CHAPTER THREE
METHODOLOGY

The study of "Factors Affecting Breastfeeding in the First Six Months After Delivery: A Case Study of Bangkok's New Mothers" is designed as a quantitative research. According to Johnson & Christensen (2004), the quantitative research approach normally emphasizes the use of deductive conception in scientific methods to test the theory through the collection of quantitative data. This chapter presents the research methodology of the study. This includes topics such as the design of the research, population, sample size, research hypotheses, research instruments, measurements of the questionnaire, data collection and data analysis methods. Details of the mentioned topics are as follows.

3.1   SUBJECTS

In this study the researcher specifies the population as customers of 4 hospitals:

1. Saint Louis Hospital	100 sets
2. Bumrungrad Hospital	100 sets
3. BNH Hospital	100 sets
4. Bangkok Christian Hospital	100 sets
Total	400 sets

The research sample should be women who have just become new mothers not more than 3 months before the study. Therefore, the sample of this research is women who are aged around 25-35 years old who have sufficient knowledge of breastfeeding. The researcher chose Saint Louis Hospital, Bumrungrad Hospital, BNH Hospital and Bangkok Christian Hospital because they have breastfeeding programs to support and educate new mothers to be. The results of this research may be another indicator to test the successfulness of the breastfeeding programs.

3.2   MATERIALS

The research instrument in the study was a questionnaire. A questionnaire as defined by Johnson and Christensen (2004) is a self-report data-collection instrument that each research participant fills out as part of a research study. The researchers use the questionnaires as a data-collecting tool for this research because it is widely used to obtain information, often numeral data. Moreover, it can be administered without the presence of the researcher, which helps save time and is suitable for gathering information from a large number of participants. The questionnaires also provide comparatively straightforward information to analyze. (Cohen & Manion & Morrison, 2000). The researcher designed the questionnaire in accordance with the objectives and the research framework. It consists of 3 parts as follows;

Part 1:Personal Factors: This part consist of questions about the respondent's personal details such as age, income, education and occupation. This part will comprise of 4 close-end questions

Part 2: Psychological Factors: This part explores the mother's capacity to breastfeed, which can affect breastfeeding behavior. In this study, the researcher mentions 3 factors such as pain from cesarean sections, sore nipples and diseases (such as HIV or breast cancer). This part will comprise of 10 rating scale questions by which;

1=   strongly disagree, least important

2=   disagree, less important

3=   neutral, moderate important

4=   agree, very important

5=   strongly agree, most important

Part 3: Environment Factors: This part looks at the types of environment that may affect breastfeeding behavior. In this study, the researcher mentions 4 factors such as the support of hospital/nurses, the support of

family, the support from society and the effect of milk brands promotion). This part will comprise 17 rating scale questions by which;

1= strongly disagree, least important

2= disagree, less important

3= neutral, moderate important

4= agree, very important

5= strongly agree, most important

The criterion for interpretation of mean value for the rating scale questions is calculated as:

$$\frac{5-1}{5} = 0.8$$

It means items with scores fall between the ranges of:

4.21 – 5.00; considered as strongly agree/ most

3.41 – 4.20; considered as agree/ much

2.61 – 3.40; considered as neutral / medium

1.81 – 2.60; considered as disagree/ less

1.00 – 1.80; considered as strongly disagree/ least

3.3   PROCEDURES

3.3.1 Research Design

A population as defined by McMillan (1994) is a group of elements or cases, whether individuals, objects, with which the researcher aims to generalize the result of the research. In this study the researcher specifies the population as customer of Saint Louis hospital, Bumrungrad hospital, BNH hospital and Bangkok Christian hospital. In this study, the researcher employs a non-probability convenience sampling method by launching questionnaires to 400 customers who went to the selected hospitals between August 1- 30, 2008. The sample size is as directed by the Yamane (1967) Table. Since the researcher does not know the exact size of the population, the sample size will be set as 'unknown' and the researcher expects a 95% confidence or 0.05% error rate for this research. Therefore, the sample size needs to be at least 400.

Table 2. Yamane' Sample Size Table (At 95 % confidence)

Population size	Sample size in accordance with error					
	1%	2%	3%	4%	5%	10%
500	b	b	b	b	222	83
1,000	b	b	b	385	86	91
1,500	b	b	638	441	316	94
2,000	b	b	714	476	333	95
2,500	b	1,250	769	500	345	96
3,000	b	1364	811	517	353	97
3,500	b	1458	843	530	359	97
4,000	b	1538	870	541	364	98
4,500	b	1607	891	549	367	97
5,000	b	1667	909	556	370	98
6,000	b	1765	938	566	378	98
7,000	b	1842	959	574	378	99
8,000	b	1905	976	580	381	99
9,000	b	1957	989	584	383	99
10,000	5000	2000	1000	588	385	99
15,000	6000	2143	1034	600	390	99
20,000	6667	2222	1053	606	392	100
25,000	7143	2273	1064	610	394	100
50,000	8333	2381	1087	617	397	100
100,000	9091	2439	1099	621	398	100
∞ Or unknown number	10,000	2500	1111	625	400	100

Variables in this research and its degree of measurement in regard to this study are as presented in the Table 3.

Table 3. Variables of the Study and Their Measurement Degrees

Variables	Degree of measurement
Personal factors	
1.1 Age	Nominal
1.2 Income	Nominal
1.3 Education	Nominal
1.4 Occupation	Nominal
Psychological Factors	
1.5 Pain from Cesarean Sections	Ordinal
1.6 Sore Nipples	Ordinal
1.7 Disease	Ordinal
External Factors	
1.8 Hospital/nurse support	Ordinal
1.9 Social support	Ordinal
1.10 Family support	Ordinal
1.11 Promotion of milk brands	Ordinal

3.3.2   Data Collection

The primary data has been derived from questionnaires, which has been used to collect the data from the research participants, while the secondary data has been compiled based on public databases, journals and the Internet. For the primary data, the researcher has contacted customer relations, women centers and breastfeeding centers of the 4 hospitals in order to distribute the questionnaires:

1.   After contacting the breastfeeding and women center of each hospital, the researcher found out that each hospital has supporting programs to convey

information regarding breastfeeding to the new moms at the hospital. Before arriving back home, nurses will arrange a breastfeeding information session to explain the benefits of breastfeeding and discuss various aspects with the new mothers. This is recognized as the best time to distribute and collect the questionnaires.

2. After 1 month, both the babies and the mothers need to be back at the hospital for follow-up treatments and check-ups. This is recognized as the best time for a discussion about breastfeeding and to distribute and collect questionnaires.

3.4 DATA ANALYSIS

The data from the questionnaires was processed using the SPSS program by use of the descriptive statistics method, such as frequency, mean, standard deviation and percentage. Descriptive report has been used in analyzing statistics-based data which are frequency, percentage, average, and standard deviation. Quantitative analysis will analyzed by using SPSS for Windows Version 16 to measure the level of correlation between each variable; a range of confidence level was set at 95 percent, and the interpretation of the correlation results were as shown in the Table 4 below:

Table 4. r-value and measure the strength of association

Correlation (r)	Interpret
1	Perfect positive linear association
0	No linear association
-1	Perfect negative linear association
0.90 to 0.99	Very high positive correlation
0.70 to 0.89	High positive correlation
0.4 to 0.69	Medium positive correlation
0 to 0.39	Low positive correlation
0 to -0.39	Low negative correlation
-0.40 to -0.69	Medium negative correlation
-0.70 to -0.89	High negative correlation
-0.90 to -0.99	Very high negative correlation

Source: Hussey (1997), "Business research: A practical guide for the undergraduate and postgraduate students, page 227.

To ensure accuracy, the questionnaires were designed taking into account the following factors:

Validity: As defined by Cohen & Manion & Morrison (2000), this is a demonstration that a specific instrument precisely measures what it is purported to measure. There are several different kinds of validity, such as content validity, criterion-related validity, construct validity, etc. In this study, the researcher examines content validity of the questionnaire by sending drafts of the questionnaire to the adviser to ask for her comment on the congruence of each questionnaire item. After receiving comments from the advisor, the researcher adjusted the question item following the advisor's comments.

Reliability: As defined by McMillan (1996), this is the extent to which a measurement is free from error, taking into account how consistent a person's 'score will be from one occasion to the next. There are several reliability measurement techniques such as split-half, Kuder-Richardson, and Coefficient Alpha or Cronbach Alpha. The researcher uses Cronbach Alpha to measure the reliability of the questionnaire by doing the pilot test on 20 samples; the data collected from the questionnaire is compiled and processed by SPSS program to determine the Cronbach Alpha.

In summary, the chapter began with a description of the scope of the population and the sampling methods. Three independent variables were discussed here in relation to dependent variables, including measurement. In addition, the development of the instrument for collection of data was proposed. Finally, the chapter

explains how the data was collected and statistically analyzed. In the next chapter, the results of the research as a result of the questionnaire design will be shown.