Breastfeeding and Its Relation to Child Nutrition in Rural Chiang Mai, Thailand

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Abstract

A cross-sectional study was conducted to evaluate current breastfeeding practices among a population in a remote rural area of Chiang Mai, Thailand. Three hundred and ninety-five women with children aged less than 36 months were studied. Mothers were interviewed and anthropometric status of children was assessed. Seventy per cent of them were from a hill-tribe ethnic group and 30 per cent were Thai. The results showed that breastfeeding was highly prevalent amongst the hill-tribe population especially in uneducated multiparous women. Only 53.6 per cent of children were exclusively breastfed in the first six months of life. Breastfeeding tended to be continued until or beyond the age of one year but complemented with other foods. For children aged up to 6 months, the prevalence of undernutrition, wasting and stunting in the exclusively breastfed group was 0.0 per cent,1.9 per cent and 7.7 per cent, respectively, compared to 2.1 per cent, 4.3 per cent and 8.5 per cent, respectively in partial/non-breastfed children ($p > 0.05$). For children aged between 7-12 months, the undernutrition, wasting, and stunting in the exclusively breastfed group was 23.1 per cent, 15.4 per cent and 7.7 per cent, respectively, compared to 13.4 per cent, 7.3 per cent and 9.8 per cent, respectively in partial/non-breastfed children ($p > 0.05$). For children older than one year ($n = 201$), 12 were exclusively breastfed and six of them were undernourished. In the partial/non-breastfed group, 70 of 189 were undernourished ($p > 0.05$). The results showed that children were more likely to be malnourished as age increases in either exclusively breastfed or partial/non-breastfed group. This may not be a breastfeeding issue but the weaning practices. Appropriate food supplementation and correct weaning practices are essential in order to maintain nutritional status in children beyond six months of age.

Key word : Breastfeeding, Child Nutrition, Ethnic Groups

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Breast milk benefits children as it reduces morbidity and mortality from many illnesses, and is considered the ideal food for newborn infants[1]. Exclusive breastfeeding is adequate for infant growth during the first 6 months of age[2]. In the developing world, breastfeeding promotion through the health care system has been a national priority in many countries. Practical strategies, which have been used to promote the success of breastfeeding, include effective prenatal education, a screening breast exam, the Baby Friendly Hospital Initiative and instruction on correct breastfeeding technique[3].

Several factors, which influence the incidence and duration of breastfeeding, have been studied, such as maternal education, prenatal care in the first trimester, previous experience of breastfeeding and maternal support[4]. The mothers' perception of inadequate output of milk is a frequent reason for stopping breastfeeding in the first four months of life [5]. However, prolonged breastfeeding beyond the first year of life may be associated with malnutrition [6,7]. The duration of breastfeeding differs widely between populations, as do the consequences of these differences for the nutritional status of the child. This study aimed to evaluate current breastfeeding practices in remote rural communities of Chiang Mai province, Thailand and describe their association with child nutritional status.

METHOD

A cross-sectional study was conducted in 32 villages in a remote rural area of Chiang Mai, Thailand in 1999 with the permission of the Chiang Mai Public Health Office. All women with children aged less than 36 months were requested to participate. Mothers were interviewed for information about breastfeeding practices, weaning time, types of supplementary foods, level of education, types of houses and perception on family economic status. The children's weight was measured using a Salter scale in kilograms. Length was measured with a Starter measure mat in centimeters (Child Growth Foundation, UK). Z-scores for weight for height and height for age were calculated, and compared with a WHO reference population[8]. Undernutrition, wasting and stunting were determined as a Z score less than -2 standard deviations for weight for age, weight for height and height for age, respectively[9]. Correlation coefficients were estimated to describe relationship between age and Z-score for weight for height. The Chi-square test was used for comparisons of proportions of undernutrition, wasting and stunting between the groups. The statistical significance was considered at a p-value of < 0.05.

RESULTS

Three hundred and ninety-five women and their children were studied. This number was approximately 80 per cent of women with children less than 36 months of age in the study area. Maternal characteristics relating to breastfeeding are shown in Table 1. There was a higher prevalence of breastfeeding amongst hill-tribes than amongst Thai women (89.2% compared to 57.3%). Breastfeeding was also associated with younger age, higher parity and less education. The pattern of breastfeeding is shown in Table 2. Ninety two per cent of children aged up to six months were breastfed, with 52 per cent exclusively breastfed. For older children other foods complemented breastfeeding. Sixty six per cent (134/201) of children aged more than one year were still breastfed and 12 (5.9%) were exclusively breastfed (Table 2). Rice was the most frequently introduced in the first six months (61.9%), followed by egg (47.6%) and banana (28.5%). Meat, fish and vegetables were used as supplements in children older than six months (20.5%, 14.1% and 10.2%, respectively). Beans were supplemented late in the second year of life, although this was infrequent. The mean age (SD) for introduction of supplementary food was 3.8 (3.82) months. The mean age (SD) for weaning was 10.9 (4.68) months. The prevalence of undernutrition, wasting, and stunting is shown in Table 3. For children aged up to 6 months, the prevalence of undernutrition, wasting and stunting in the exclusively breastfed group was 0.0 per cent, 1.9 per cent and 7.7 per cent, respectively, compared to 2.1 per cent, 4.3 per cent and 8.5 per cent, respectively in partial/non-breastfed children. These differences were not significant. For children aged between 7-12 months, the undernutrition, wasting, and stunting in the exclusively breastfed group was 23.1 per cent, 15.4 per cent and 7.7 per cent, respectively, compared to 13.4 per cent, 7.3 per cent and 9.8 per cent, respectively in partial/non-breastfed children. These differences were not significant. For children older than one year, the number of exclusively breastfed was small (12/201). The undernutrition, wasting, and stunting in these children was 50 per cent, 0.0 per cent and 41.6 per cent, respectively, compared to 37 per cent, 14.8, and 37.5 per cent, respectively in partial/non-breastfed children. These differences were not significant.

Table 1. Maternal characteristics and prevalence of breastfeeding

Maternal characteristics	Number*	Still breastfeeding		
		No.	%	P-value
Age (years)				
15-20	85	78	91.8	
21-30	220	171	77.7	
≥ 31	87	64	73.6	< 0.01
Race				
Hill-tribe	278	248	89.2	
Thai	117	67	57.3	< 0.001
Parity				
1 to 2	279	213	76.3	
3 or more	116	102	87.9	< 0.01
Education				
None	217	192	88.5	
Primary school	176	121	68.8	
Economic status				
Poor	139	114	82.0	
Fair	244	191	78.3	> 0.05

* Group totals differ due to missing data for some characteristics.

Table 2. Breastfeeding pattern by age.

Age (months)	Number	Breastfeeding					
		Exclusive No.	%	BF with SF* No.	%	Not BF No.	%
0-6	99	52	52.5	40	40.4	7	7.1
7-12	95	13	13.7	76	80.0	6	6.3
13-18	97	10	10.3	64	66.0	23	23.7
19 or more	104	2	1.9	58	55.8	44	42.3
Total	395	77	19.5	238	60.2	80	20.3

* Breastfeeding with infant formula or supplementary food

Table 3. Undernutrition, wasting and stunting in exclusively breastfed and partial/non-breastfed children in relation to age.

Age Breastfeeding	No.	Prevalence of					
		Undernutrtion[a] No.	%	Wasting[b] No.	%	Stunting[c] No.	%
0-6 months							
Exclusive	52	0	0.0	1	1.9	4	7.7
Partial/No	47	1	2.1	2	4.3	4	8.5
7-12 months							
Exclusive	13	3	23.1	2	15.4	1	7.7
Partial/No	82	11	13.4	6	7.3	8	9.8
> 12 months							
Exclusive	12	6	50.0	0	0.0	5	41.6
Partial/No	189	70	37.0	28	14.8	71	37.5

[a] Z-score for weight for age < -2, [b] Z-score for weight for height < -2, [c] Z-score for height for age < -2,
All categories were not significant different between exclusively breastfed and partial/non-breastfed for all age groups (p-value > 0.05)

DISCUSSION

This study showed that breastfeeding was highly prevalent amongst the hill-tribe population especially in uneducated multiparous women. The high prevalence of breastfeeding could relate to a previous positive experience with breastfeeding, as well as strong support from the family. These women also commonly introduce infant formula and supplementary foods during the early months after delivery. Only 53.6 per cent of children were exclusively breastfed in the first six months of life. Breastfeeding tended to be continue until or beyond the age of one year. A small number of breastfed children older than one year had never received other foods. This may occur due to ignorance of the mothers, as well as limitation of available food in poor families. The authors are uncertain about maternal perceptions on breastfeeding and food supplementation. Breastfeeding mothers may pay less attention to food supplementation, as there is no immediate need to secure a variety of supplemented foods. There was no significant differences in the prevalence of undernutrition, wasting and stunting between exclusively breastfed children and partial or non-breastfed children. The results showed that children were more likely to be malnourished as age increases in either the exclusively breastfed or partial/non-breastfed group. This may not be a breastfeeding issue but weaning practices. Appropriate food supplementation and correct weaning practices are essential in order to maintain nutritional status of children beyond six months of age.

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ภาวะโภชนาการในเด็ก และการเลี้ยงดูด้วยนมมารดา ในเขตพื้นที่ชนบทของจังหวัดเชียงใหม่

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การศึกษาภาคตัดขวางนี้เป็นการศึกษาการเลี้ยงลูกด้วยนมแม่ของในพื้นที่ชนบทห่างไกลในจังหวัดเชียงใหม่ เก็บข้อมูลด้วยการสัมภาษณ์กลุ่มตัวอย่างมารดาที่มีบุตรอายุต่ำกว่า 36 เดือนจำนวน 395 คน และการประเมินภาวะโภชนาการของเด็กด้วยการชั่งน้ำหนักและวัดส่วนสูง กลุ่มตัวอย่างมารดาประกอบด้วยหญิงชาวไทยภูเขาและหญิงชาวไทยพื้นราบคิดเป็นร้อยละ 70 และร้อยละ 30 ตามลำดับ ผลการศึกษาพบว่า มารดาชาวไทยภูเขาที่ไม่มีการศึกษาและมีบุตรหลายคนมีการเลี้ยงลูกด้วยนมตนเองมากกว่ามารดาชาวไทยพื้นราบ มีเด็กร้อยละ 53.6 ที่ได้รับนมแม่เพียงอย่างเดียวในช่วงอายุ 0–6 เดือน การเลี้ยงลูกด้วยนมแม่พบว่ามีต่อเนื่องนานได้ถึงมากกว่า 1 ปี โดยมีการให้อาหารเสริมร่วมด้วย ความชุกของภาวะน้ำหนักตัวน้อย (Undernutrition) ภาวะการเจริญเติบโตช้า (Wasting) และภาวะเลี้ยงไม่โต (Stunting) ของเด็กที่มีอายุ 0–6 เดือนในกลุ่มที่กินนมแม่เพียงอย่างเดียวคิดเป็นร้อยละ 0.0, 1.9 และ 7.7 ตามลำดับ เปรียบเทียบกับกลุ่มที่ไม่ได้กินนมแม่คิดเป็นร้อยละ 2.1, 4.3 และ 8.5 ตามลำดับ ($p > 0.05$) สำหรับเด็กที่มีอายุระหว่าง 7–12 เดือน พบว่าภาวะน้ำหนักตัวน้อย ภาวะการเจริญเติบโตช้าและภาวะเลี้ยงไม่โตในกลุ่มที่กินนมแม่เพียงอย่างเดียวมีร้อยละ 23.1, 15.4 และ 7.7 ตามลำดับ เปรียบเทียบกลุ่มที่ไม่ได้กินนมแม่มีร้อยละ 13.4, 7.3 และ 9.8 ตามลำดับ ($p > 0.05$) สำหรับเด็กที่มีอายุมากกว่า 1 ปี ($n = 201$ คน) พบว่ามีเด็ก 12 ใน 201 คน ที่ได้รับนมแม่เพียงอย่างเดียว และพบว่า 6 ใน 12 มีภาวะน้ำหนักตัวน้อย เปรียบเทียบกับกลุ่มที่ไม่ได้กินนมแม่พบ 70 ใน 189 ราย ($p > 0.05$) ผลการศึกษานี้ยืนยันว่า เด็กมีโอกาสเกิดภาวะทุพโภชนาการมากขึ้นตามอายุที่เพิ่มขึ้น ทั้งในกลุ่มที่กินนมแม่เพียงอย่างเดียวและกลุ่มที่ไม่ได้กินนมแม่ ซึ่งสาเหตุอยู่ที่การปฏิบัติในการเลี้ยงดูเด็กในระยะหย่านมมากกว่าที่จะเป็นเรื่องการได้รับนมแม่หรือไม่ได้รับ หรือระยะเวลาของการได้รับนมแม่ การดูแลเด็กอายุ 6 เดือนขึ้นไปต้องให้ความสำคัญ ของการเสริมอาหารที่เหมาะสมและเพียงพอเพื่อให้เด็กมีภาวะโภชนาการที่ดีต่อไป

คำสำคัญ : ภาวะโภชนาการ, การเลี้ยงลูกด้วยนมแม่, ภาวะน้ำหนักตัวน้อย

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