

CHAPTER III

METHODOLOGY

This research studied the knowledge, attitudes and behaviors of caretakers regarding the use of antibiotics with children aged < 5 years attending the Outpatient Clinic of Wangwiset Hospital, in Trang Province.

Scope of the Study

This research focused on the behaviors of caretakers regarding the use of oral antibiotics, and emphasized the behavior of the last administration of an oral antibiotic among outpatients attending the Outpatient Department of Wangwiset Hospital.

Definitions

For this research into health behaviors related to antibiotic administration among the population in Trang Province, the definitions of terms are as follows:

Age refers to the ages of the interviewees by counting the total age in years at the time of interview.

Marital status means the marital status of the interviewee at the time of interview, meeting the criteria of significant behavior.

Highest level of education refers to the number of years of education obtained, especially formal education.

Occupation means the major occupation of the interviewee.

Family income refers to the average income per month of the family.

Knowledge means understanding, ability to articulate when informed and explained about antibiotics according to level of expertise.

Attitude of caretaker means the attitude of the caretaker to the administration of antibiotics.

Behavior refers to the action of administering the most recent antibiotic agent, which is the behavior before completing the questionnaire.

Antibiotic agent refers to an oral water-mixed antibiotic agent that is used for any infection.

Research Design

A cross-sectional descriptive research study was conducted to study knowledge, attitudes and behaviors of caretakers regarding the use of antibiotic drugs for children aged < five years who attended the Outpatient Department, Wangwiset Hospital, Trang Province, according to the following process: target population, data collection, and establishment of the research instrument, as follows:

Population

In this research, the research results represent all caretakers of children aged < 5 years in Wangwiset District, Trang Province.

Sample population

The population in this research consisted of caretakers of children aged < 5 years who attended the Outpatient Department, Wangwiset Hospital. To promote the good health of children, caretakers bring sick children for treatment, or healthy children for vaccination or oral polio vaccine. Statistics for the budget year 2003 show that there were 2,987 children aged < 5 years. The following calculation provided the target population:

$$n = \frac{NZ^2 pq}{d^2(N-1) + Z^2 pq}$$

When n = size of sample
 N = total population
 Z = standard score from normal curve
 Alpha = 0.05 ($Z_{\alpha/2} = 1.96$)
 P = number in sample group having correct drug administration behavior (8%)
 Q = 1-p = (1-0.08)
 d = acceptable error = 0.05

Thus n =
$$\frac{2987 (1.96)^2 (0.08)(0.02)}{(0.05)^2 (2987 -1) + (1.96)^2 (0.08) (0.02)}$$

n = 401

This research required 410 samples to allow for errors in data collection.

Research Instrument

The research instrument in this study was a questionnaire designed by the researcher, consisting of 4 parts, as follows:

Part 1: A questionnaire on personal data, i.e. age, marital status, highest level of education, occupation, total family income per month, number of family members, relationship between caretaker and children, and number of children under each caretaker.

Part 2: A questionnaire on the knowledge of the caretaker regarding the administration of antibiotics (multiple-choice).

Part 3: A questionnaire on the attitudes of the caretaker regarding the administration of antibiotics, rated by Likert Scale, with 5 levels, i.e. strongly agree, agree, no comment, disagree, and strongly disagree.

Part 4: A questionnaire on the behavior of the caretaker regarding the administration of antibiotics, emphasizing shaking the bottle before pouring, punctually administering drugs before and after meals according to the label, administration of drug 30 minutes prior to meal, administration of drug 15 minutes after meal, reading through the label before pouring the drug, correct amount of drug

according to the label, continuing drug administration until finished, using water at the appropriate temperature for mixing the antibiotic, using a standard spoon for measurement, keeping the drug at an appropriate temperature, and using an appropriate practice when a drug administration has been missed.

Scoring

1. For the questionnaire on caretaker knowledge regarding the use of antibiotics, the score for a correct answer was 1 and the score for a false answer 0. this questionnaire was applied to community colleges (Ministry of Education, 1997: 24).

Score	Level
Over 90	Excellent
70 - 89	Good
60 - 69	Fairly good
50 - 59	Fair/Satisfactory
00 - 49	Poor

2. For the questionnaire on caretaker attitudes regarding the use of antibiotics, there were 5 levels of scoring, as follows:

Attitude	Positive	Negative
Strongly agree	5	1
Agree	4	2
No comment	3	3
Disagree	2	4
Strongly disagree	1	5

Criteria for attitude

Score	Level
4.50 - 5.00	Excellent
3.50 - 4.49	Good
2.50 - 3.49	Fairly good
1.50 - 2.49	Fair/Satisfactory
1.00 - 1.49	Poor

3. For the questionnaire on caretaker behavior regarding the use of antibiotics, the scoring was conducted as follows:

Choice	Score
Do at all times	5
Mostly do	4
Do = do not	3
Do not > do	2
Not do	1

Criteria for evaluating behavior

Score	Level
4.50 - 5.00	Excellent
3.50 - 4.49	Good
2.50 - 3.49	Fairly good
1.50 - 2.49	Fair/Satisfactory
1.00 - 1.49	Poor

Steps in developing the research instrument

The researcher developed the research instrument according to the following steps:

1. Review of the literature and research for appropriate modification.
2. Research on principles and methodologies to develop a questionnaire from the relevant literature.

3. Development of a questionnaire on knowledge of utilizing antibiotics, comprising 13 questions.

4. Development of a questionnaire on attitudes to use of antibiotics, comprising 13 questions.

5. Development of a questionnaire on antibiotic use practices, comprising 13 questions.

Testing and Improving Reliability and Validity

1. The questionnaire was reviewed by 3 experienced experts who worked with antibiotic drugs.

2. The questionnaire was modified according to the comments and suggestions of the experts, and used with 30 subjects whose qualifications matched the inclusion criteria at Khaovisate Healthcare Community Center, Wangwiset District, Trang Province.

3. The completed questionnaire was checked and scored, as follows:

For the questionnaire on knowledge of utilizing antibiotics, a correct answer was attributed a score of 1 and a false answer a score of 0. The responses to each question were analyzed.

The questionnaire on caretaker attitudes regarding the use of antibiotics was analyzed for distribution power in each question by 25% technique, and t-test for reliability. The reliability value was 0.7073.

The questionnaire on caretaker behavior regarding the use of antibiotics was analyzed for distribution power in each question by 25% technique, and t-test for reliability. The reliability value was 0.7178.

Analysis and Relevant Statistics

The Statistical Package for the Social Sciences/Personal Computer Plus Windows (SPSS for Windows) was used for coding the data and setting the significance level at 0.05. Analysis regarding the characteristics follows:

Personal data, i.e., age, gender, marital status, education, occupation, salary, relation with children, number of children under care, and number of family members, were analyzed in terms of frequency and percent.

The correlation between personal characteristics and knowledge about the use of antibiotics was calculated by Pearson correlation coefficient, with a significance level of 0.05.

The correlation between the attitudes of parents about children under care, and knowledge and behaviors of utilizing antibiotics were analyzed.

Data collection

The researcher collected the data, as shown below:

1. Data for caretakers who brought sick children for treatment at the Outpatient Department of Wangwiset Hospital were collected on Monday to Friday, while data for those who brought healthy children to attend the Health Promotion Clinic were collected on the second and third Wednesday of the month. Altogether, 410 samples were included in the study. The samples were collected only during office hours and office days. The researcher collected all data personally. The data were collected as follows:

- 1.1 15 samples of caretakers of sick children were collected daily; 8 samples in the morning and 7 samples in the afternoon.

- 1.2 24 samples of caretakers for healthy children who attended the Health Promotion Clinic were collected in the morning of the second and third Wednesday. 12 samples were collected on the second Wednesday of the month. The average number of attendees was 85 cases per day; therefore, data for every 7 cases were collected starting with case number 2, then number 9, and 16, respectively. No data were collected in the afternoon due to the very small number of attendees.

2. After data collection, the researcher checked every item in the questionnaire obtained from the sample for completeness.

Data management

In this research, the researcher analyzed the data using the SPSS program, as follows:

1. Analyzed the samples' socio-demographic data by frequency deviation and percentage, and recorded the results in a table.
2. Analyzed caretaker knowledge data of antibiotic use by frequency deviation and percentage, and recorded the results in a table.
3. Analyzed caretaker attitude data regarding the use of antibiotic drugs by frequency deviation and percentage, and recorded the results in a table.
4. Analyzed the caretaker behavior data regarding the use of antibiotic drugs by frequency deviation and percentage, and recorded the results in a table.
5. Analyzed the data for socio-demographics, knowledge, attitudes and behaviors, by average value (\bar{X}) and standard deviation (S.D.) among the caretakers.
6. Determined the correlation coefficients between caretaker characteristics and knowledge, attitudes, and behaviors.
7. Determined the correlation coefficients between knowledge, attitudes and behaviors.