

## CHAPTER 3

### METHODOLOGY

This descriptive correlational study was conducted to describe the perceived fall risk factors and falls preventive behaviors among elder living in community-dwelling and to examine the relationship between perceived fall risk factors and falls preventive behaviors among the elderly in community, Yala province.

#### Population and Subjects

**Population:** The population of this study was the elderly people living in community, Yala province.

**Sample:** This research used cluster sampling to recruit subjects from the elderly population who living in community, Yala province. Yala province was divided into two zones according to a high population density and geographical conditions (Yala Education Service Area Office 1, 2005). Zone one consisted of 3 districts (Muang, Kong-Pe nang and Raman) and Zone two consisted of 5 districts (Yaha, Kabang, Bannangsata, Tanto, and Batong). The elderly population in Yala province equal to 44,058 (Zone one: 28,676, Zone two: 15,382) (Yala Provincial Public Health Office, 2005). The sample size for this study was calculated by Yamane's formula (Yamane, 1967). The figures in the formula are:

$$n = \frac{N}{1 + (N)(e)^2}$$

N = Elderly people in Yala Province n = estimate sample size

e = error estimation, this study used 0.05

$$n = \frac{44058}{1 + (44058)(0.05)^2} = 396.40$$

The result of the sample calculation was 396 persons. The sample come up with 400 subjects and divided into 200 subjects per zone. After find the sample size, the investigator uses simple random sampling one district from 3 districts in zone one and one district from 5 districts in zone two; they were Muang and Bethong. Then simple random sampling one tumbon for each district, there were Lam pha ya and Ta noh mae roh. The 200 subjects from each tumbon were recruited by simple random sampling (Figure 2). The inclusion criteria for subjects consisted of the followings: age 60 years old or older both male and female, must be well oriented, and able to communicate

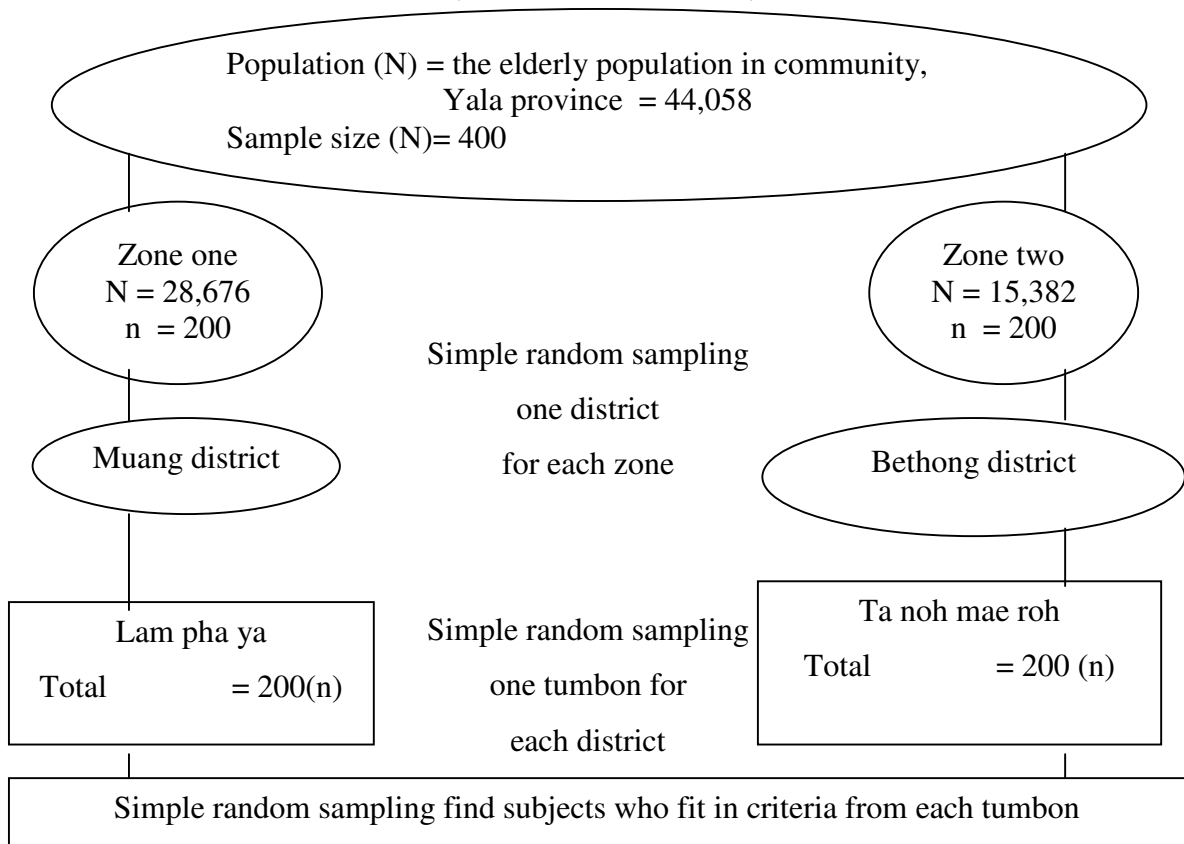


Figure 2 Steps for selecting sample in this study

## Instruments

The instruments used in this study were a questionnaire developed by the investigator after reviewing the literature and related research, which comprising 4 parts as follow:

**Part 1: Demo characteristics:** There were age, sex, religion, marital status, educational level, occupation, financial status, and living situation.

**Part 2: Health Related Demo Characteristics:** There were 8 questions which sought information on health history.

**Part 3: Perceived Fall Risk Factors Questionnaire:** This questionnaire consisted of 20 items and 4-Likert scale ranging from strongly disagree (1) to strongly agree (4). These 20 items were classified into 2 subscales; item 1-10 were measured perceived intrinsic fall risk factors and item 11 -20 were measured perceived extrinsic fall risk factors. The total scores ranged from 20 to 80, whereas the scores for each subscale ranged from 10 to 40. The higher scores indicated higher level of perceived fall risks factor. Scores of the perceived fall risk factors and its 2 subscales could be classified into 3 levels; high, moderate, and low level.

Table 1

*The level of perceived fall risk factors.*

Variable	Low level ( $\leq 60\%$ )	Moderate level (61%-79%)	High level ( $\geq 80\%$ )
Total scores	20-48	48.1-64	64.1-80
Perceived intrinsic fall risk factors	10-24	24.1-32	32.1-40
Perceived extrinsic fall risk factors	10-24	24.1-32	32.1-40

**Part 4: Falls Preventive Behaviors Questionnaire:** The questionnaire consisted of 28 items and 4-Likert scales ranging from not practice (1) to always practice (4). This questionnaire about falls preventive behaviors from intrinsic falls risk factors had 15 items and 13 items were extrinsic falls risk factors. This questionnaire had 26 positive questions and 2 negative questions. These 28 items were classified into 2 subscales; item 1 – 15 used to measured falls preventive behaviors that related to intrinsic falls risk factors and item 16 – 28 used to measured falls preventive behaviors that related to extrinsic falls risk factors. The 28 items yield a score 28 – 192 whereas the score for each subscale range from 15 – 60 and 13 – 52. Scores of the falls preventive behaviors and its 2 subscales were classified into 3 levels; high, moderate, and low level.

Table 2

*The level of falls preventive behaviors.*

Variable	Low level (≤ 60% of total scores)	Moderate level (61%-79% of total scores)	High level (≥ 80% of total scores)
Total scores	0-115.2	115.3-151.9	152-192
Falls preventive behaviors related intrinsic falls risk factors	0-36	36.1-47.4	47.5-60
Falls preventive behaviors related extrinsic falls risk factors	0-31.2	31.3-41	41.1-52

### **Testing validity and reliability**

**Validity:** The content validity of the Demo Characteristics, Health Related Demo Characteristics, Perceived Falls Risk Factors Questionnaire, and Falls Preventive Behaviors Questionnaire were validated by five experts, including 2 geriatricians, 2 gerontological-nursing instructors, and 1 social worker who worked with the elderly.

**Reliability:** Internal consistency of the two instruments was tested among 20 elderly who had similar characteristics as the study subjects. Cronbach's alpha coefficient was computed to test the reliability of the Perceived Falls Risk Factors Questionnaire and the Falls Preventive Behaviors Questionnaire. The reliability of the Perceived Falls Risk Factors Questionnaire and the Falls Preventive Behaviors Questionnaire were 0.84 and 0.88 respectively.

### **Protection of Human Subject**

1. Prior to data collection, to assure the protection of the human rights of the subjects, and inform consented to the subjects.
2. The investigator/research assistants introduced and told the subjects objectives of the study, the data collection process, and expected research outcomes before interviewing.
3. The subjects were informed of their rights and that they could request information from the investigator/research assistants at anytime if they didn't understand anything about the study.
4. The subjects could cancel their participated and/or withdrawal from the study anytime if they want, and they weren't affected in anyway.

5. Data were secure during the study.
6. Code numbers were used instead of the name of the subjects, which remained confidential, and the results would be reported as group data.

### **Data collection**

Data collection was carried out by interview using the questionnaire as a guide.

The steps involved in data collection were;

1. After obtained permission from Faculty of Nursing, Prince of Songkla University, a letter asked for permission to collect data in the Lam pha ya, Muang district and Ta noh mae roh, Bethong district were sent to the head of Yala Provincial Public Health Office.

2. After received permission, the investigator made direct contact with the head of Lam pha ya and Ta noh mae roh health center. Then requested the name list of people aged 60 and older living in Lam pha ya and Ta noh mae roh. Screened of subjects was based on the inclusion criteria.

3. Prepared research assistants, the investigator who selected three research assistants to data collection because of a large number of sample sizes (400 subjects). The 3 research assistants, who were the registers nurses worked in these area. They could speak Thai and Yawi languages. There were two steps. Firstly, the investigator recruited research assistants. Secondly, the investigator trained and supervised the research assistants. The investigator explained the data collection protocols to the research assistants including clinical phenomenon, the objectives of the study, recruitment the potential samples, informed concern, explains all items in the

questionnaires, demonstrate interview technique to them, and later observes their interviews. Any problems or unclear items were discussed.

4. Co-operated with public health volunteers in each area to get address details and access to subjects. Approach each potential subjects by giving verbal explanations to the subjects by the investigator/research assistants including the objectives of the study, the data collection processes, expected research outcomes, the confidentiality assurance, and their right to participate in or withdraw from the study at any time during the study period.

5. Obtained informed consent from every subject before starting the interview.

6. The investigator/research assistants interviewed each subjects by reading each statement to the subject and recoding their response on the answer sheet.

7. Controlling the extraneous factors, such as family members were not allowed to involve in answer the question.

8. Carefully checked for miss items, and ask subjects to complete all of the questions.

9. The subjects were appreciated for their participation. In order to prevent or minimize bias, only the investigator/research assistants conducted the data collection. It took about 40-45 minutes for each person to answer questionnaires.

### **Data analysis**

The Statistical Package for Social Science (SPSS) was used for data analysis. The procedures were carried out according to the objectives and the level of

measurement of the variables. Both descriptive statistics and inferential statistics were used in this study. The analysis was divided into the following parts.

1. Frequency, percentage, range, mean, and standard deviation were used to describe the demo characteristics and health related demo characteristics.

2. Percentage, range, mean, and standard deviation were used to identify the level of perceived fall risk factors and falls preventive behaviors.

3. Pearson's product moment correlation coefficient was used to determine the relationship between perceived fall risk factors and falls preventive behaviors.