CHAPTER THREE

METHODOLOGY
CHAPTER – III

METHODOLOGY

This chapter is designed to explain the methodology of the present study. In this chapter various aspects of the methodological procedures which have been followed are elaborated. To be precise, methodological aspects of this chapter deals with the study area, sampling design and sources of data, tools and techniques used for collection of data. Details of nutrition education programmes and sex education programme, framework of analysis, interpretation and presentation of the data.

THE STUDY AREA

In India, particularly in Maharashtra state, especially Western belt of Konkan i.e. Satara, Karad, Miraj, Sangli, Ichalkaranji and Kolhapur is drawing more attention about the alarming situation of prevalence of HIV/AIDS in the segmented population. Since last five years, Kolhapur district is found in the focus news of all the mass medias as the major prone area for HIV infections. The area of the present study was selected with special reference to Kolhapur city only.

In Kolhapur, certain eminent non-governmental organizations (NGO’s) and governmental schemes are playing a dynamic role for the awareness and prevention of HIV/AIDS in the population. However, their efforts are found meagre if compared to the rate of infected people among the population. Hence, the present study has been formulated
with general objectives like: to prevent furthermore risk of infection and to control the impact of this epidemic. Whereas the specific objectives are to suppress the progression of HIV to AIDS among HIV positive patients through nutrition education programme (NEP) and sex education programme (SEP) and to strengthen the life span with maintaining the quality of nutritional status of the selected HIV positive patients from the study area.

**SAMPLING DESIGN AND SOURCE OF DATA**

After having selected the Kolhapur city of Maharashtra state as a study area for the experimental research, the next step was taken to prepare a proper sampling design. At the initial research period, there was a strong prevalence of social stigma about the HIV infection. People were scared to talk about HIV/AIDS which results because of stigma. It is difficult to contact and get the proper information. As per the Law of professional ethics—doctor also could not give information about this infection. Hence, the HIV/AIDS infected samples were restricted to 52 numbers for this present research design.

**Selection of Sample:**

According to the purposive random sampling design, the primary data about names and addresses of the HIV/AIDS infected patients were collected from the records of health centres like, Chhatrapati Pramila Raje (CPR), Government hospital, different non-governmental private
hospitals in Kolhapur where these patients were taking regular treatment. Even the HIV/ AIDS patients from Kolhapur city were attending regularly the special hospitals like ‘Mai Adhar Kendra’, Ichalkaranji, they too were selected (Map - 2).

**Mixed Sampling:**

Among 52 samples fifty per cent i.e. 26 number were chosen, who reported as HIV positive and asymptomatic (without signs and symptoms, except their ELISA positive report). Whereas another fifty per cent i.e. 26 number samples were drawn from AIDS and AIDS related complaints (ARC’s) category (with signs, symptoms, ARC’s of particular single or multiple diseases or symptomatic). The total sample size was selected purposively by taking into account their age factor i.e.

Out of these 52 samples, and female patients (23 No.) adult age (25 to 40 years old). The female patients (29 No.), were taken into consideration according to random sampling method. Ten per cent of the selected sample size i.e. 5 number of samples were considered for the case studies in this proposed study for detailed analysis.

**TOOLS AND TECHNIQUES USED FOR DATA COLLECTION**

**Collection of Data:**

Personal interviews with structured schedule, observation and informal interviews were the tools used for collection of secondary data for the present study.
STUDY REGION
KOLHAPUR: CITY

○, A, B, C, D, E - WARDS: STUDY AREAS
□ - MHALAYMI TEMPLE.

(Map 2)
Personal Interviews with Structured Schedule:

This method has the added advantage of probing deeper and wider into the area of enquiry and clarification of the questions become possible. In the view of this, the tool used for collection of data was the interview schedule.

The interview schedule was prepared keeping in view the objectives of the present study. The schedule included the questions seeking information regarding:

- General information about personal and socio-economic background.
- Awareness about sexually transmitted diseases, HIV, AIDS, mode of infection, sexual behavioural pattern.
- Knowledge about foods, nutrition, health and hygienic practices.
- Relationship between therapeutic nutrition and HIV/ AIDS.
- Dietary pattern
- Observation records about their health status, signs, symptoms and medical treatments before and after the NEP-SEP.

The interview schedule was thus prepared after pre-testing the questionnaire by conducting a pilot study. For the pilot study, the data were collected from, the samples of 10 respondents from Kolhapur. In the light of the pre-testing, some questions were deleted, some added and some altered. After certain necessary
changes, interview schedule was finalised and standardized (The
schedule was prepared in Marathi and an English version of the
schedule used at the time of data collection is attached with this report
as Appendix-I).

Three day recall method:

For the evaluation of dietary pattern of the respondents ‘three day
recall method’ was used during both the period of time i.e. before and
after nutrition education programme (NEP). In this method the
respondents were asked to recall what foods variety and in how much
quantity they had taken it at different intervals i.e. breakfast, lunch,
snack time and dinner. Nutrients were calculated in terms of quantity
from food items which they had taken. The nutrients like energy
(K.Cal), protein (g), fats (g), vitamins such as thiamine or B₁ (mg),
riboflavin or B₂ (mg), niacin or B₃ (mg), folic acid or B₁₂ (mg)
betacarotene (μg) and vitamin ‘C’ (mg), whereas minerals like calcium,
(mg), zinc (mg) and iron (mg) were calculated with the help of nutritive value of
Indian foods by Gopalan et.al (2000). The per cent of adequacy and
deficiency of these nutrients were calculated after the comparison with
standard values given as Recommended Dietary Allowances (RDA) for
the same age group and sex by ICMR.
Evaluation of Nutritional Status:

Nutritional status of the respondents was evaluated by using anthropometric measurements, biochemical reports and assessment of clinical examination.

I. Anthropometric Measurements:

Anthropometric measurements like height (cm), weight (kg), arm circumference (cm), wrist circumference (cm), mid-arm muscle circumference (cm), tricep-skin fold thickness (mm) were measured by using different methods described by Jelliffe (1966). Body mass index (BMI) and body frame size (BFS) were calculated as per the standard formulae given by Nadamuni, et.al. (1991).

Height (cm):

Height of the respondent was measured without shoes by using measuring non-stretchable steel tape, with support of wall by standing position.

Weight (kg):

Portable weighing machine was used and weights of the respondents were taken with least clothes and without shoes.

Arm Circumference (AC) (cm):

For this measurements, the midpoint of the arm was measured first and then with this midpoint arm circumferences were calculated by using non-stretchable measuring steel tape.
Wrist Circumference (WC) (cm):

The respondents were asked to stand straight and stretch the hand at 90° degree angles to their body. Then, the wrist circumference was measured with the help of non-stretchable measuring steel tape.

Tricep Skinfold Thickness (TST)(mm):

With the help of skinfold calliper, tricep skinfold thickness was measured in triplicate and averages were taken into account. For the calculation of mid-arm muscle circumference (MAMC) (cm); body mass index (BMI) and body frame size (BFS), the following formulae were used.

\[
MAMC = \text{Mid arm circumference (cm)} - [3.14 \times \text{tricep skinfold thickness (cm)}]
\]

\[
BMI = \frac{\text{Weight (kg)}}{(\text{Height})^2 \text{ (m)}}
\]

\[
BFS = \frac{\text{Height (cm)}}{\text{Wrist circumference (cm)}}
\]

All the measurements were taken into triplicate and their averages were calculated. All these anthropometric measurements were measured before and after the NEP. The measurements were taken every month for six months and averages calculated.
II. Biochemical Report Assessment:

Before implication of NEP, the biochemical assessment in terms of pathological reports of the respondents were examined. Haemoglobin and sugar level in the blood, whereas serum protein, iron, zinc, vitamin level also assessed with the records of the respondents from both groups i.e. asymptomatic and symptomatic. After implication of NEP, pathological biochemical record reports were analysed after six months interval period and compared with their previous reports of the same samples.

III. Clinical Examination:

Clinical observations regarding deficiency diseases and AIDS related complaints reports of the patient were observed with the help of doctors for the clinical examination. Deficiency diseases of particular nutrients were observed with the particular signs and symptoms among the respondents. The clinical examination was assessed for both the groups of respondents i.e. asymptomatic and symptomatic before NEP-SEP by interval for total six months period.

IMPLICATION OF NUTRITION EDUCATION PROGRAMME (NEP) AND SEX EDUCATION PROGRAMME (SEP)

Nutritional and sexual well being of a population depends on the interaction of a multitude of socio-economic, educational level and cultural aspects. In the Indian context, poverty, unemployment, ignorance and illiteracy of people make them resistant to changes.
Spontaneous change in a community is possible when people themselves identify their felt needs and want to change. Hence, for sharing thoughts and communication with the certain people, launching of educational programmes play a vital role.

Nutrition education and sex education are the foundation for any programme intended for nutritional and sexual behavioural improvement. Nutrition intervention programmes and sex education programmes have been taken up and are being implemented by the central, state Governments and voluntary agencies with a view to ameliorating the nutritional status, health and sexual behavioural pattern of the vulnerable sections of the population. Obviously any attempt to supplement the diet of this population by external inputs alone is going to be beyond the capacity of the country or any charitable organization (Devdas, 1977). Whereas the improvement of nutritional status of the people cannot be brought about through an adhoc, isolated feeding programme (Gopalan, 1977). Hence, to promote a sustained awareness behavioural changes among the community is the prime measure of such programmes (Topping et.al., 1995). Thus, the nutrition education programme (NEP) and sex education programme (SEP) were implemented not only to stimulate the changes in knowledge, attitude and practices related to nutrition and sexual pattern but also to bring the changes in their nutritional status and sexual behavioural attitudes by adopting and evaluation of feedback process.
FORMATION OF GROUP FOR ACTION PLAN

On the basis of respondent’s full co-operation and willingness, the group was made for the action plan. Suitable corresponding background in terms of literacy, economic status, communication skill etc were taken into consideration for the formation of group. Purposive random sample design was used for this group formation. Out of these total 52 HIV/AIDS patients, only 24 patients had shown their full co-operation and willingness to take active part in the Nutrition Education programme (NEP) and Sex Education programme (SEP) for six week of schedule. In these 24 respondents in action plan group, 14 patients (8 male & 6 female) were from asymptomatic group (HIV +ve) and 10 (7 male and 3 female) from symptomatic group (Full conversion of AIDS) were taken part in action plan

THE CONTENT OF NUTRITION EDUCATION PROGRAMME AND SEX EDUCATION PROGRAMME

In the Indian context demonstrations, discussion, exhibition, meetings, dramatization, film show, slide show, field trips are the effective mass communication methods. (Devdas and Chandrasekhar, 1970). Whereas as per the findings of Manoff (1980)
distribution of posters, pamphlets or folders, booklets, radio messages, calendars and comic books are also an effective communication medias for nutrition education and sex education.

Thus, in the present study discussion, poster exhibition and distribution of folders which includes snake and ladder game and nutrition tips were the medias of communication chosen for the nutrition education and sex education programme for the experimental group i.e. Asymptomatic and Symptomatic respondents. Discussion, exhibition and folders (snake ladder game and nutrition tips) were made containing the knowledge and awareness about nutrition, role of nutrition, its relationship with health. Importance of therapeutic nutrition for minimizing the severity of the diseases, role of nutrition to HIV/ AIDS and better hygienic practices were also highlightened. Whereas mode of transmission of HIV, its barrier methods, signs and symptoms in the period of AIDS and laboratory tests for the confirmation of HIV/ AIDS were also taken into account. The NEP was specially emphasized with the immune function in the body, role of different nutrients, in improving the immunity, rich sources of these nutrients and the recommended dietary allowances. The suggestion of specific nutrients and balanced diet along with their medical treatment were also an important part of this programme(Photograph-1).
The patients from group of asymptomatic were treated by concerning doctors for taking regular dose of AZT medicine thrice in a day after meal. Whereas the symptomatic group were treated medically according to their preliminary disease diagnosis by which they suffered.

The sexual education programme (SEP) was also conducted along with NEP. SEP was implemented by use of methods like discussion, poster exhibition, distribution of folder and game (snake and ladder). Impact of taking alcohol and drugs on their health and family, causes of STD’s, HIV, AIDS, their symptoms, use of sexual barrier methods, importance of single sexual relation, safer sexual practices, and other discussed and used for making awareness of the patients. Finally the impact of SEP on sexual behavioural and intake of alcohol and drugs were evaluated through post test questionnaire (Appendix-II) among the action plan group of patients.

EXPERIMENTAL PERIOD

Nutrition education and sex education programme was carried out for six weeks. The schedule of the programme is given in following table No. 3.1.
Table 3.1: Schedule of NEP-SEP

<table>
<thead>
<tr>
<th>No. of weeks</th>
<th>Methods</th>
<th>groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week per day</td>
<td>Discussion</td>
<td>Asymptomatic</td>
</tr>
<tr>
<td>2nd week per day</td>
<td>Discussion</td>
<td>Symptomatic</td>
</tr>
<tr>
<td>3rd week per day</td>
<td>Exhibition</td>
<td>Asymptomatic</td>
</tr>
<tr>
<td>4th week per day</td>
<td>Exhibition</td>
<td>Symptomatic</td>
</tr>
<tr>
<td>5th week per day</td>
<td>Folder presentation</td>
<td>Asymptomatic</td>
</tr>
<tr>
<td>6th week per day</td>
<td>Folder presentation</td>
<td>Symptomatic</td>
</tr>
</tbody>
</table>

EVALUATION OF FEEDBACK OF NEP-SEP

Nutrition knowledge, attitude and practices sexual behavioural and attitudinal practices adopted through nutrition education and sex education programme, both the groups (i.e. Asymptomatic and Symptomatic) were measured through special questionnaire made for NEP-SEP post testing. Evaluation of nutritional status of these respondents in terms of adequacy of nutrient intake, anthropometric measurements, biochemical-pathological reports assessment and clinical examination, alcohol drug addition pattern, acceptance of use in barrier methods, multi sexual relations etc. were done after the nutrition education and sex education programme within six months of time. The impact of nutrition education and sex education programme on the nutritional profile and sexual behavioural of the patients of a group was examined with the comparison wherever possible with same group of HIV/AIDS patients before NEP-SEP.
FRAME WORK OF ANALYSIS IN INTERPRETATION AND PRESENTATION

After the completion of data collection, all the schedules were given serial numbers. Then, the items of data were given codes and code book was prepared. The coded data was transferred on computer. "Fortan Coding Form" sheets and these were sent to the Electronic Data Processing Unit, Tata Institute of Social Sciences, Mumbai. The computer output was decoded and the tables were prepared.

The data was classified, analysed, interpreted and presented with the help of simple statistical techniques such as frequency distribution, \( \text{ANOVA}, \text{z-value, and z-test} \), percentages, \( \chi^2 \text{test} \), and by giving interferences to the relevant studies at appropriate places. The data was then suitably organised under various heads and sub-heads.

For the presentation of the rest of the thesis, the following scheme of chapterisation is followed:

- Socio-economic background of HIV/ AIDS patients.
- Sexual behavioural pattern of HIV/ AIDS patients.
- Nutritional profile of HIV/ AIDS patients.
- Impact of nutrition education programme and sex education programme.
- Detail profile of selected cases.
- Summary and conclusion.
REFERENCES


