

Key concepts: Nurses' Practices and Knowledge of Breastfeeding

# **Nurses' Practices and Knowledge of Breast feeding in Korea and Thailand**

Haekyung Lee · Wannee Deoisres ·  
Chintana Wacharasin

Haekyung Lee: Professor of the Department of Nursing, Kangwon National University.

Wannee Deoisres: Assistant professor of the Department of Maternal-Child Health Nursing, Faculty of Nursing at Burapha University.

Chintana Wacharasin: Instructor of the Department Maternal-Child Health Nursing, Faculty of Nursing at Burapha University in Thailand.

Breastfeeding is strongly recommended for full-term infants. Ideally, breast milk should be practically the only source of nutrients for the first four to six months for most infants (Evans, Lyons and Killien, 1986). The nutritional, immunological, psychological and economical advantages of breastfeeding are well documented in our literature. Yet, the incidence of breastfeeding has varied considerably over time (Beske and Garvis, 1982).

From 1955 to 1971, there was a progressive decline in breast feeding in America. But, 33.4% of all infants in 1975 and 45.1% of all infants in 1978 were breast-fed in America. So there was a resurgence in its incidence through 1978 (Martinez and Naleezienski, 1979). Moreover, many health care professionals have tried to encourage mothers to maintain breastfeeding at least until 4 months of age, and much literature reports how to increase and maintain breastfeeding (Jenner, 1988; Holt, 1983).

However, in Korea, there was a progressive decline in breastfeeding after 1970 and only 20-30% of infants were breast-fed in 1990 (The Korean Nurses' Association News, 1992). Also, there were no signs to indicate an increase in the incidence of breastfeeding. So the Korea Governmental and the non-governmental organizations, including the Korean Nurses' Association, initiated the "Breastfeeding Promotion Movement". They have begun to provide in-service programs for nurses and to change hospital routines (The Korea Nurses' Association News, 1992).

Both the successes and failures of breastfeeding have been studied and many factors for both have been cited. Beske and Gravis (1982) reported that women who breastfeed frequently expressed disappointment toward the hospital nurses. Hart, Bax, and Jenkins (1980) reported that health care professionals should have an important role to play in the management of

breast feeding.

And yet, many nurses still have not introduced the practices that are known to be helpful in the establishment of breastfeeding (Houston and Field, 1988; Aberman and Kirchhoff, 1985). Many studies reported that health professionals have rarely been mentioned as influencing mother's infant-feeding decisions (Beske and Gravis, 1982; Mullett, 1982; Wiles, 1984). A majority of women even reported that nurses did not discuss about infant feeding with them (Kirke, 1980). Yet, several investigators have found that postpartum women would have preferred more technical assistance with breastfeeding and more support from hospital nurses (Beske and Gravis, 1982; Hall, 1978). An examination of the relevant literatures indicates the hospitals should provide opportunities for successful lactation, and that health professionals should instruct nursing mothers about the techniques of breastfeeding during their hospital stay. So, it is very important to identify nurses' practices that may enhance or hinder the establishment of breastfeeding and to examine nurses' knowledge regarding breastfeeding.

The aim of this study is to compare the existing nurses' practices with the actual nurses' knowledge of breastfeeding in the two countries. It is hoped that this study will provide empirical evidence as to how different hospitals' conditions are to provide opportunities for successful breastfeeding during hospitalization and how nurses' knowledge of breastfeeding is different in the two countries.

### **Definition Term**

Term used in this study is defined as follows: Nurses' practice of breastfeeding: Routine nursing care regarding infant feeding have been implemented by nurses who work in the maternal and neonatal unit at a hospital.

### **Literature Review**

A variety of factors have been identified to be influential in breastfeeding success. Much literature has reported that age, education level, socioeconomic status, maternal health status, social support, and professional support have a significant effect on breastfeeding success (Baisch, Foc, Whitten, and Pajewski, 1989; Beske and Gravis, 1982; Gulick, 1982; Kearney, 1987; Mansted, Proffitt, and Smart, 1993; Mullett, 1982; Robbins, 1992; Yoos, 1982).

Reiff and Essock-Vitale (1985) reported that hospital staff and routines should exert a strong influence on mothers' infant-feeding practices. Admittedly, health care professionals and the hospital conditions of breast-feeding practices have little influence on mothers' demographic and environmental variables. However, a certain proportion of successful breastfeeding outcomes result from hospital-based practices such as how soon after birth a well baby can start breast feeding for the first time (Salarya, Easton and Cater 1978; De Chateau and Winberg, 1978), whether breast fed babies normally are given any kind of supplements or not (Evan et al, 1986; Dusdieker, Booth, Stumbo, and Eichenberger, 1985;

Gray-Donal, Kramer, Munday, and Leduc, 1985), how frequently a mother gives breastmilk to her baby at the hospital(Houston and Field, 1988), whether a mother who wants can feed without a fixed schedule or not(L'esperance, Franz, 1985; Salariya, Easton and Cater, 1978), whether a mother has an opportunity room or not(Coreil and Murphy, 1988), the presence or absence of rooming-in for mothers and babies(Keefe, 1988; Tan, 1992), and the presence or absence of support and education form hospital staff(Reiff, Essock-Vital, 1985).

The American Academy of Pediatrics(1980, 1982)has stated that health professionals should encourage mothers to breastfeed their full-term infants. Many researchers reported the importance of providing expectant parents whit enough information for them to make informed decisions about infant feeding. Beske and Gravis(1982) studied 94 breastfeeding mothers in 1982, and found in their descriptive study that mothers did not rate their physician, or the baby's physician, or the nurse as a continuing significant source for encouraging breasrfeeding, and that the lack of information was related to premature discontinuation. In another study, Wiles(1984) experimented with 40 primiparous women and assessed their thechnical knowledge regarding breastfeeding. Women who were better informed showed a significantly higher frequency of success in breastfeeding than those who did not( $p=.01$ ). Aberman and Kirchhoff(1985) examined 51 primarily low-income, single, black mothers. They found that more than one-half of the sample population reported that a nurse neverdiscussed infant feeding with them and none of the mothers cited nurses or doctors as an influencing factor. They suggested that the role of nursing in infant feeding decisions and patient teaching need to be re-evaluated. Anderson and Geden(1990) examined nurses in Canada to datermine whether education, clinical experience, or personal experience predicted maternal-neonatal nurses' knowledge of breastfeeding. T finding, coupled with the similar findings of Crowder(1981) and Hates(1981), suggested that knowledge of breastfeeding by maternity nurses has not increased since 1981, and nurses have limited knowledge of breastfeeding. In addition many hospitals still have not implemented the practices that are known to be helpful in the establishment of breastfeedint(Houston et al, 1988).

## **Methods**

### **Subjects**

Data was selected from 1 hospital in Seoul, Korea, 1 hospital in Chungju, Korea and 3 hospital in Taejon, Korea and 2 hospital in Chonburi, Thailand, 1 hospital in Chachoengso, Tailand and 1 hospital in Rayoung, Thailand that have 200 or more live birth each year. The collecting periods of the data were from January to February, 1994 in Thailand and from July to August, 1994 in Korea. After receiving a notice of agreement from each hospital's nursing director, the researchers sent the head nurses of the maternal-child nursing ward in each institution the questionnaires to them to distribute to staff nurse working in mater-neonatal units.

So, a self-administerd questionnair was distributed to about 140 nurses involved with

maternal and neonatal care.

Of approximately 114 nurses surveyed, complete data were available on 110 cases.

**Instruments**

Nurses' practices were assessed using a 39-item questionnaire, modified from Houston et al.'s Scale(1988). The scale reflected the following areas:(1) when and what was given to an infant after birth,(2) feeding schedules,(3) supplementation and complementation,(4) policy for rooming-in,(5) teaching breastfeeding techniques, and(6) incidence of breastfeeding.

Nurses' knowledge of breastfeeding was measured using Anderson and Geden's breastfeeding knowledge questionnaire(1990) with 20 items that reflected management,(2) breastfeeding management when a health problem is present,(3) postpartum anticipatory guidance,(4) anatomy and physiology, and(5) nutrition. The number of correct answers were summed and the total scores ranged from 1 to 20.

In addition to gathering more information, demographic and personal questions were posed to elicit data to describe the sample and to explicate the findings.

**Data Analysis**

Response categories were coded entered into a computer, where they were analyzed using the Statistical Package for Social Sciences program (SPSSx). Frequency was used to compare the nurses' practices in the two countries. The nurses' knowledge of breastfeeding was investigated using the t-test.

**Results**

1) Characteristics of Respondents

The demographic characteristics related to the two groups of respondents were presented in Table 1. Out of the total 110 nurses who participated in this study, 50 were Thais, and 60 were Koreans. 5 nurses in the Thailand sample had LPNs; 45 of them had Associate RNs. 4 of the Korean sample were Associate RNs; 47 were Baccalaureate RNs; and 9 had Master's degrees. The Thai nurses had an average age of 28.5 years. The Korean sample was younger than the Thailand sample. The mean years working with newborns and/or new mothers was 4.8 years in the Thailand sample and the mean years working was 2.5 years in Korea sample.

<Table 1> Demographic Characteristics of Sample

| Characteristic                  | Thailand |         | Korea |         |
|---------------------------------|----------|---------|-------|---------|
|                                 | N        | %       | N     | %       |
| <b>Level of nursing program</b> |          |         |       |         |
| LPN/LVN                         | 5        | (10.0%) | —     |         |
| Associate                       | 45       | (90.0%) | 4     | (6.7%)  |
| Baccalaureate                   | —        |         | 47    | (78.3%) |
| Master                          | —        |         | 9     | (15.0%) |
| <b>Postion at the hospotal</b>  |          |         |       |         |
| LPN/LVN                         | 5        | (10.0%) | —     |         |
| RN staff                        | 39       | (78.0%) | 52    | (86.6%) |
| RN charge nurse                 | 4        | (8.0%)  | 4     | (6.7%)  |
| Head nurse                      | 3        | (4.0%)  | 4     | (6.7%)  |

|  |            |            |
|--|------------|------------|
| <b>Age</b>   |            |            |
| 20-25  | 17 (34.0%) | 24 (40.0%) |
| 26-30  | 13 (26.0%) | 24 (40.0%) |
| 31-35  | 10 (20.0%) | 7 (11.7%)  |
| 36-40  | 8 (16.0%)  | 4 ( 6.7%)  |
| over 41  | 2 ( 4.0%)  | 1 ( 1.6%)  |
| <b>Working years with newborns and/ or new mothers</b> |            |            |
| less than 1 year                                       | 6 (12.0%)  | 16 (26.7%) |
| 1-5 years  | 19 (38.0%) | 35 (58.3%) |
| over 5 years   | 25 (50.0%) | 9 (15.0%)  |

2) First breastfeeding

43 nurses(86%) of the Thailand sample answered that infants in their hospital started to breastfeed for the first time within two hours after birth, while only 1 nurse(2.0%) of the Korean sample responded only 1 nurse(2.0%) of the Korean sample responded that they started to breastfeed within two hours after birth(Table 2).

<Table 2>First Breastfeeding

| Characteristic   | Thailand |          | Korea |         |
|--|----------|----------|-------|---------|
|  | N        | %        | N     | %       |
| <b>When does a well baby start to breastfeeding for first time</b>                   |          |          |       |         |
| immediately following birth  | 27       | (54.0%)  | —     |         |
| within one hour of birth   | 15       | (30.0%)  | 1     | (2.0%)  |
| within two hours of birth  | 1        | ( 2.0%)  | —     |         |
| 2-4 hours after birth  | —        |          | —     |         |
| from 4-8 hours after birth   | 6        | (12.0%)  | 25    | (49.0%) |
| varies   | 1        | ( 2.0%)  | 25    | (49.0%) |
| No responses   | —        |          | 9     |         |
| <b>What was a breastfeeding baby given as a first feeding.</b>                       |          |          |       |         |
| breast : always  | 47       | (100.0%) | 3     | ( 9.1%) |
| sometimes  | —        |          | 27    | (81.9%) |
| never  | —        |          | 3     | ( 9.1%) |
| No response  | 3        |          | 27    |         |
| <b>Provide for a mother for have skin contact with her baby in the delivery room</b> |          |          |       |         |
| All mothers  | 27       | (54.0%)  | 13    | (22.8%) |
| some mothers   | 13       | (26.0%)  | 16    | (28.1%) |
| Never encourager   | 10       | (20.0%)  | 28    | (49.1%) |
| No response  | —        |          | 3     |         |

Note : Percents were estimated based on the number of nurses who answered the question

All(N=47) for the Thailand nurses answered that breast-fed infants always had their first feed from the breast, while only 3 nurses(9.1%) of Korea answered that breast-fed infants always had their first feed from the breast. 27 nurses(81.8%) of Korea responded that first

feed, while 3 nurses(9.1%) of Korea answered that mothers never offered breast milk as the first feed. 5 of the 23 Thailand respondents answered that they always offered water as the first feed and 7 of them sometimes offered water as the first feed. In contrast, 21 of the 42 Korean respondents answered that they always gave water as infants' first feed. Only 1 of the 18 Thailand respondents answered they always gave glucose to infants as their first feed and only 1 of the Thailand sample sometimes gave glucose to infants as their first feed. But all the 42 Korean nurses answered that they gave glucose to infants as their first feed.

40 nurses(80%) of the Thailand sample and 29 nurses(50.9%) of the Korean sample answered that they provided for mothers to have skin contact with their baby answered that doctors never encouraged mothers to cut the babies' umbilical cord.

### 3) Feeding Schedules

While the majority(80%) of the 45 Thailand respondents answered that breastfeeding mothers could give breast milk according to the baby's demand, only 21 nurses(47.7%) of the 44 Korean respondents answered that breastfeeding mothers could give breast milk according to the baby's demand(Table 3). All of the 45 Thailand respondents answered that a breastfeeding mother could feed her baby herself at night, and 38 of the 53 Korean respondents answered that a breastfeeding mother could not feed her baby herself at night.

<Table 3>Feeding Schedules

|   | Thailand |          | Korea |         |
|---|----------|----------|-------|---------|
|   | N        | %        | N     | %       |
| <b>Application of feeding schedules with a breastfeeding baby</b> |          |          |       |         |
| a fixed schedule  | 9        | (20.0%)  | 23    | (52.3%) |
| according to a baby's demand                                      | 36       | (80.0%)  | 21    | (47.7%) |
| No response   | 5        |          | 16    |         |
| <b>Can a mother feed her breastfeeding baby herself at night?</b> |          |          |       |         |
| yes   | 45       | (100.0%) | 15    | (28.3%) |
| No  | —        |          | 38    | (71.7%) |
| No response   | 5        |          | 7     |         |

Note : Percents were estimated based on the number of nurses who answered the question

### 4) Supplementation and complementation

When asked if supplements were given to breastfeeding infants between breastfeeding, the majority(73.5%) of the Thailand sample answered no, while only 6(13.3%) of the Korean sample answered no and the majority(86.7%) of them answered yes(Table 4)

<Table 4>Supplementation and Complementation

|  | Thailand |   | Korea |   |
|--|----------|---|-------|---|
|  | N        | % | N     | % |
| <b>Supplements between breastfeeding</b> |          |   |       |   |

|                                       |            |            |
|---------------------------------------|------------|------------|
| Yes always                            | 2 ( 4.1%)  | 11 (24.4%) |
| Yes occasionally                      | 11 (22.4%) | 28 (62.2%) |
| No never                              | 36 (73.5%) | 6 (13.3%)  |
| No response                           | 1          | 15         |
| <b>Complements with breastfeeding</b> |            |            |
| Yes always                            | 3 ( 6.3%)  | 10 (23.8%) |
| Yes occasionally                      | 7 (14.6%)  | 28 (62.2%) |
| No never                              | 38 (73.5%) | 4 (13.3%)  |
| No response                           | 2          | 18         |

Note : Percents were estimated based on the number of nurses who answered the question

When supplements were given to breastfeeding infants, 11 of the 18 Thailand respondents gave water to breastfeeding infants and 7 of the 18 Thailand respondents gave formula as a supplement. However, the majority (N=37) of the 45 Korean respondents answered that infants were supplemented with formula. Answers to the questions on complementary feeding of breast-fed infants were similar to those of supplementary feeding. The majority (N=38) of the Thailand sample answered no, while only 4 of the Korean sample answered no. Also answers to the types of complements were similar to the types of supplements were similar to the types of supplements. Most of them gave formula to breastfed infants as a complement (9 out of the 17 Thailand sample and 35 out of the 38 Korean sample).

#### 5) Policy for rooming-in

When the nurses were asked whether the hospital has facilities for rooming-in or not, 46 nurses in the Thailand sample answered that they have facilities for rooming-in and 4 of them answered no (Table 5). However, 13 nurses in the Korean sample have facilities for rooming-in and 33 of them do not have the rooming-in system. The majority (N=45) of the Thailand was kept with the mother in the first 12 hours after birth and only 1 of them answered that the baby was separated from the mother and placed in the nursery, except for feeds. In contrast to answers of the Thailand sample, the majority (79.6%) of the Korean sample answered that the breast-feeding baby was separated from the mother and placed in the nursery and no one answered that baby was routinely kept with the mother. Responses to the questions on how much time mother and baby spend together each day while staying at the hospital were similar to those answers about where the breast-fed baby stays after birth.

<Table 5>Policy for Rooming-in

|  | Thailand |         | Korea |         |
|--|----------|---------|-------|---------|
|  | N        | %       | N     | %       |
| <b>Presence of the rooming-in system</b> |          |         |       |         |
| Yes                                      | 46       | (92.0%) | 13    | (24.5%) |
| No                                       | 4        | ( 8.0%) | 33    | (62.2%) |
| in modified room                         | —        |         | 7     | (13.3%) |
| No response                              | —        |         | 7     |         |

**Where is a baby after birth?**

|   |            |            |
|---|------------|------------|
| Routinely kept the mother                           | 45 (90.0%) | —          |
| Separated from the mother and placed in the nursery | 1 ( 2.0%)  | 43 (79.6%) |
| Other   | 4 ( 8.0%)  | 11 (20.4%) |
| No response   | —          | 6          |

Note : Percents were estimated based on the number of nurses who answered the question

## 6) Teaching breastfeeding techniques

The study also examined who has the responsibility for teaching about breastfeeding knowledge (Table 6). Almost all the nurse in the two countries (39 of the Thailand nurses and 37 of the Korean nurses) answered that a nurse had a responsibility for teaching about breastfeeding problems while their patients were in hospital. However, while more than 90% (N=48) of Thailand sample answered that all mothers were taught breastfeeding technique, only one-third (31.5%) of the Korean sample answered that they taught breastfeeding technique to the mothers. Moreover, almost 70% of the Korean sample answered that they did not teach breastfeeding technique. The data also revealed that all respondents in Thailand sample answered that they had postpartum classes for mothers during hospitalization and only 1 (1.9%) of the Korean sample answered that they had postpartum classed for mothers. However, 13 out of the 42 Korean respondents answered that mothers are give any one-on-one postpartum teaching.

<Table 6> Teaching Breastfeeding Techniques

|  | Thailand |          | Korea |         |
|--|----------|----------|-------|---------|
|  | N        | %        | N     | %       |
| <b>Are mothers routinely taught the techniques of breastfeeding?</b> |          |          |       |         |
| Yes  | 48       | (96.0%)  | 17    | (31.5%) |
| No   | 2        | ( 4.0%)  | 37    | (68.5%) |
| No response  | —        |          | 6     |         |
| <b>Presence of postpartum classes for mothers</b>                    |          |          |       |         |
| Yes  | 50       | (100.0%) | 1     | ( 1.9%) |
| No   | —        |          | 52    | (98.1%) |
| No response  | —        |          | 7     |         |

Note : Percents were estimated based on the number of nurses who answered the question

## 7) Incidence of breastfeeding

Nurses were asked about how many mothers choose to start breastfeeding in the hospital (Table 7). 33 of the Thailand respondents answered that 51-75% of the mothers started breastfeeding in the hospital and 14 of them answered that 26-50% of mothers started breastfeeding answered that 26-50% of mothers started breastfeeding while in hospital. 15 of



the Korean respondents answered that 51-75% of the mothers started breastfeeding in the hospital and 2 of them answered that 76- 100% of mothers started breastfeeding while in hospital. The analysis of the frequency of breastfeeding when the mothers were finally discharged from the hospital was the similar to those percentages of breastfeeding while staying in the hospital.

<Table 7>Incidence of Breastfeeding

|  | Tailand |          | Korea |         |
|--|---------|----------|-------|---------|
|  | N       | %        | N     | %       |
| <b>How many mothers choose to start breastfeeding in the hospital?</b>       |         |          |       |         |
| Under 10 percent   | 1       | ( 2.0% ) | 21    | (42.9%) |
| 10-25 percent  | —       |          | 4     | ( 8.1%) |
| 26-50 percent  | 14      | (29.2%)  | 7     | (14.3%) |
| 51-75 percent  | 33      | (68.8%)  | 15    | (30.6%) |
| 76- 100 percent  | —       |          | 2     | ( 4.1%) |
| No response  | 2       |          | 11    |         |
| <b>How many mothers are discharged with breastfeeding from the hospital?</b> |         |          |       |         |
| Under 10 percent   | —       |          | 20    | (40.8%) |
| 10-25 percent  | 1       | ( 2.3% ) | 6     | (12.2%) |
| 26-50 percent  | 16      | (61.4%)  | 7     | (14.3%) |
| 51-70 percent  | 27      | (36.3%)  | 14    | (28.6%) |
| 71- 100 percent  | —       |          | 2     | ( 4.1%) |
| No response  | 6       |          | 11    |         |

Note : Percents were estimated based on the number of nurses who answered the question

#### 8) Nurses' Knowledge of breastfeeding

Similarities and difference on breastfeeding knowledge between the two groups were investigated using a pooled, two-tailed t-test(Table 8). There was a significant difference between the two groups( $t=-7.44$ ,  $p=.000$ ). Breastfeeding knowledge scores for the Thailand samples were mean=5.1000, SD=1.146: and for the Korean samples' scores were mean=7.8667, SD=2.411 (Table 8). The mean score of the Thailand sample was lower than the mean score of the Korean sample.

<Table 8>Comparison of Breastfeeding Knowledge Between the Two Groups

|                               | Tailand<br>(N=50) |       | Korea<br>(N=60) |       | t-value | p    |
|-------------------------------|-------------------|-------|-----------------|-------|---------|------|
|                               | X                 | SD    | X               | SD    |         |      |
| knowledge of<br>berastfeeding | 5.1000            | 1.147 | 7.8667          | 2.411 | -7.44   | .000 |

## Disussin

This study compared nurses' practices and knowledge of breastfeeding in Korea and Thailand. The degree of nurses' practices of breastfeeding in Thailand was higher than that

in Korea. However, the mean score of nurses' knowledge of breastfeeding in Thailand was significantly lower than that in Korea.

In this study, infants in the hospitals of Thailand started to hospitals of Korea. Although much literature (American Academy of Pediatrics, 1980, 1982; Reiff and Essock-Vital, 1985; Thornton, 1987) suggests that early initial breastfeeding is the best way for successful breastfeeding, only 2% of the Korean sample reported that infants started to breastfeed within reported that. When compared with what was given to infants as the first feed, infants in the Thailand sample were given breast milk much more as the first feed than infants in the Korean sample, and all of the Korean sample reported that they gave glucose to infants as the first food. An analysis of the data showed that almost all nurses in the Korean sample still gave glucose with a bottle to infants as the first food. Moreover, more than half (52.3%) of the Korean sample indicated that they got a fixed schedule with a breast-fed baby and the majority of the Korean respondents answered that a mother could not feed her baby herself at night. These results indicated that babies of the Thailand sample could feed on demand and Thailand mothers took care of their babies as much as possible in the hospitals, and the recommendations of the World Health Organization were implemented pretty well in Thailand. This supports our conclusion that the policy of hospitals in Korea should change to support breastfeeding mothers.

Comparing the frequency on supplements and complements we found that more than 80% of the Korean sample gave supplements and/or complements to breast-fed infants and 26% of the Thailand sample gave supplements. When the data of the Thailand sample on supplements was compared with the results of Houston and Field's study (1988), the proportion of those giving supplements was higher in the data (32 out of 46 staff nurses) of Houston and Field's study those (13 out of 49 nurses) in the Thailand sample. The data suggested that the hospital in the Thailand's sample kept well the recommendations of the World Health Organization. Much literature breastfeeding (American Academy of Pediatrics, 1980, 1982; Events, Lyons and Killien, 1986) and the World Health Organization guidelines demand that no water be given and that infants only receive milk after birth.

The rooming-in policy insures that a mother will be able with her newborn immediately. Also, nurses can assess and provide care to a mother and new-born simultaneously. Moreover, this policy helped to reduce hospital costs (Levine, 1980; Mansell, 1984). When Keefe (1988) studied about the impact of rooming-in on maternal sleep at night, mothers in the room-in group reported a slightly higher Quality of sleep as compared a slightly higher quality of sleep as compared with the mothers whose newborns slept in nursery. This result indicated the majority of mothers were satisfied with the rooming-in policy. However, the results of our Korean current study showed that only one-fourth of the Korean current study showed that rooming-in system and the majority of the sample reported that the baby stayed in the nursery.

One of the most important factors to encourage breastfeeding is health education for pregnant and new mothers. Many studies reported that many mothers did not have any

health education talks, and Aberman and Kirchoff(1985) reported that more than one-half of the sample population never discussed infant feeding with nurses. However, almost all of the whether nurses routinely taught mothers the techniques of breastfeeding and had postpartum classes for mothers. In contrast to the results of many studies, most nurses in Thailand were actively involved in teaching about breastfeeding techniques and postpartum care. But, only one-third of the Korean sample answered yes regarding whether nurses routinely taught mothers the techniques of breastfeeding and only 1.9% of the Korean sample had postpartum classes for mothers.

To test the difference of knowledge about breastfeeding between the two groups, respondents in each group were compared using the t-test. A significant difference occurred between the two groups on knowledge of breastfeeding( $t=-7.44$ ,  $p=.000$ ). The result showed that the Thailand sample did not have more knowledge about breastfeeding than the Korean sample did, even though the Thailand sample participated in teaching breastfeeding techniques and postpartum care well. One of the reasons why the Thailand sample did not have more knowledge about breastfeeding than the Korean sample may be that the Korean sample graduated more recently than the Thailand sample. Crowder(1981) reported that subjects with 0-5 years of experience had higher knowledge about breastfeeding than subjects with 5-15 years of experience in her study. Another reason may be related to the number of items on the Anderson and Geden's questionnaires. Anderson and Geden(1990) suggested that their questionnaires should increase the number of questions to increase the likelihood of a more reliable measure when they studied nurses' knowledge of breastfeeding. Anderson and Geden(1990) insisted that consistent and accurate breastfeeding, especially during the hospitalization. However, the mean scores in our samples were lower than the mean score of Anderson and Geden's study(the mean score of the Thailand sample=5.1; the mean of the Korean sample=7.866, the mean of the Anderson and Geden study=12.2). These results suggested that nurses in the two countries have limited knowledge of breastfeeding and they did not give consistent and accurate information, although most of the Thailand sample taught techniques of breastfeeding. The limited knowledge of breastfeeding may influence the success in breastfeeding. Also this result suggested that nurses in the two countries need to receive in-service programs or to work on self-instruction

## **Limitations and Implications**

The implications and conclusions drawn from this study must be interpreted in light of the limitations inherent within the study.

Limitations of this study were observed. The respondents of the two countries were only 110 nurses in limited areas in the two countries. In addition, the subjects were based on the number of respondents who answered the question. So, the respondents could not describe exactly the conditions in the two countries. If the collection of data had been more accurate and consistent. Another limitation was the accuracy and the number of items on the the

Anderson and Geden's questionnaire. Some respondents said that they could not understand some of the knowledge questions because they were too up-to-date questions. So, future research should, the questionnaire regarding knowledge procedure regarding knowledge should be modified, and the number of questions should be increased.

To increase nurses' knowledge of breastfeeding, nurses should have self-study and receive in-service training. There is also necessity to develop a system for a certified lactation nurse to access and intervene in the needs of breastfeeding mothers. Each of the hospitals in the two countries should recognize that its practices must be clearly examined in the light of current knowledge, and written ward protocols need to be developed to encourage consistent teaching and practices, particularly in the area of infant feeding.

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· Wannee Deoisres · Chintana Wacharasin

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