

CHAPTER 3

RESEARCH METHODOLOGY

1. Research Design

This cross sectional survey research describes the factors related to maternal behavior on receiving child immunization in Mueang Fuang District Vientiane Province Lao PDR. The independent variables include socio-demographic factors, knowledge about immunization, perception of immunization and cues to action. In this research the relationship between the independent variable and maternal behavior on child immunization service was investigated.

2. Study Area

Mueang Fuang District Vientiane Province Lao PDR was selected for study area. Its location is in the centre of Laos where immunization coverage was low.

3. Study Population

The target population for this study is mothers who have children under one year in Mueang Fuang district, Vientiane Province Lao PDR.

Mueang Fuang District included 6 sub-districts as Phoneyeng, Phonsavath, Phasang, Par-Gnour, Phonebang and District capital and there were 371 mothers who had children under 1 year

4. Sample Size

Sample sizes were estimated by the following formula of Yamene

$$n = \frac{N}{1 - Ne^2}$$

Where: at

n = estimated sample size

N = Population = 371

e = error of this study = 0.05

$$n = \frac{371}{1 + 371(0.05)^2} = 192.47$$

Therefore the sample sizes are 193 persons for conducting in this research.

To prevent information loss from incomplete data or withdrawal of participants from this study, the sample size was increased by 10 percent. Therefore, the sample was 212.

5. Sampling Technique

For the sampling technique used simple random sampling (SRS) for specific sample group of 212 mothers from 371 mothers who had children under 1 year old in Mueang Fuang district of Vientiane province in Lao PDR. Mueang Fuang District had divided into 6 sub- districts, so samples were taken from proportional to size in each sub-district. Therefore a total of 212 samples were interviewed in this study from 6 sub- districts. (See table 3.1)

Table 3.1 Number of population and samples in this study divided into 6 sub-districts of Muang Faung District.

Muang Faung District	Number of Population (persons)	Number of Samples (persons)
1. Phoneyeng sub-district	51	29
2. Phonsavath sub-district	65	37
3. Phasang sub-district	79	45
4. Par-Gnour sub-district	31	18
5. Phonebang sub-district	48	27
6. District capital	97	56
Total	371	212

6. Research Instruments for Data Collection

The research instruments in this study for data collection are through a structured interview. This will contain five parts as follows:

Part I Socio-Demographic of Mother: This part consists of 13 questions with general information as present age, family situation, and ethnicity, and education, number of children, occupation, income and general receiving immunization service.

Part II Maternal Behavior on receiving child immunization service and health accessibility: This part included 5 questions with a possible total score of 19 points relating to maternal behavior on receiving child immunization service. The question topics included: bringing children for immunization service, where to get the service, how far it is, how to go there and how long it does take

Part III Knowledge about immunization: This part was concerned with psychosocial factors about immunization knowledge of mother who had children under one year old. The score will be given 1 for correct answer and 0 for wrong answer in each statement. The maximum total score is 10

and the minimum total score is 0. Knowledge is multiple choice questions that consists of 30 questions and classified knowledge into three levels by Bloom as follows:

- Low level of knowledge: The score is 0-17 (< 60 %)
- Moderate level of knowledge: The score is between 18 – 24 (60-80%)
- High level of knowledge: The score is 24 – 30 (> 80%)

Part IV Perception towards immunization services: This part consists of four sub small parts with 37 questions and asked about the Susceptibility, severity, benefit and barriers of immunization to classify in 3 levels and the point was given 1, 2 and 3 according the statement as follows:

- Agree = 1
- Not sure = 2
- Disagree = 3

The item perception scores were categorized in 3 levels with interval scales of Best (1977:14) as below:

$$\begin{aligned} \text{Interval} &= \frac{\text{maximum}-\text{minimum}}{\text{Number of level}} \\ &= \frac{3-1}{3} \\ &= 0.6 \end{aligned}$$

- Low level of perception: The score is < 1.0 – 1.6
- Moderate level of perception: The score is between 1.7 – 2.3
- High level of perception: The score is > 2.4 – 3.0

The total perception score were categorized in 3 levels as below:

- Low level of perception: The score is < 66.6 (< 60%)
- Moderate level of perception: The score is between 66.6-88.8 (60-88%)
- High level of perception: The score is > 2.4 – 3.0 (>80%)

Part V Cues to action: This part consists of 4 questions with 23 answers to ask about the source and media that the respondents received information of immunization. The respondents could choose more than one option.

7. Building and developed the research instruments

A questionnaire was developed according to the study objectives and conceptual framework. The thesis advisor, experts, colleagues and thesis committee were consulted. The final questionnaire was finalized.

7.1 For content validity are used by 3 experts as follows:

- Dr. Khamla Singdathong Director of EPI Programme
- Dr. Song Chanthavongsa, Manager of Development Health Programme
- Dr. Phouprasong Somphou, Teacher in National University of Laos, Faculty of Health Science

7.2 For the reliability

The first pre-test was conducted to 30 respondents in another district in Vientiane Province in first week of May 2013. After receiving the data, the part of knowledge was analyzed for reliability by KR20 and the reliability value of 0.58. Cronbach's Alpha coefficient was used for validity about the part of perception and reliability value of 0.81, but in that part containing five choices as agree, not sure, disagree are not suitable for target group as they confused the terms. So some questionnaires were modified for knowledge part as well as perception part with there choice of agree, not sure and disagree. The second pre-test, the KR20 of knowledge was reliability of 0.63 and Cronbach's alpha of perception was reliability of 0.71, respectively.

After pre-testing and testing for reliability and validity then questionnaire was modified before using for data collection in this study.

8. Data Collection

Data was collected by means of structured interview which was closely supervised by my supervisors. The research team was accompanied by 5 district health staffs 3 males and 2 females. These interviewers were trained for 1 day before data collection procedure. The data collection was spent 2 weeks from middle of June to end 2013. The questionnaire was first prepared in English and then translated in Lao version.

Co-ordination with Provincial Health Department and District Health Office to request approval and conduct of the research workshop to explain the objectives of the research, process and methodology; formative research team and train of the using research instrument including practice and selection data with question form. This process will spend around one month.

9. Ethical Consideration

The research will follow ethical principles and considerations as follows:

9.1 This proposal has to be approved by the faculty of Graduate Studies, Sukhothai Thammathirat Open University

9.2 The informed letter to Provincial and District Health Office was already sent from Director of ... Sukhothai Thammathirat Open University for permission of study in Mueang Fuang District Vientiane Province Lao PDR

9.3 Incorporate issues of equity into research design including gender, culture, language, education, geographic location, and poverty.

9.4 Ensure informed consent of participants in the research including assurance that the respondent can decline answering questions if they choose.

9.5 Confidentiality of all interviews. The name of respondents will not be recorded, the privacy has to be protected during interview session and the questionnaire sheets will be destroyed after data have been entered and analysed.

9.6 Ensuring adequate notification to research respondents of research schedule and that the research is conducted at a time and in a location that is acceptable to the respondents.

10. Data Analysis and Statistics Used

After examination and correction of each returned questionnaire, some unqualified answer and paper unsuitable were cleaned for data analysis. The stored data was processed by SPSS 18. After entering all data to SPSS the computer processed on analysis data was done and conclusion as follows:

10.1 Descriptive Statistics: to summarize the population data by describing what was observed in the sample numerically or graphically. Numerical descriptors include mean and standard deviation, while frequency and percentage are more useful in terms of describing categorical data.

10.2 Inferential Statistics: Because of dependent variable is a nominal scale so we will use inferential statistics for data analysis by techniques like Chi-square and Fisher's exact test to analyze the correlation between as maternal perception, information of immunization, and maternal attitudes between of sample groups. Determine the significant level at 0.05

