CHAPTER – 3
MATERIALS AND METHODS

3.1. Survey

Survey was started and proceeded based on the following criteria. HIV infected patients were surveyed in each district of Tamilnadu. Details were collected in various places in each district. Cumulative details were tabulated and finalized using statistical analysis. Various factors have taken for survey which includes Age, Sex, Occupation, Treatment, and Mode of transmission, Literacy, and Family details. Data were collected in each of above said factors. Awareness also created among HIV infected individuals in Theni district. Infected individuals were intimated to attend counseling, various training programmes, literacy programmes, interactions, discussion and advocacy programme. Treatment details of each individual were also collected.

3.2. Selection of Districts

The survey was first initiated with selection of districts. All 29 districts in Tamilnadu were identified. They were classified into three classes. Class A, B and C.

Each class consists of several districts

Class A  Chennai
Class B  Madurai
           Coimbatore
           Trichirappalli
Class C  Remaining 25 districts.

The survey was started with class ‘C’ Districts in the following order. Theni, Namakkal, Salem, Erode, Dindigul, Dharmapuri, Karur, Krishnagiri, Nagapatinum, Perambalur,
Pudukaottai, Ramnad, Sivagangai, Thanjavur, Thiruvarur, Thiruvalur, Thiruneveli, Thiruvannamalai, Tuticorin, Villupuram, Virudhunagar, Vellore, Cuddalore, Kanchipuram, Kanyakumari. Survey also done in class B and class A finally.

3.3. Mode of survey

HIV infected patients were interviewed initially in Government hospital in each Districts. Statistical analysis also performed in Non Government Organization, HIV positive Network, Arokiya agam, and Sevanilayam. All data were analyzed and mean value was taken for each districts. Each data was tabulated. Cumulative data for all districts was prepared finally.

3.4. Survey factors

Survey factors like Age, Sex, Occupation, Treatment, Mode of transmission, Literacy, family details were concentrated.

3.5. Age

Segregated age as 0-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, 50 and above. Infected individuals were surveyed under these categories in each district.

3.6. Sex

Male and female infection survey also done. Results were tabulated for each district. The patients in transgender community also counted for survey and was tabulated separately for each districts among the gender the infected patients who belonged to widow, casual sex workers, male sex male were identified. Data was collected analysed and tabulated for this category in each districts.
3.7. Occupation

To relate occupation and HIV infection data was collected about infected people and the details of their occupation was obtained. Based on the following occupation Daily labours, Business, Drivers, Quarry workers, Tailors and Government employee were identified among the infected individuals statistical analysis were done and results were tabulated.

3.8. Treatment

Next factor is treatment. Patients were analyzed based on the regular treatment. Data were collected for patients who are under going Anti Retroviral Viral therapy and normal therapy was examined. Simultaneously the CD4+ count report also examined and all information were tabulated.

3.9. Mode of Transmission

Survey for mode of transmission also done. Patients got HIV infection by any one of the following transmissions,

1. Mother to Child
2. Blood transfusion
3. Blood transmission
4. Using not properly sterilized needles
5. Sexual transmission.

All above said factors are concentrated data were collected for each factor and results were tabulated. In sexual transmission, Homo and Hetero sex transmission data were collected among infected individuals. Transmission through sex workers and
transmission through husband/wife details gathered and analysis were done among their section.

3.10. Literacy

Literate and illiterate among the infected individuals were identified. Details were collected based on their schooling/graduation/post graduation/Doctorate. Data also collected their who working in High position in both private and Government sectors.

3.11. Family

Family details also obtained from each individual. Data were collected in family members based on the following factors

1. Number of family members affected
2. Number of male, female and children
3. Relationship of affected individuals
4. Number of infected individuals in ARV treatment
5. Mode of transmission either vertical or sexual.

3.12. Awareness Creation

Because of personnel interest in social service participated and created awareness programme in Theni district. Various awareness programme were conducted to HIV infected individuals.

2. Details were given about referral center of HIV/AIDS positive living.
3. Motivated infected people to fight for rights of them.
4. Guided for their healthy and wealthy life of infected individuals.
5. Conducted advocacy programmes and interactive programmes also conducted.

6. Built a rapport to create more positive speakers among the positive people.

7. Guided in various self development training programmes in Mushroom cultivation, Food processing technology and Biofertilizer production among positive individuals.

3.13. CD4 Count

Isolation and counting of CD4+ has been performed by taking blood from each infected individuals. Blood sample were examined for glucose level, haemoglobin content and CD4+ counted for infected individuals. Results were tabulated. (All analysis were performed in Government hospital with free of cost). From the result of CD4+ count, Treatment has been given for infected patients.

Synthetic drugs antiretroviral therapy such as

1. Lamivudine, Nevirapine and Stavudine.

2. Lamivudine, Gidovidine and Nevirapine.

3. Stavudine, Lamivudine and Efavirns


Were administered through oral route. Antiretroviral therapy (Triplet therapy) was given based on their CD4+ level. Patients who had CD4+ count 400 and above are eliminated. Patients who had CD4+ count 200 and below were administered with antiretroviral therapy. During the course of treatment once in a month, CD4+ count was identified and checked the betterment.
3.14. Physical Exercise

Natural and Herbal treatment for HIV infection showed remarkable change in immune system development. Volunteers in each district were identified and treatments in various stages with various alternatives were given. Susceptible/infected patients were identified in each district. Among the infected individuals, the patients who are in chronic stage were selected. Willingness was analyzed and treatments for volunteers who are pursuing their ARV therapy were identified. Among that individual 10 volunteers were selected for each therapy.

I set - Patients undergone only physical exercise. (Consisting of 10 volunteers)

II Set - Patients undergone both herbal and physical exercise. (Consisting of 10 volunteers)

III Set - Patients undergone with physical and ARV therapy. (Consisting of 10 volunteers)

Step-I

Before going into each alternative, CD4+ count of each patient was analyzed by the help Of HIV positive Net Work with free of cost in Government Hospital.

Step –II

Evaluated the physical condition of each patient and consulted a doctor before choosing an exercise programme.

Step - III

Patients were intimated to choose an exercise, to enjoy, they could incorporate in to their regular routine. Patients were motivated to choose early exercise like walking, lifting weights, or an aerobic exercise such as swimming.
Step – IV

Moderate exercise has been given for patients those who are asymptomatic. (for example aerobics for 30 – 45 minutes, three or four times a week).

Step V

Symptomatic patients were selected and exercise was given based on doctor/physical therapist suggestion about choosing a specific exercise programme to aid in their rehabilitation.

Step VI

Fitness regimens were monitored from individual to individual and the patients were allowed to do their exercise half an hour/day in the beginning stage. Note: The important thing in doing exercise is consistency. This is an ongoing programme and one will not benefit without consistency.

Step VII

After one month of the continuous exercise each patient was subjected to CD4 count reports were tabulated for different sets of alternatives. Once in a month the patient’s blood samples were taken and CD4+ was counted. Patients in alternative treatment were analyzed individually and the CD4+ count was tabulated for each individual in different set and the results were compared.

Cautions:

Following instructions have been given for patients who were under going physical exercise. Water: Drink it before, during and after your exercise. When you feel thirsty you have already lost important fluids and electrolytes and may be dehydrated.
Eat well:

Exercise tears down muscles in order to build it up stronger. You need nutrition to provide the raw materials to rebuild your muscles.

Sleep:

While you sleep, your body is rebuilding.

Listen to your body:

It will kill you to slowdown or speed up. If you are sick or have a cold, take a break. Your body will thank you. If you have any condition that would impart or limit your ability to engage in physical activity please consult a physician. This information is not intended to be a substitute for professional medical advice or treatment.

3.15. Herbal Treatment

Preparation of extract:

The extract was obtained from Bitter melon fruits were taken and grind using a mortar and pestle or using mixer grinder.

Procedure:

50 grams of fresh bitter melon was taken and was ground with water. Bitter melon juice was filtered.

Mode of Administration:

Bitter melon extract was given to patients, through orally. Patients were recommended to take in early morning with empty stomach, daily.

Recommended Dose

Patients were first segregated in to two sets according to their CD4+ count. Before starting the herbal treatment patients CD4+ count were analyzed and noted.
volunteers were chosen and separated into two sets as 12 + 12. Each set was again segregated into three batches consisting of 4 volunteers. Treatment has been given in the following mode.

<table>
<thead>
<tr>
<th>Set 1</th>
<th>Herbal</th>
<th>Set 2</th>
<th>Herbal + Physical exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch I</td>
<td></td>
<td>Batch I</td>
<td></td>
</tr>
<tr>
<td>Batch II</td>
<td></td>
<td>Batch II</td>
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<tr>
<td>Batch III</td>
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</tbody>
</table>

The volunteers were subjected to various concentrations of about 30ml, 40ml, 50ml of herbal extract in each respective batch for set 1 and the same has been given for set 2 with physical exercise.

**Glucose level monitoring:**

Glucose level for each patient were observed once in a month and monitored. The results were tabulated.

**CD4 count**

The final step in this treatment CD4+ counting, was performed by taking blood sample from individual once in a month. Count was observed and the results were tabulated.