacity of health providers (especially at the community level) so they can provide quality nutrition education has been proven successful. Such initiatives can certainly contribute to address knowledge gaps but also perceptions and beliefs among caregivers. Nutrition education can also be coupled with other intervention such as micronutrient supplementation. Community platforms have been highlighted as an effective and potential way to reach all segments of the populations especially the poorer segments with nutrition interventions and health services.[4] The cost of community-based nutrition program combining promotion of appropriate child feeding practices (breastfeeding and complementary feeding), hand washing and distribution of micronutrients has been estimated at around 20 US dollar per child for the Indonesian context.[33] Improving caregiver's knowledge will also contribute to the development of positive attitudes towards optimal child feeding and lift detrimental beliefs and perceptions. Nevertheless, it is crucial that nutrition education integrates components to enhance hygiene and also health practices. Education programs should also target grandmothers given their role in child care. It is also likely that improving work environment of women can benefit child nutrition although no extensive study has covered that component yet. Societal norms exist and do limit the involvement of fathers into child care but some favour women in the decision-making process with regard to child care, in partic-

ular, food preparation. Yet, for optimal feeding practices, one also needs to have physical and economic access to affordable nutritious foods although caution should be taken as this is not always a significant constraint.

There are several limitations to the current review. First, even though sample size exceeded 100 individuals in a large number of studies, representativeness was generally limited to the population under investigation. Sample size calculation was not always clearly described in some documents. A cross-sectional design also provided a picture of the situation at the time of the survey but did not take into account variations that may occur throughout a year due to different circumstances. Information on the validity of measurements was not always provided. It should be underlined that studies have been conducted in different areas of Indonesia and that some of the practices may be specific to the context.

Data were mostly descriptive and there were a few attempts to control for confounding variables. Although several underlying factors to child feeding practices have been assessed, indicators diverged between studies. For example, components of knowledge under assessment were not similar from one study to the other, nor were the cut-offs for categorization of the level of knowledge. Finally, very few studies have investigated the relationships between feeding practices and their underlying determinants.

Conclusions

To reduce and prevent malnutrition, addressing underlying factors to appropriate feeding practices among children six months and upwards is crucial. The results of the present review showed that improving knowledge of caregivers through community health workers contributes to better practices and can help to overcome perceptions and beliefs which are not conducive to optimal feeding practices. Similar results have been observed from the Alive & Thrive project implemented in a few countries where the deployment of front-line workers with improved capacity to deliver effective nutrition interventions including behaviour change counselling has led to better child feeding practices. Indonesia has already experimented successful programs on behaviour change which might be strengthened and expanded to include other members of the household given their role in child care.

However, relevant and quality research is still needed to get a better understanding of the determinants of child feeding practices as well as on how they are related to each other and operate in different contexts and subgroups of the population. Factors related to the work environment, attributes of the society, culture and economy deserve further attention as well as those on the mother-child dyad.

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AUTHOR DISCLOSURES

None of the authors have a conflict of interest to disclose.

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Review Article

Feeding practices among Indonesian children above six months of age: a literature review on their potential determinants (part 2)

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印度尼西亚六个月以上儿童的喂养方式：潜在决定因素的文献综述（第二部分）

背景：印度尼西亚幼儿的喂养方式不是最优的。改善这些喂养方式对预防和降低幼儿营养不良至关重要。更好地了解合适喂养方式的潜在因素对解决最佳喂养方式中的障碍和找准最佳实践机会是必需的。本文旨在探讨 6 个月以上儿童喂养方式的潜在决定因素。**方法**：使用不同的搜索词组合在多个数据库中进行文献检索，搜索词有：喂养、儿童、印度尼西亚、MPASI/辅食、gizi/营养、因子、决定因素和 praktek/方式。用三个步骤来审查所有文献内容的适当性和研究质量。行为改变数据是用 Hector 框架分析的。**结果**：现有数据中影响喂养方式的个体因素主要是妈妈的属性，即知识、观念、态度、信念和技能。他们中的一些与好的喂养方式正相关。一些环境相关的因素，比如医疗服务、家庭和同伴环境有利于改善喂养方式。对社会因素的研究大多限于食物系统，这不利于最优的喂养方式。**结论**：本综述提供了有利于最佳喂养方式的潜在因素的见解。然而，相关性和质量研究需要更好地了解环境和社会相关因素，以及它们之间的相互作用和在不同的背景下的运作。印度尼西亚已经有试验成功的项目，这些项目可以作为参考来加强幼儿喂养方式。

关键词：决定因素、喂养方式、妈妈的特征、环境、印度尼西亚