CHAPTER 3

RESEARCH METHODOLOGY

3.1 **Research Questions:**

1) What is the level of knowledge of nursing students regarding HIV/AIDS ?
2) What are nursing students' attitude regarding taking care of HIV/AIDS patients ?

3.2 **Research Objectives:**

1) To assess the knowledge of nursing students about HIV/AIDS in three nursing campuses of Kathmandu, Nepal.
2) To determine the attitude of the nursing students' towards caring of HIV/AIDS patients.

3.3 **Research Hypothesis:**

1) There is difference at statistical 0.05 level in knowledge about HIV/AIDS among the 1st, 2nd and 3rd year nursing students of the three nursing campuses in Kathmandu, Nepal.
2) There is difference at statistical 0.05 level in attitude regarding taking care of HIV/AIDS patients among the 1st, 2nd and 3rd year nursing students of the three nursing campuses in Kathmandu, Nepal.

3) The knowledge score about HIV/AIDS of those who have experience in taking care of HIV/AIDS patients would be higher than those who do not have experience in taking care of HIV/AIDS patients.

4) The attitude score about HIV/AIDS of those who have experience in taking care of HIV/AIDS patients would be higher than those who do not have experience in taking care of AIDS patients.

3.4 **Operational Definitions.**

Knowledge: The knowledge is defined by the understanding of the nursing students regarding content of AIDS. The knowledge includes etiology/clinical aspects, transmission, prevention, management and care of HIV/AIDS patients, universal precautions and status of HIV/AIDS in Nepal.

Attitude about HIV/AIDS Patients: The feelings of the nursing students in favorableness or unfavorableness towards person with HIV/AIDS, occupational exposure to HIV/AIDS, willingness to care for HIV/AIDS patients and the use of universal precautions in nursing practice.

Nursing Students: Students who are studying at certificate level in three year nursing program in three nursing campuses of Kathmandu, Nepal. The three campuses are Lalitpur nursing campus, Maharajgunj nursing campus and Bir Hospital nursing campus.

HIV Positive: HIV positive is defined as a person who has been diagnosed with Human Immunodeficiency Virus (HIV).

AIDS: According to WHO clinical case definition, AIDS is defined by the presence of HIV with at least two of the major signs plus at least one minor sign of Acquired Immuno Deficiency Disease.

Major Signs of AIDS:

1. Loss of weight (more than 10% of the body weight)
2. Chronic diarrhoea (more than one month)
3. Prolong fever (more than one month)

Minor Signs of AIDS:

1. Persistent cough for longer than one month
2. Recurrent herpes zoster
3. Oropharyngeal candidiasis
4. Generalized lymphadenopathy
5. Chronic aggressive herpes simplex infection
6. Generalized pruritic dermatitis (20).

3.5 **Research Design**

The study design was descriptive study to assess the knowledge regarding HIV/AIDS of nursing students and to determine the attitude of nursing students about the care of HIV/AIDS patients in three nursing campuses of Kathmandu,

Nepal. There were three parts of questionnaire to use for data collection. The design included : study area, population and sample with eligible criteria and sample.

3.5.1 **Study Area:**

There are seven nursing campuses in Nepal (Table 1.5). Four of these campuses are in three different zones and the other three ursing campuses are in Kathmandu in central zones. The study was conducted in these three campuses of Kathmandu i.e. Maharajgung Nursing Campus, Bir Hospital Nursing Campus and Lalitpur Nursing Campus.

3.5.2 **Population and Sample:**

Target Population:

The population is the total group of persons that meets the designated set of criteria established by the researcher to whom the result of the study could be generalized (Seaman, Catherine H.C.,(1987). In this study the target population was all nursing students of seven nursing campuses of Nepal who were studying in the academic year of 1996. The number of target population was 776 students. (Table 1.5).

Population Sample:

The population sample was the population drawn from the target population for the study. For the study population, the central region was selected from four regions. Three nursing campuses of central region were included in the study. So the population sample in this study were all three year certificate nursing students of the three campuses in Kathmandu i.e. 386 students enrolled in the year 1996 and who were eligible when inclusion criteria was followed.

Eligible Criteria:

1. **Inclusion Criteria**

1). All nursing students of three campuses in Kathmandu who were studying in the 1st, 2nd and 3rd year of certificate level of nursing program in the academic year 1996.

2). All nursing students who were willing to participate in the study.

2. **Exclusion Criteria**

1). Nursing students of other four nursing campuses of other zones were excluded.

2). Nursing students who were not willing to participated in the study.

Sample:

The population of interest consisted of all three year nursing students studying in a certificate level program in Nepal. They were all female students. A purposive sampling technique was used to collect data. Out of seven nursing campuses in Nepal, three campuses were selected. All these three campuses are in Kathmandu capital. All three year nursing students from three campuses participated in the study except 22 students from Maharajgung nursing campus, 11 from Bir Hospital nursing campus and 2 from Lalitpur nursing campus. Out of the total 386 students in three campuses in the academic year 1996, 9 were sick and 26 were absent on that day. The data was collected from 351 students. Thus, the sample size used in this study was 351. 126 (35.9%) of the students were those who participated in the study from Maharajgung nursing campus, 128 (36.5%) were from Lalitpur nursing campus and 97 (27.6%) were from Bir Hospital nursing campus. The actual number of students in each campuse, in the academic year 1996 and the number of the respondents who participated in the study are shown in Table 3.1.

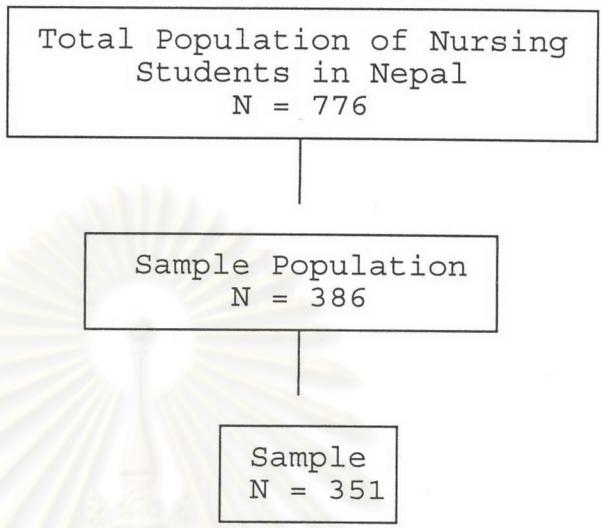
Table 3.1 Nursing campus and the year of the nursing students participated in the study

Nursing Campus	1st yr studs A	1st yr studs B	2nd yr studs A	2nd yr studs B	3rd yr studs A	3rd yr studs B	Total A	Total B
Maharaj	48	43	50	44	50	39	148	126
Lalitpur	45	45	45	44	40	39	130	128
Bir Hospital	40	35	38	36	30	26	108	97
Total	133	123	133	124	120	104	386	351

* A is the actual number of students in the academic year 1996

* B is the number of those who participated.

Figure 3.1. Sampling frame:



The sample population was 386 which was taken from the three campuses of Kathmandu only. The other four campuses were in four different zones. It was not convenient to take all the nursing students as sample. So the sample size was 386 from three campuses of Kathmandu, central region only.

3.6 **Measurement:**

The outcome measurement were divided into two variables which were dependent and independent variables. The following outcome attributes were measured in this study.

Dependent Variables

1). Knowledge about HIV/AIDS

2). Attitude regarding care of HIV/AIDS patients.

Independent Variables

Demographic variables

1). Year in nursing campus

2). Age

3). Marital status

4). Religion

5). Experience in taking care of HIV/AIDS patients

3.6.1 Measuring Instrument:

Validity and Reliability of the Measuring Instrument

A good research instrument should have at least two major qualities, validity and reliability.

Validity:

Validity is the degree to which the methods and its measurement process provide precise and correct measurement. Content validity is the major focus for this study.

Content Validity:

In this study, content validity was concerned with whether the instrument adequately covered the content in six areas (etiology/clinical aspects, transmission, management and care, prevention, universal precaution and the AIDS status of Nepal) and measured what it supposed to measure. The

investigator developed the questionnaire by consulting experts, literature review, review of other available instruments measuring these concepts and from the original questionnaire developed by Oerman and Gignac with permitted modification. To evaluate content validity of the instruments the questionnaire was shown to 3 experts in Thailand and 4 experts in Nepal. All experts have experience in the related subjects and requested to comment on the content, completeness and clarity of each item in the questionnaire to judge whether the scale was appropriate for the intended purpose or not and to give some suggestions. Then according to the experts' suggestions seven items were deleted from knowledge questions and ten items from attitude questions, one item was modified from demographic part, three items from knowledge questions and one item from attitude portion. Four items were added in knowledge part and six items were added in attitude questions.

Reliability:

For reliability assessment of instrument for measuring knowledge and attitude, internal consistency was tested. Kudar Richardson 20 formula was used for knowledge portion, because the method is appropriate for measuring knowledge with dichotomous variables. Cronbachs' alpha was used for attitude portion, because the method is appropriate

for items with which are answered with more than two alternative choices. The results of the reliability achievement are shown in Table 3.2.

Table 3.2 : Result of the reliability achievement

Categories	Coefficient	No of item	R
Knowledge	Kudar-Richardson	21	0.99
Attitude	Cronbach's alpha	20	0.522

3.6.2 Pretest:

The pretest of the questionnaire was conducted in one of the hospital of Kathmandu (Patan hospital) among new graduates who had just graduated for just three months.

The purposes of the pretest were as follows :

a) to check whether the questions were clear to the respondents
b) to examine the flow of answering the questions and
c) to confirm the amount of time required to complete the questionnaire.

The pretest was carried out among 10 new graduates who participated voluntarily. All subjects answered all questions completely. While reviewing their responses, the investigator found that 3 questions from the knowledge portion

were not clear, so these questions were slightly modified. Other questions were reviewed and finalized before conducting the study.

To complete the whole questionnaire, 60% of the subjects answered it in 25 minutes, 30% of the subjects required 30 minutes to answere it and 10 % required 35 minutes. The average time taken to complete the questionnaire was 30 minutes.

3.6.3 Instrument for Data Collection:

The instrument that was administered to the students for data collection was a self administered questionnaire. The content of the questionnaire was developed by the investigator by consulting experts, literature review, reviewing of other available instruments measuring these concepts and the original questionnaire developed by Oerman and Gignac with permitted modifications.

The instrument consisted of 3 parts.

The first part was the background or demographic information. There were 6 items for background and demographic information. The second part was knowledge about HIV/AIDS. There were 21 items to assess the knowledge of nursing students about HIV/AIDS.

The third part was the attitude portion to determine the attitude of the nursing students towards HIV/AIDS. There were 20 items. (Appendix 1)

Demographic Information:

The demographic information was used to gather information concerning the nursing students' personal data and experience in taking care of HIV/AIDS patients. It consisted of six items.

Nursing Students' Knowledge about HIV/AIDS.

This part of questionnaire was used to assess nursing students' knowledge about etiology / clinical aspects, transmission, management and care of HIV/AIDS patients, prevention of disease, universal precaution and status of HIV/AIDS in Nepal. It consisted of 21 multiple - choice questions. Each item had four options with only one correct response. Score for correct responses was 1 and for incorrect responses was 0. The maximum responses was 21.

Nursing Students' Attitude Towards HIV/AIDS.

This part of questionnaire was used to determine the nursing students' attitude regarding taking care of HIV/AIDS

patients. This instrument mainly measured the nursing students' attitude towards HIV/AIDS patients, students' willingness to take care of HIV/AIDS patients, fear of occupational exposure to HIV/AIDS and use of universal precaution while taking care of HIV/AIDS patients. In this section there were 20 items and used five point Likert type scale with weighted responses. The response options was ranged from strongly disagree to strongly agree. For the positive sentences the most positive response was rated as "5" and most negative response as "1" and for the negative sentences the most negative response was rated as "5" and most positive response was rated as "1". The rating score for positive attitude sentences were as follows:

1 mark for strongly disagree

2 marks for disagree

3 marks for uncertainty

4 marks for agree

5 marks for strongly agree

The rating score for negative attitude sentences were as follows:

5 marks for strongly disagree

4 marks for disagree

3 marks for uncertainty

2 marks for agree

1 mark for strongly agree

There were 7 items for negative sentences. No 3, 4, 8, 13, 15, 17 and 20 are the negative sentences and the rest are positive sentences.

The highest score was 100, this meant that the nursing student had more positive attitude towards HIV/AIDS patients. The lowest score was 20 which meant that the nursing students had more negative attitude towards the HIV/AIDS patients.

3.7 **Data Collection:**

The study was a descriptive type of research to assess the knowledge about HIV/AIDS of nursing students and to determine the attitude of nursing students towards HIV/AIDS patients. The questionnaire was used for data collection because for the descriptive survey the questionnaire is the most appropriate method of obtaining specific information. According to the Seaman, C.H.(1987) a questionnaire is one of the effective tools for obtaining information, opinion and perceptions.

3.7.1 Procedure of Data Collection:

At first, a letter was sent to each campus chief requesting permission to conduct the study (Appendix 2).

After that, a telephone call was made to make an appointment to meet with campus chief to explain the objective of the study and to get co-operation.

After making an appointment, the investigator met with the campus chief, explained the purpose of the study and obtained the permission to collect the data from the nursing students. After meeting with the campus chief the investigator met with the concerned teacher to make an appointment to meet with the students. The time was scheduled during the class hour. The investigator introduced herself and explained the statement concerning the purpose of the study (Appendix 3) and the direction of each part to write the answer. Students were informed that they could refuse to participate in the study and their refusal to participate would not affect their learning period. After explaining the procedure the questionnaire was administered. It took approximately 30 - 40 minutes to complete the questionnaires. After completing the questionnaires, students were requested to return them to the investigator and checked each questionnaire for the completeness, if any incomplete questionnaire was found, the students were asked immediately to complete it.

3.8 **Data Processing:**

Data processing is an important part of the study. The investigator again checked each questionnaire for its completeness in number and content, and I.D. number was coded in each questionnaire. Data entry was done by debase program and all data were analyzed by Epi Info and SPSS for window program.

3.9 Data Analysis :

Validity of the analysis depends on the quality of responses. Analysis interpretation of the data was done in relation to the objectives of the study.

The demographic information (regarding year in campus, age, marital status, religion and experience in taking care of HIV/AIDS patients) of the students were analyzed in frequency and percentage.

To analyze the data, the investigator first examined the demographic information in percentage and frequency distribution then examined percentage frequency distribution of responses to each of the 21 knowledge questions. Then the investigator constructed an index of the 21 items. Correct responses were given a score of "1" and incorrect responses a score of "0". The knowledge questions were

further analyzed according to six sub scales, etiology, clinical aspects, transmission, management and care, prevention, universal precaution and the status of HIV/AIDS in Nepal.

Likewise, for the attitude questions were summarized using percentage frequency distribution of responses to each of the 20 attitude questions which were measured with 5 point Likert type rating scale. Then an index of 20 items was constructed. The five responses was further grouped according to the positive and negative responses. Agree and strongly agree responses were categorized as positive responses and given a score of "1" and disagree and strongly disagree responses were categorized as negative responses and given a score of 0. Uncertainty responses were included in the negative catogary.

Attempts were made to identify differences between knowledge and attitude mean score among demographic variables.

3.10 **Statistical Test:**

Descriptive statistics for all variables in the study was performed (percentage, means and standard deviation).

One way analysis of variance (ANOVA) was used to test hypothesis to see the difference in mean knowledge scores

about HIV/AIDS among the 1st, 2nd and 3rd year nursing students. The test was also used to estimate the difference in mean attitude scores towards taking care of HIV/AIDS patients among the 1st, 2nd and 3rd year nursing students of the three nursing campuses.

Finally, because knowledge and attitude could be influenced by experience in caring for patients with HIV/AIDS, the investigator conducted a "t" test to determine whether the mean knowledge scores and mean attitude score differed significantly according to experience in caring for individual with HIV/AIDS. The details of the findings were given in Chapter IV in tables and graphs.

3.11 Ethical Consideration:

In this kind of research dealing with human beings certain ethical issues must be considered. In this study the following methods were used to protect the right of the subjects.

1. The instrument which was used in this study must be approved by the nursing campus.
2. There was no personal identification used in order to assure anonymity.
3. Permission was taken from each of the campus chief before collecting the data.

4. Subjects were given right to decide whether to take part in the study.
5. Subjects were asked for their willingness to take part in the study.
6. Confidentiality of information regarding each subject was assured.
7. Results were reported in group form.

3.12 **Limitation of the Study:**

The first limitation is the length of the time for data collection. The investigator spent more than one month for data collection. The reason for the long period consumption for data collection was the students were in the clinical field so they had class only once a week, and at the same time the bachelor level of nursing students were in their teaching learning practice, so most of the classes were scheduled for them.

Secondly, there was only few literature available from Nepal.

3.13 **Expected Benefits and Application of the Study:**

1. It is helpful in modifying the curriculum for nursing campuses for preparation of nursing students to cope with the challenge of taking care of HIV/AIDS patient which might increase in the near future in Nepal.

2. It is helpful to improve the attitude of nursing students in caring for AIDS patients.

3. The result of this study can be used by other researchers for future research in AIDS in Nepal and elsewhere.

4. It is helpful to plan the educational program in a way to provide more information about the HIV/AIDS.

5. It is helpful to the student nurses to be more conscious about the care of HIV/AIDS patients and using universal precaution while caring for HIV/AIDS patients.