CHAPTER III

RESEARCH METHODOLOGY

This chapter is comprised of research design, site of the study, population and sample, data collection and data processing. It also includes variables of the study, data analysis, validity and reliability of the instruments, ethical consideration and limitation of the study.

3.1 Research Design

A cross sectional study design was conducted to describe the good pharmacy practice in community pharmacy and self-medication practice among the customers, and the relationship between the independent and dependent variables.

3.2 Site of the study

East Jakarta Municipality has been chosen for the site of the study. It has 28.64% of total Jakarta's population, which is the highest proportion between other municipalities. The main characteristic of East Jakarta is dominated by housing complex and residential area supports the main objective is based on the pharmacy in community.

3.3 Population and Sample

The study population is community pharmacies and customers. From the latest data obtained from Municipality Health Office (*Sudin Yankes*) of East Jakarta, there are 281 Community Pharmacies and 12 Hospital Pharmacies registered.

Sample size estimation was determined by the following formula (Thompson, 2002):

$$n = \frac{Z^2 p(1-p)}{d^2}$$

n : sample size

Z : reliability coefficient based on level of confidence

p = estimated proportion rate

Calculation for minimum sample size:

$$n = \frac{1.96^2 . 0.5 (1 - 0.5)}{0.1^2}$$

n = 96.4 = 96

East Jakarta municipality has 10 sub-cities (*kecamatan*). We randomly selected 10 community pharmacies from each sub-city, except one sub-city that only has 8 community pharmacies. A total of 98 community pharmacies constitute the study population.

Due to the time and budget constraint we only selected 3 customers for each pharmacy. The 294 customer was selected during the visiting hours to their community pharmacy. The number was based on the first 3 customers who came to pharmacy for self-medication.

Inclusion Criteria

- Pharmacy in community.
- Customer who bought drugs in pharmacy without prescription.

Exclusion Criteria

- Pharmacy in hospital.
- Customer with age below 17 or higher than 65.
- Customer who bought medical devices and equipment (thermometer, bandage).

3.4 Data Collection Tool

The draft questionnaire was conducted before the data collection process. The pilot test was done with 30 pharmacies and 30 customers to find out the difficulty, reliability test and convenience for interview. The questionnaire was prepared in English and translated from English into Bahasa Indonesia.

The contents of questionnaire for a pharmacy were;

- Demographic of respondent, demographic of community pharmacy and characteristic of the licenser pharmacist.
- Good pharmacy practice indicator, the four elements were representing in pharmacy practice within the facilities, storage system, equipment, attitude, self-care practice and source of information.
- Regulatory knowledge and the availability of document.

The contents of questionnaire for customer were;

- Demographic of customer.
- Knowledge about self-medication practice.
- Perception about self-medication practice.

3.5 Data Collection

A structured questionnaire was used to collect data from community pharmacies and their customers in East Jakarta. From each community pharmacy, the interviewer used structured interview to ask the pharmacist or pharmacist assistant during the visiting time. Priority of interview was given to pharmacists if they were available at visiting time. Data from each community pharmacy has been considered as the unit of analysis.

Questionnaire for the customer were collected at the same time during the first 2 – 3 hours of visiting the community pharmacy. The customer was selected only if he/she bought drug(s) without prescription during the visiting hours. The customer was excluded if he/she bought medical devices or medical supplies (such as bandage or thermometer) and the age was below 17 years or higher than 65 years.

Due to the community pharmacies in East Jakarta is under the supervision of Municipality Health Office (*Sudin Yankes*) East Jakarta, the permission to conduct the study was obtained by a letter from Municipality Health Office East Jakarta. Data were collected during the 28th January to 26th February 2008.

Data collection process was completed by 2 research assistants to helped the researcher. To avoid respondents refused to participate, the research team was equipped by souvenir gift for respondents.

3.6 Data Processing and Analysis

After the data were collected from community pharmacies and their customers by using the structured questionnaire, they were coded and entered into SPSS 13.0.

3.6.1 Questionnaire for Pharmacies

Scores for questionnaires from community pharmacies were interpreted according to the Standard of Good Pharmacy Practice. There were 20 questions that represent the four elements of good pharmacy practice.

a. First element of good pharmacy practice is activities associated with promotion of good health avoidance of ill health and the achievement of health objectives.

   For this element, there are 4 questions. The minimum score for each question is 1 and the maximum score is 5. The minimum score for first element of good pharmacy practice is 4 and the maximum score is 20.

b. Second element of good pharmacy practice is activities associated with the supply and use of medicine and items for the administration of medicines or otherwise related to treatment.

   For this element, there are 10 questions. The minimum score for each question is 1 and the maximum score is 5. The minimum score for second element of good pharmacy practice is 10 and the maximum score is 50.

c. Third element of good pharmacy practice is activities associated with self care, including advice about and, where appropriate, the supply of a medicine or other treatment for the symptoms of ailments that can properly be self treated.

   There is 5 questions in this element. The scoring system has 3 different types of scoring. 3 questions have minimum score for each question with 1 and the maximum score is 5. One question has multiple answer with

score 1 in every answer. The last question also has multiple answers with the proportion, scoring from 0 to 5.

d. Fourth element of good pharmacy practice is activities associated with influencing prescribing and medicine use.

For this element, there is 1 question. The minimum score for this question is 1 and the highest score is 5. The minimum score for first element of good pharmacy practice is 1 and the highest score is 5.

e. Total score for good pharmacy practice results from the sum of four elements of good pharmacy practice. The minimum score is 18 and the maximum score is 105. From total score, we classified the score with :

Poor	≤ 60.00
Less than good	60.01 – 70.00
Good	70.01 – 80.00
Very good	80.01 - up

Scores for knowledge of pharmacies for the four latest regulations were divided into 4 ordinal scales: poor (has known ≤ 1 regulation), less than good (has known 2 regulations), good (has known 3 regulations), very good (has known all regulation). Also for the scoring of document availability was done exactly the same as regulation knowledge with the same ordinal level.

3.6.2 Questionnaire for Customers

Scores for knowledge of customer were consisting of 2 groups about drug information. The first is the knowledge or information obtained from the

pharmacy staff about the drug the customer bought (Score 1). The second is the knowledge of customers about self medication (Score 2).

There are 9 questions in Score 1. The score "One" was given for each question of information they got from pharmacy and "zero" for no information provided. The minimum score is 0 and the maximum score is 9. In Score 1 we determined the association for this score and good pharmacy practice.

For the second part, the score was given similarly to the same question in the first part to their own knowledge about drug information they know already or provided by pharmacy staff. The minimum score is "0" and the maximum score is "8". In this part we determined the association between demographics and score 2

The total score for self-medication practice is the sum score of first part and second part of the questions about drug information. We concluded the score from part 1 and 2 to see the self-medication practice in customer. It will be fair if the score not only from pharmacy but also includes the score of their own knowledge about self medication. The minimum score is "0" and the maximum score is "17". From the total knowledge of customer, we classified the results as:

Poor	≤ 5
Fair	6 - 11
Good	12 - 17

3.7 Data Analysis

Responses from Community Pharmacy were analyzed in the sequences below:

- Eight independent variables (Pharmacist gender, Pharmacist age, Year of experience, Amount of prescription, Job status of pharmacist, Job type,

Frequency of pharmacist coming to pharmacy and Type of pharmacy) were selected for independent variables.

- In order to determine the prevalence of good pharmacy practice in community pharmacy, descriptive statistics such as mean frequency and standard deviation was calculated.
- In order to determine the prevalence of knowledge of regulation and availability of document, descriptive statistics was used.
- In order to know the relationship between characteristics of pharmacy and good pharmacy practice, the non-parametric Kruskall-Wallis or Mann-Whitney test were used.
- In order to know the relationship between characteristics of pharmacy and regulation knowledge and document, the non-parametric Kruskall-Wallis or Mann-Whitney test were used.

Responses from Customer

- Characteristics of customers (gender, age, education, occupation and income) were analyzed by using descriptive statistics.
- The prevalence of customer knowledge about self-medication practice was determined by frequency and percentage.
- The relationship between characteristic of customer and customer knowledge about self-medication was determined by non-parametric Kruskall-Wallis or Mann-Whitney test.

Finally, the relationship between good pharmacy practice and customer knowledge about self-medication was determined by the correlation test. To analyze

the association between score of good pharmacy practice (98 pharmacy staffs) and customers' score of information from pharmacies (294 customers), we calculated the mean of the customers' scores for each pharmacy. Then, we used the spearman's test for correlation to find the association. We classified the correlation as (Harris & Taylor, 2004);

r = 0 – 0.2 : very low and probably meaningless

r = 0.2 – 0.4 : a low correlation

r = 0.4 – 0.6 : a reasonable correlation

r = 0.6 – 0.8 : a high correlation

r = 0.8 – 1.0 : a very high correlation (check for errors).

3.8 Reliability and Validity of the Instruments

3.8.1 Reliability

Thirty community pharmacies and 30 customers in South Jakarta Municipality were collected for reliability test. Cronbach's alpha measurement was used to test the reliability in the questions number 16-32 for pharmacy's questionnaire and questions number 6, 7 and 8 for customer's questionnaire. The Cronbach's alpha score for community pharmacy's instrument was 0.811 and the score for customer's instrument was 0.830.

Reliability Statistics
For Pharmacy Questionnaire

Cronbach's Alpha	N of Items
.811	17

Reliability Statistics
For Customer Questionnaire

Cronbach's Alpha	N of Items
.830	17

3.8.2 Validity

The content and face validity were checked by experts after constructing questionnaire. The validity was revised after conducting the pilot test.

3.9 Ethical Considerations

Since this study was conducted in community pharmacies in East Jakarta, verbal agreement had been obtained before from the owner of pharmacies and customers. Only those who consent to participate will be enrolled for the study. The respondent had the right to refuse or decide to stop the interview. Pharmacists and customers signed as their agreement to participate in consent form. All of the information will be kept confidentially.