CHAPTER I

INTRODUCTION

Background and Rationale

Diarrhea is an important public health problem in developing countries especially among children under one year of age (Guerrant et al., 1990). In Thailand, diarrhea was found most among this age group with the prevalence rate of 34% and the mortality rate of 51.7 per 100,000 population (Jutaratana Thaworanun, 1997). In Nakhon Si Thammarat Province, in 2001 the prevalence rate of diarrhea among the children under one year of age was 4,185 cases per 100,000 population whereby the decreasing trend was found from the year 1999 to 2000, the morbidity rate of diarrhea was 9,637 and 8,177 cases per 100,000 population respectively. In Thungsong District, Nakhon Si Thammarat Province, the morbidity rate of diarrhea the children under one year of age was found to be 7,782 per 100,000 population in 2001 whereby the trend is going up when compared with the rates in 1999 and 2000, 1,202 and 6,420 per 100,000 population respectively. In 2001 the prevalence of infantile diarrhea was found in July where there were 27 cases, followed by May and April, with 22 and 20 cases respectively. (Summary Report of the Surveillance Program, Nakhon Si Thammarat Public Health Office, 2001)

Acute infantile diarrhea was mostly caused by consuming contaminated food and water (Wandee Worawitaya, 1999). Among those patients with diarrhea who came to the hospital, about 70 percent of them were caused by infection, whereas 30 percent of them could not detect the microbus. Different types of infection - caused microbes were found accordingly with the child's age. Rotavirus was found among the children aged during 4 months to 3 years, mostly among 6 months to 2 years old. Shigella were found among children aged 6 months and older. Samonella and Campylobacter were found among children aged lower than one year. It was found that diarrhea can be found in any children after birth (Wandee Worawitays, 1999). The most complications found in children with diarrhea are dehydration , electrolyte imbalance and if it is not properly treated in time, it can lead to shock and death. Malnutrition (Pipop Jirapingyou, 1996) caused slow growth and development of the children which can lead to poor quality of life and result in low quality population. However, children's illness can create stress and anxiety among mother, and care – givers. If the children are hospitalized, the mother will lose income and has to pay for the medical treatment and also the hospital has to spend a lot of money for that medical treatment. According to James P.Grant (Cited in Segson Winya, 1991), it was found that the developing countries had to spend more than 1,000 million U.S. dollars for the treatments of diarrhea.

Diarrhea in children can be preventable if the causes or the factors that cause the illness are known. There are many factors accounted for the onset of diarrhea, such as child factors, care - giver factors, and environmental sanitation factors. For the child factors, the most important factor is that the children are not breast-fed. (Yoon et al.,

1996). According to the analysis of the effect of breast feeding programs in eight countries, it was found that breast feeding could lower about 8 – 20 percent of diarrhea cases and lower about 24 –27 percent of deaths from diarrhea among children aged 0-6 months (Freachem, 1984). For the factors regarding the children, diarrhea was usually found among the children with low birth weight, less than 2,500 grams (Paitoun Anusit et al., 1999). They were sick because of other diseases before having diarrhea (Punjawatna Plengsa-ard, 1999), had malnutrition (Etiler et al.,2004), and did not get vaccination (Getanch et al., 1995).

Regarding the care-giver factors, the following factors were found to be related to diarrhea : age (Moawed and Saeed, 2000); educational level (Bertrand and Walmus, 1983; Yoon, et al. 1996); occupation (Jutharatna Thaworanant et al. 1997); family income (Moaweed and Saeed, 2,000; Mock et al., 1993); knowledge about diarrhea (Moawed and Saeed, 2000; Pujawatna Plengsa – ard, 1999); attitudes and perception of information from public health personnel/public health volunteers (Moawed and Saeed, 2000; Suparatn Bunnag, 2000); and preventive behaviors (Strian et all, 1999).

The factors related to sanitation and environment were : not improving quality of drinking water, inappropriate disposal system, no water drainage system, and no mosquito control program (Pujawan Plengsa-and, 1999). According to the researcher's experience, who works at the Pediatric Ward in Thungsong Hospital which is a community hospital with 150 beds, in 2001, there was the highest number of patients with diarrhea among the children under one year of age from Thungsong District with 336 cases (62.2 %) of the total 540 patients. The data from the history taken from

observing child care behaviors of the mothers showed that most of the cases were due to the lack of knowledge about diarrheal prevention. They had negative attitudes and incorrect beliefs in bringing up the children including having incorrect preventive behaviors.

From the above mentioned reasons, it can be said that diarrhea among the children under one year of age is still a major public health problem of Thungsong District , especially in the municipal areas. Because of the socio-economic changes, the municipal area are becoming more populated than the rural areas. These factors can bring about the inadequacy and low quality of sanitation and public services. There was no adequate clean water supply, and latrines to serve the increasing number of population and the quality of refuse and solid waste is increasing which affect the onset of diarrhea (Tanawal Imsamboon, 2000). Facing with economic problem, mothers have to work to support the family. Therefore , they do not have enough time to cook. They buy the ready – made food which may be contaminated. The children, especially the infants who have low immunity , may get sick more easily than adults. Therefore, the researcher is interested in studying the prevalence of diarrhea among the children under one year of age who live in the municipal areas in Thungsong District, Nakhon Si Thammarat Province, whereby this area is under the responsibility of Thungsong Hospital. This study was aimed to assess the situation of diarrhea occurred and the factors affecting acute diarrhea. It is expected that the data will be helpful in planning the program for controlling diarrhea, lessening the morbidity and mortality for the good quality of life of the children.

Research Questions

1. What is the prevalence rate of acute diarrhea among the children under one year of age during 3 month in the municipal communities of Thungsong District, Nakhon Si Thammarat Province?
2. What are the factors related to acute diarrhea among the children under one year of age in the municipal communities of Thungsong District, Nakhon Si Thammarat Province?

Research Objectives

General Objective

To study the prevalence rate and factors related to acute diarrhea among the children under one year of age during 3 month in the municipal communities of Thungsong District, Nakhon Si Thammarat Province.

Specific Objectives

1. To study the prevalence rate of acute diarrhea among the children under one year of age during 3 month in the municipal communities, Thungsong District, Nakhon Si Thammarat Province.
2. To study the factors related to acute diarrhea among the children under one year of age in the municipal communities of Thungsong District, Nakhon Si Thammarat Province, as regard to;
    - Care – giver's factors : age, educational level, occupation, and income
    - Child's factors: age, birth weight , kind of feeding , nutritional status, getting vaccination, and illness history before having acute diarrhea.

- Predisposing factors ; knowledge regarding diarrhea, and attitudes toward diarrhea.
- Enabling factors: environmental sanitation factors
- Reinforcing factors: receiving information about diarrhea and home visit
- Care - givers' diarrhea preventive behaviors : cleansing breasts, hand washing before breast feeding and preparing bottle – formula, preparing bottle-formula, cleansing bottles, disposing the child's stools.

3. To study the relationship between the knowledge about diarrhea and attitudes toward diarrhea, knowledge on the basis of the causes and the prevention about diarrhea and care - givers' diarrhea preventive behavior, the attitudes toward diarrhea and the care - givers' diarrhea preventive behaviors.
4. To study the relationship between receiving information about diarrhea and the knowledge about diarrhea, receiving the information about diarrhea and the attitudes toward diarrhea, and receiving the information about diarrhea and the care - givers' diarrhea preventive behaviors.
5. To study the relationship between the studied factors and the onset of acute diarrhea in the municipal communities of Thungsong District, Nakhon Si Thammarat Province.

Research Variables

Independent Variables

- Care – giver's factors: age, educational level, occupation and income .
- Child's factors: age, birth weight, kind of feeding, nutritional status, getting vaccination, and illness history
- Predisposing Factors: knowledge about diarrhea, and the attitudes toward diarrhea.
- Enabling Factors: environmental sanitation regarding drinking – water, garbage disposal and the control of houseflies.
- Reinforcing Factors: receiving the information about diarrhea and home – visits.
- Care gives' diarrhea preventive behaviors: cleaning breasts, hand – washing preparing bottle - formula, cleansing bottles, and disposing of the stools

Dependent Variable

Prevalence rate of acute infantile diarrhea

Limitations of the Study

1. This study was carried out in the municipal communities of Thungsong District, Nakhon Si Thammarat Province. The result from this study has to be carefully used for further studies.

Basic Assumption

The interviews that can indicates the behaviors.

Operational Definitions of Terms

1. Acute Diarrhea : The passage of three or more loose or watery stools or one mucoid or bloody stool in a 24 - hour period, and the episodes will last not more than 7 days except that the children who had transitional stools, so they will normally pass several soft stools each day, which is not regarded as diarrhea.
2. Care – giver : The person who takes close care of the children. They may be parents, grandmothers, grandfathers, relatives, including maids .
3. Infant : A child from birth to 11 months and 29 days of age they have to live in the municipal communities of Thungsong District, Naklon Si Thamnarat Province.
4. Municipal Communities : A community locates in the municipality area of Pag-prag Subdistrict, Thungsong District, Nakhon Si Thammarat Province.
5. Factors related to diarrhea among the children under one year of age :
   - Care – givers 's factors: age, educational level, occupation, income
   - Child 's factors: age, birth weight, breast – feeding, nutritional status, getting vaccination, illness history
   - Predisposing factors: knowledge regarding acute diarrhea and attitudes toward acute diarrhea
   - Enabling factors: environmental sanitation factors

- Reinforcing factors: receiving information about acute diarrhea and home - visit
- Care givers' diarrhea preventive behaviors: cleaning breasts, hand - washing, preparing bottle formula, cleaning bottles, and disposal of the child's stools

6. Children's Nutritional Status: The standard criteria used to determine the physical growth of children in various age groups by using weight per height developed by the Department of Health, Ministry of Public Health.

Expected Benefits

The result from this study will be helpful in planning strategies for preventing diarrhea and lessening morbidity and mortality rates of diarrhea which with result in high quality of life of the Thai children.