CHAPTER IV

METHODOLOGY

This study uses an exploratory and descriptive research design. It employs both quantitative and qualitative methods to assess the health needs, the accessibility to health services, the presence and level of depression and the quality of life of adolescents in the Klong Toey Slum community in Bangkok.

This chapter is comprised of research design, study community, study population, sampling and the key processes that involve community organizations . It also includes measurement, data analysis, limitations of the study and ethical issues.

4.1 Research Design

The research design of this study is an exploratory and descriptive study. The results from qualitative data collection both in-depth interview and focus group discussion from various groups had been summarized for the baseline information for development of the quantitative data collection tool.

4.2 Study Community and Study Population

4.2.1 Study Community

The Klong Toey Slum Community was purposively selected for this community study. This congested community was established in 1952, and is located in the area of the National Port Authority of Thailand, Klong Toey District. It is the largest slum community in Bangkok. The area is around 1,040.3 Rai (around 1.6 square km), encompassing 42 different slum communities with a population of 117,790 (BMA, 2000). There are 18,786 households with around 42,875 families (BMA, 2000).

In this slum community, there are various community organizations, including government and non- government sectors and informal community organizations that

work for community development and community health. For community health, the Health Center 41 was assigned by the Department of Health, Bangkok Metropolitan Administration, to provide health services for the people in this district. This health facility is located in the community, but isolated from the larger part of the community by the main road. By informal interview of the concerned people in the community, it was noted that most of the above community organizations worked independently. One of the most effective non-government organizations, the Duang Prateep Foundation, works in both community development and community health. It is located in the community.

4.2.2 Study Population

The study population is comprised of adolescents aged 12 - 22 years, who have lived in the Klong Toey slum community for more than 1 year. In line with the earlier study by the researcher on existing health needs in Klong Toey community, the result showed that adolescents in Thailand are older than traditionally defined (Slap, G., 1998). The culture and life-style of Thai society socializes adolescents, and thus many adolescents depend on their families until they get married or graduate or get a job. Consequently, the target population of this study is aged 12–22 years. There were 21,700 persons aged 12-22 years in Klong Toey District, according to the Bangkok Metropolitan Administration (BMA, 2000). This study attempts to focus on several potential community members to participate in improving health and quality of life of adolescents. Thus, community organizations, such as schoolteachers, housewife group, youth group, community leaders, NGO staff, GO health officers, community health volunteers, peers and parents, are recruited as key informants for this study.

4.3 Key Informants

The key informants were representatives of schoolteachers, of the housewife group, of community leaders, of health personnel at MBA Health Center, of NGO officers, of youth groups, and of the private sector which consisted of Clinics, Drug store sellers and Private hospital health personnel. The key elements of research questions asked to each key informants were their opinion about "adolescents' health needs and accessibility, their roles/responsibility towards adolescent health, whether

existing services which were provided by their groups served the needs of adolescents or not? and whether working as a partnership would be able to solve or improve adolescent health?". However, for this study, it was hard to approach the private sector for the in-depth interview, therefore the in-depth interview were conducted with the following concerned people.

Schoolteachers

In Klong Toey District, there are four schools run by the Bangkok Metropolitan Administration, four private schools and one private university. Only one primary school is located in the Klong Toey slum community. This school provides educational services for grades 1-9, with 8 teachers and one principal for 250 students. A representative of the schoolteachers was requested for in-depth interview following the in-depth interview guidelines.

Housewife group

This group was established on voluntary basis. There are around 70 members working for the community. The Duang Prateep Foundation takes a major role in the promotion of self-sustainability to the members of the group through several training programmes. In addition, the Foundation provides a micro credit fund. Four active housewives group were invited for in-depth interview.

Community leaders

The community leaders were selected as representatives of the sub-community. They work closely with the GO and NGO's for community development and health. One of active community leaders was asked for in-depth interview.

Health personnel at the BMA Health Center

A ten-bed health center is located in the community, providing both inpatient and outpatient services. The health staff consists of two full-time physicians, 2 part-time physicians, 1 dentist, 1 pharmacist, 10 nurses, 1 social worker and a few support staff. One physician and one community health nurse were asked for an in-depth interview.

NGO officers

There are several NGOs located in the community working independently. However, the oldest and best accepted in this community is Doung Prateep Foundation. The foundation provides a variety of services, including community development and community health. The Director of the Foundation was paid high respect by the people in the community because she has worked hard for a long time in this community. The foundation has several community health and community development projects. The College of Public Health, Chulalongkorn University has also been working closely with the Foundation in a community health project. Some of the key persons who work closely with young people in the community were requested for in-depth interview.

Youth groups

This group was established for young people who volunteer to work for their community. They work closely with other community committees and the Doung Prateep Foundation, targeting the youth in community. One of the active youth representatives was invited for in-depth interview.

4.4 Sample Size

In line with the literature review about adolescents' accessibility to health care services, some studies mentioned descriptively that adolescents had limited access to health services, such as contraceptive services and sexual health information (Pimpawan Boonmongkon et al., 2000). Unfortunately, there was no quantitative study that showed the percentage of adolescents' accessibility to health care services in Thailand. Moreover, there are no estimates of adolescent health available (general, mental health, depression) or QoL. With reference to the report of the Behaviour Surveillance Survey of Seven Target Groups in Bangkok, 2002 , the results of the survey among school adolescents revealed that 19.7% of them reported being sexually active (Mahidol University, Asian Institute for Health Development, 2002). Generally, school children are not allowed sex activities, but this study indicated that some Bangkok adolescents have had pre-marital sex, it shows the sign of adolescent reproductive health problems. In addition, the study by Guzman, D.A. (1999) on Adolescent Sexual Health in Klong Toey Slum Community indicate that 19% of the

sample have had sexual activity. Therefore, the calculation of the sample size in this study was based on the assumption that around 20% of adolescents have had pre-marital sex and that most of them were unable to access to health services for their sex activities. Thus, the formula to calculate the sample size is

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

$$n = \frac{(1.96)^2\,(0.2)(0.8)}{(0.05)^2}$$

$$n = 246$$

(the recruitment was 294 cases after the addition of 20% for sample loss for each gender) For gender comparison, total sample is multiplied by 2, therefore, Total sample size = 294 x 2 = 588

n = estimated of sample size

Z = standard normal score at significance level at 0.05 = 1.96

P = the proportion of adolescent with pre-marital sex. "p" = 0.2 (Asian Institute for Health Development, 2002)

d = absolute precision of this study is 0.05

Although the calculation of sample size was 588, data was collective by questionnaire for 1,000 adolescents, because the difficulties of collecting information on the young and older adolescents were recognized during the data collection. These questionnaire were completed for 871.

4.4.1 Eligibility Criteria

Inclusion Criteria

1. Adolescent aged 12–22 years residing in Klong Toey Slum community more than 1 year
2. No communication problems, able to read and write Thai
3. Informed consent (both adolescent and parent if possible)

Exclusion Criteria

1. Adolescent severely ill or mentally retarded
2. Adolescent who have planned to leave this community for study or work within 1 year.
3. Adolescent who are not willing to participate in this study

4.4.2 Sampling technique

In order to locate the subjects for data collection, multi-stage sampling had been used.

Step 1: Klong Toey slum community was selected by purposive sampling. Since the College of Public Health has been working closely with the people in this community, rapport and familiarity with the people and community organizations were established some time ago, which is an advantage for this research project, particularly for both the quantitative and qualitative data collection.

Step 2: Random sampling of cluster/sub- community was applied to select sub-communities in Klong Toey slum, the road and the small canal were used as a boundary for dividing the clusters (community map: Annex B).

Step 3: Systemic random sampling was chosen for households in each sub-community. The entry point for data collection was the next door of the community leader or community health volunteer's house of each cluster. Each cluster, the community leader/community health volunteer were asked for their assistance to introduce the research team to the adolescents' parents/guardians for adolescent interviewing. The population census of each sub-community was asked from community leaders for data collection, unfortunately some of them were not available, some were not up to date and insufficient information.

Step 4: The subjects were selected by simple random sampling at their household, 1 adolescent of each household was recruited as the following:

- Availability of adolescent at the household. A door to door visit was conducted for screening the availability of adolescents in each household. Willingness to participate for this study, the research team asked the permission from the adolescent's parent/guardian to allow his/her children to be interviewed, moreover the willingness of adolescent itself is our concern as this study needs truthful information.
- Selection the subject, in case, there were two or more adolescents in the household, the subject was selected by the first birth date of all adolescents amongst that household (for example, whoever was born on the 1st of the month or closed to the 1st. of the month was the first priority for selected as the subject).
- however, it depended on the willingness of the subject to participate in this study.

The data collection was self-administered questionnaire for adolescents over 15 years old. As this questionnaire compose of some sensitive issues such as sexual activities, STDs and so on, the self-administered questionnaire might make adolescents feel more privacy to answer the above issues. Moreover, for this age group, they are fluency on reading, writing and easily understand how to response the questionnaires. However, a well- trained interviewer was assigned to facilitate and explain the objectives and how to complete the questionnaires for individual respondent. For adolescents aged less than 15 years, trained interviewers conducted the interviewing then recorded the answers according to the responses to the questions.

4.5 Data Collection Procedure

Qualitative and quantitative data collection were conducted to answer all research questions of this study.

4.5.1 Qualitative Data Collection

The qualitative method was conducted for the in-depth information.

Community mapping

The community study by community mapping provides a picture of the community such as the location, general characteristics, relevant demographic feature of residents, the public facilities setting, the setting of households and so on. This process also includes community observation in term of physical setting, social interaction, community events, documenting community resources, services currently available and the perceptive of community residents on services in the community (please see the map).

Observation

The observation provides information about actual behaviour of young people in the community. The unstructured observation was conducted for observation of the interaction of young people in their physical environment and social context.

In - depth interview

In-depth interviews were conducted in various groups who are involved in adolescent health programs. These were including health officers of Health Center 41, Duangprateep Foundation's staff, community leaders, youth leaders, house wife group and adolescents to explore their knowledge and attitude regarding to adolescent health and their contribution related to adolescent development program in this community. The in-depth interview guideline was prepared for the above groups. A snowball technique was adopted for selecting the key informants for in- depth interviews. All of the interviewees cooperated well by answering all questions. Those interviewed included;

- 2 Health Center officers
- 1 School teacher
- 2 Duang Prateep Foundation officers
- 4 Housewives from housewife group
- 1 Community leader

- 2 Community health volunteers
- 1 Youth leader

In-depth interviews were conducted and with prior consent of the interviewee tape recorded using an interview guideline It took half to one hour for the interview with good collaboration from the interviewees. In some instances, the interviewer and interviewee, had known each other for a couple years.

Focus group discussion

A group of adolescents both in school and out of school were recruited as a participants for the focus group discussions, to understand their needs both in term of health and non-health issues, their health -knowledge and access to existing health services and, in addition, to explore their perceptions regarding the existing services. The focus group discussion were divided by gender and schooling. The groups were prepared for homogeneous group (out school and schooling group separately) to make participants feel free during the discussion. There were 5 groups with 5 - 9 participants per group as follows;

Group 1: Both gender – students in secondary school or more (6 persons)

Group 2: Female students (8 persons)

Group 3: Female - out school (7 persons)

Group 4: Male students (9 persons)

Group 5: Male – out school (5 persons)

The first focus group discussion was conducted aimed to gain more understanding about adolescents' health/ problem and their perceptions towards QoL. The finding of the focus group was the information source for the development of the further FGD guideline and questionnaire (in the term of general information, health needs, accessibility/utilization). The focus group discussion guidelines was carefully developed based on the conceptual framework for this project. A well - trained moderator and a note taker were needed for this data collecting technique. The focus group discussion's participants were recruited by a snow ball technique. Most of them were nominated by the local NGO staffs, some were nominated by community health

volunteers/leaders. The four focus group discussions were scheduled during the weekend and the timing per group was approximately 1-1 ½ hour. The discussion of each group was taped recorded with prior permission of the participants.

4.5.2 Quantitative Data Collection

a) Interviewers and field supervision were trained so that each had the same understanding about data collection procedures and the details of each question of the questionnaires.

b) Data collection was conducted among the adolescents aged 12-22 year in the slum community using a household survey.

c) To maintain the quality of the data collected, a number of procedures (interview manual) had been established, including pre-coded forms. In addition, the field supervision were trained before starting data collection for monitoring and supervision the interviewers.

d) The household survey was conducted during the week-day evenings (5-7 PM) and the full time survey was organized during the weekend and national holiday. It took one and a half months for the household survey.

e) The interviewers met with the researcher two – three times per week for follow up and consultation.

There were several steps of data editing before data coding, including spot-checks by the researcher. The ethical issues, such as identity and confidentiality was maintained through anonymity. Therefore, it is hoped that the adolescents will be able to express their real opinions for this study. For more understanding, the figure 4.1 indicated the data collection procedure.

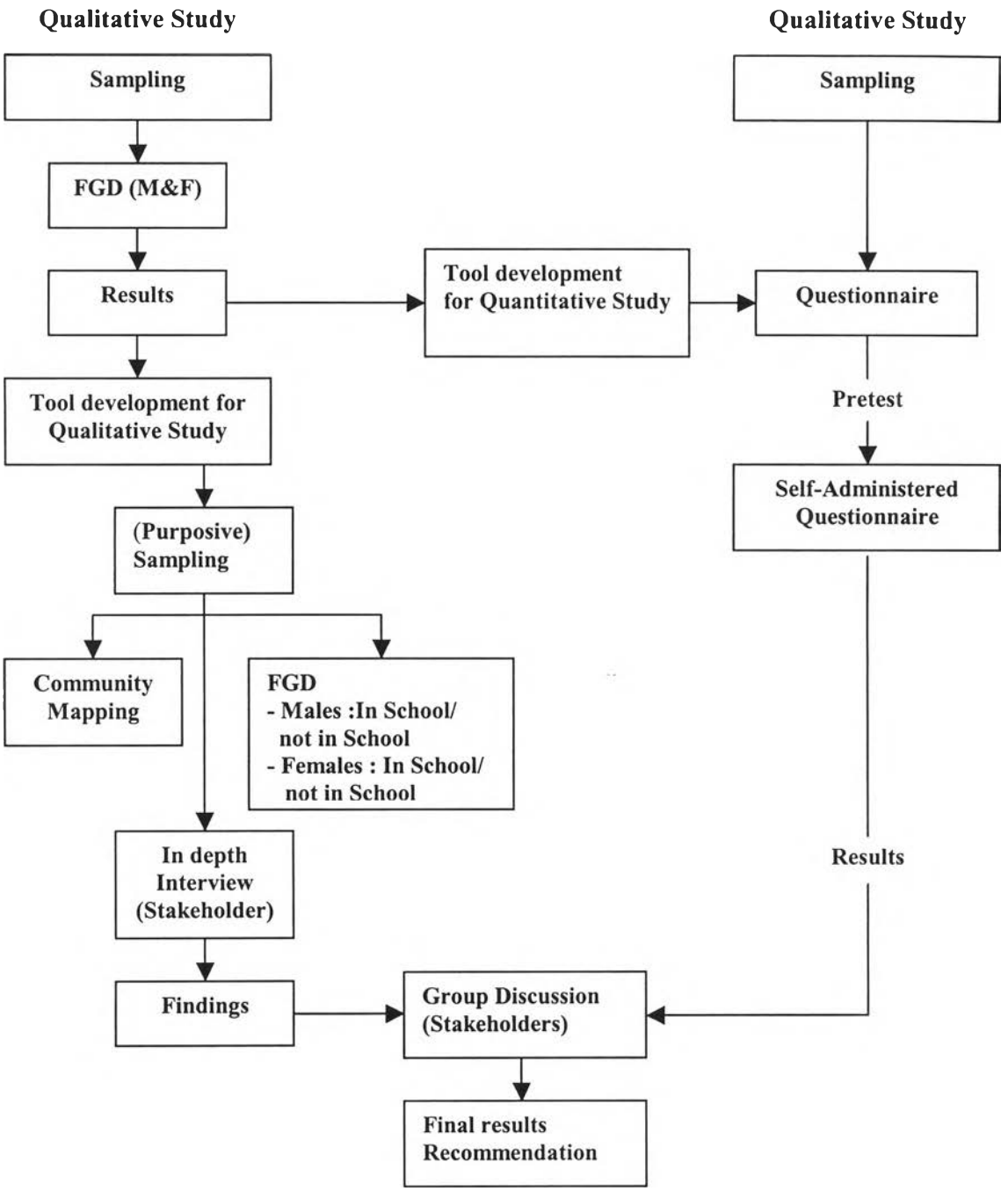

Figure 4.1 : Data collection procedure

4.5.3 Validity & Reliability

In doing research, whatever the research design and variables selected, the primary concern is that the conclusion of the study be valid and reliable.

Validity refers to the degree to which scientific observations actually measure or record what they propose to measure (Harton, A et al., 1995). There are three types of validity: 1) content validity, 2) criterion related validity and 3) construct validity (Devellis, F.R., 1991). For this study, the researcher adopted content validity. The literature review was conducted to develop a draft questionnaire, then the experts in the filed of adolescent health was identified to review the instrument for data collection both qualitative and quantitative. In addition, the instrument was reviewed by adolescents for appropriate wording as used among adolescents. The revision of the instrument was done under the guidance of the experts.

For the reliability is often closely related to the matter of validity, but refers to the repeatability of scientific observations (Harton, A et al., 1995). It refers to the reproducibility and consistency of the instrument, and the degree to which it is free from random error. The pre-testing of the instrument for 30 cases was conducted in a non-target slum in Bangkok. The internal consistency of the questionnaires was calculated by Cronbach's alpha. A reliability coefficient of 0.7 or more is considered as achieving adequate reliability. According to the pre-testing it found that the Cronbach's alpha of the instrument was 0.8, therefore, it is considered as adequate reliability. Moreover, the methodological triangulation was used for reliability, these included in-depth interview, focus group discussion and household survey. Triangulation refers to the combination of different kind of data or data collection methods within a single study, there were 3 types of triangulation, these are 1) *methodological triangulation*, in which multiple data collection methods are used to a single study, 2) *investigator triangulation*, in which different investigators are used to study the same problem and 3) *theory triangulation*, in which the use of different perspective are applied to interpret a single set of data (WHO, 1996c). In term of qualitative study, the methodological triangulation (unstructured -observation, in-depth interview and focus group discussion was also applied for the reliability of this study.

4.6 Measurements

There were 5 sets of variables were measured. These included variables related to;

a. Socio- demographic factors
b. Health needs/problems
c. Accessibility to health services
d. Depression (the CED-S)
e. Quality of life (the WHOQoL –BREF)

Table 4.1 shows the variables, measurement scale and the statistic inference for this study.

Table 4.1: Variables, Measurement Scale and Statistic Inference

Variables	Measurement Scale	Statistic Inference
A) Social-demographic		
Age	Ratio Scale	Percentage, Mean, S.D.
Gender	Nominal Scale	Number, Percentage
Education	Ordinal Scale	Number, Percentage
Household income	Ordinal Scale	Percentage, Mean, S.D.
Household expenses	Ordinal Scale	Percentage, Mean, S.D.
Family relation	Ordinal Scale	Frequency, Percentage
Peer relations	Ordinal Scale	Frequency, Percentage
B) Health needs/problems - Sexual and reproductive health, - Injury and violence - Substance abuse - Mental health	Nominal Scale	Frequency, Percentage
C) Accessibility to health services		
Geographic accessibility	Nominal Scale	Percentage, Mean, S.D.
Availability	Nominal Scale	Percentage, Mean, S.D.
Affordability	Nominal Scale	Percentage, Mean, S.D.
Acceptability	Nominal Scale	Percentage, Mean, S.D.
D) Quality of life		
Physical Health	Ordinal Scale	Percentage, Mean, S.D.
Psychological	Ordinal Scale	Percentage, Mean, S.D.
Social relationship factors	Ordinal Scale	Percentage, Mean, S.D.
Environment	Ordinal Scale	Percentage, Mean, S.D.
Depression	Ordinal Scale	Percentage, Mean, S.D.

For this study, both qualitative and quantitative methods were adopted to address all objectives.

4.6.1 Qualitative Measures

Qualitative research has special value for investigating complex and sensitive issues. These also can help the researcher to achieve a deep understanding of how people think about the certain topics

Trochim W. (2002). Generally, qualitative data can obtain by observation, in-depth interview, and focus group discussion.

4.6.2 Quantitative Measures

Quantitative methods are used to quantify the size, distribution and association of certain variables of the study population (IDRC, WHO 1991).

4.7 Data Analysis

Data analysis will be conducted according to the following steps:

1) Data from filed note from qualitative study were compiled. The content analysis were used for the analysis.
2) Data from the questionnaires were checked and cleaned by the researcher and team.
3) Descriptive statistics, i.e. number, percentage, distribution, and mean of each, questions and variables obtained. Most of the results were presented by gender and by stage of adolescence (age group).
4) Analytical analysis:
    a. Univariate analysis: Chi-square had been used to compare the mean scores for accessibility, the level of quality of life, the level of depression between males and females.
    b. Multivariate Analysis: Logistic regression was used in order to find out the determinants of accessibility
5) Testing of the hypotheses will be performed at a 5% level of significance.

For more understanding about data, the table 4.2 indicated the data collection procedure

Table 4.2 : Frame of the Study

Objectives	Indicators	Research Tools	Statistical Calculation
1. to determine the nature and extent of Adolescents' existing services	type / number of services	In-depth interview FGD	Frequency
2. to determine the health service needs and the utilization of existing health services in terms of geographic accessibility, availability, affordability and acceptability for the overall group of adolescents studied and by gender and stages of adolescence (age)	% of adolescent has access and utilize health services by gender and by age group	Questionnaire	Chi-square test FGD
3. to compare the difference in term of health service needs regression utilization of health services for the overall group of adolescents studied and by gender and stages of adolescence	Association with accessibility/ utilization of health services by gender and age group	Questionnaire	Logistic
4. to assess the depression level of adolescents using the Center for Epidemiologic Studies Depression Scale (CES-D)	% of adolescent with /without symptomatology depressive	Questionnaire	Chi-square test
5. to define the meaning of QoL as perceived by adolescents, by gender	meanings	FGD	Frequency
6. to measure the quality of life of adolescents using the modified WHO/QoL instrument	% of adolescent with poor / moderate / high QoL	Questionnaire	Chi-square test
7. to develop an intervention /evaluation program for improvement the health services accessibility, the alleviation of depression and improvement of the quality of life of adolescents through community partnerships	plan of action	In-depth interview	-

4.8 Ethical Considerations

Ethical Consent from the Health Sciences Review Board Committee, Chulalongkorn University was obtained prior to beginning the study. All of the participants and the subjects were informed about the objectives and the processes of the study. Informed consents from adolescents and their parents or care-takers was required. Adolescent consent has been taken before conducting the research. The confidentiality of the data obtained during the study and anonymity was maintained. Households were surveyed only with the permission of both interviewees and their parent if age less than 18. For this research, the privacy of the participants was fully respected. The household interviewers, who were well trained, assisted the researcher during data collection.

4.9 Limitation

Existing Data

There were some limitation about the accuracy of base line data for the situation analysis phase, the previous record and report of some community organizations are not available.

Time

As most adolescents were in school or in their workplace, for data collecting, the proper time was in the evening or at the weekend,. However, we found that during the weekend some of them were away from home for their recreation in various places such as shopping malls, play grounds, football fields and the computer–game shop.

Adolescents (samples)

As per the ethical consideration regarding to the voluntary participation in this project, it found that in some households, elderly adolescents refused for the interviewing, he/she suggested that his/her younger sibling be interviewed instead.