A EVALUATIVE STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING ANTIRETROVIRAL THERAPY AMONG HIV PATIENTS IN SELECTED COMMUNITY CARE CENTRES, IN KANYAKUMARI DISTRICT

A DISSERTATION SUBMITTED TO THE TAMILNADU Dr.M.G.R MEDICAL UNIVERSITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL-2011

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APPROVED BY THE DISSSERTATION COMMITTEE ON : **15-09-2009**

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Submitted in partial fulfillment of the requirement for the degree of Master of Science in Nursing to the Tamil Nadu Dr. M.G.R Medical University, Chennai, April 2011.

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Internal Examiner **External Examiner**

DECLARATION

The investigator II year M.Sc Nursing student of Christian College of Nursing Neyyoor do hereby declare that this thesis "**A evaluative study to assess the effectiveness of structured teaching programme on knowledge regarding antiretroviral therapy among HIV patients in selected community care centres, in Kanyakumari District"** has not been submitted by me for the award of any degree, diploma, title or recognition earlier.

Neyyoor, Investigator

Date:

CERTIFICATE

Certified that the thesis "**A evaluative study to assess the effectiveness of Structured teaching programme on knowledge regarding antiretroviral therapy among HIV patients in selected community care centres, in Kanyakumari District**" is a bonafied work by John Runcie.S, II year M.Sc Nursing student of Christian College of Nursing, Neyyoor in partial fulfillment of the requirements for the degree Master of Science in Nursing to the Tamilnadu Dr. M.G.R. Medical University, Chennai, April 2011.

Date:

Signature of the Principal

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ABSTRACT

The study was undertaken to assess the effectiveness of structured teaching programme on knowledge of antiretroviral therapy among HIV patients in selected community care centres, in Kanyakumari District.

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge regarding antiretroviral therapy before and after structured teaching programme among HIV patients.
2. To evaluate the effectiveness of structured teaching programme on antiretroviral therapy among HIV patients.
3. To associate the post test knowledge score among HIV patients regarding anti-retro viral therapy with selected demographic variables such as age, sex, type of family, marital status, education, occupation, and income.

ASSUMPTIONS

The knowledge of antiretroviral therapy varies from one another.

The level of knowledge of antiretroviral therapy is influenced by selected demographic variables like age, sex, type of family, marital status, education, occupation and income

In this study J.W. Kenny's open system model (2002) was used to assess the effectiveness of structured teaching programme and also for associating the selected demographic variables with knowledge of antiretroviral therapy.

This study adopts a quantitative approach and design was quasi experimental one group pre test post test design. Data were colleted from 50 samples by convenience sampling technique. The tools used for data collection include-

1. Selected demographic variables
2. Structured questionnaire regarding knowledge on HIV and antiretroviral therapy with a score of 24.

All tools were validated and subjected to reliability testing. On pilot study the tools were found to be appropriate and relevant for the study. The procedure of data collection was done from subjects on convenience sampling technique and data analysis was done by using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY

1. Among 50 samples none of them had high knowledge during pretest. After structured teaching programme, in post test 30% of them had high knowledge.
2. Association between level of knowledge and selected demographic variables such as sex, type of family, marital status, education, occupation, and income have no significant association.($P>0.050$).
3. The mean score for knowledge during pretest was 6.56 and has changed to 13.6 in post test, $P<0.050$. After imparting the structured teaching programme there is a significant improvement in knowledge on antiretroviral therapy.

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CHAPTER – I

INTRODUCTION

Human Immuno Deficiency infection is one of the most devastating global epidemics of 20th century. It presents a new and unique type of challenges to health and social welfare services. This is an acquired infection, in which HIV integrates itself into (CD4) helper T4 cells, causing severe immuno dysfunctions. It renders the person unusually susceptible to life threatening situation.

In 1981 a physician in San Francisco, New York witnessed the onset of a new spectrum of disease known as acquired immunodeficiency syndrome. By 1987, AIDS was identified among population of drug users, recipients of blood (or) blood products and heterosexual partners. HIV and AIDS affect all segments of population, from children to adults, businessmen to homeless people, female sex workers to housewives, and gay men to heterosexuals. There is no single 'group' affected by HIV. However, HIV prevalence among certain groups (sex workers, drug users, truck drivers, migrant workers, men who have sex with men) remains high and is currently around 6 to 8 times that of the general population (National Family Health Survey, 2007).

Harold (2009) studies on knowledge of HIV and its treatment have focussed on workers in the formal and informal sectors Workers in the informal sector may not have the opportunity of acquiring information and may be less equipped to protect themselves against the disease. There are much fewer studies on this category of workers. Automobile workers such as mechanics, welders and vulcanizers constitute a large proportion of the informal sector and characteristically have low educational status, low income and poor access to information. These workers may reflect the

average social and cultural attitudes of the community. Automobile workers are predominantly and almost exclusively male. The vast majority are sexually active. They work on the roadsides and have frequent contact with food vendors and other roadside users. The outdoor nature of their work provides ample opportunities for sexual networking within the community and thus may increase their risk of acquiring HIV infection.

According to UNAIDS, an estimated 39.5 million adult and children are living with HIV. Approximately 4.3 million became newly infected with HIV in 2006 and 2.9 million died due to AIDS related illness. India is a hot spot for this diseases about 3.5 million are affected. By November 2009, 35.8 million people were living with HIV/AIDS world wide including 1.2 million of them were children.

In India the first AIDS case was detected in 1986. National AIDS Control Organization (2009) found that 2.3 million people living with HIV/AIDS. The highest HIV prevalence rate was found in Andhra Pradesh, Maharastra, Tamil Nadu, Karnataka and Manipur.

Tamil Nadu is the seventh most populous state in India.In Tamilnadu 1,44,000 people are affected with the HIV virus. It was found by India Government AIDS organization that Nammakal District stands as a high prevalence of AIDS with 1 in 1000 people. In 2008 HIV prevalence among antenatal clinic attendees was 0.25%, injecting drug users was 16.8%which was third highest out of all reporting states. The prevalence of HIV among men who have sex with men and female sex workers was 6.6% and 4.68% respectively. The National Intelligence Council predicted that around 20 million to 25 million AIDS cases will be there in India 2011.

Effective HIV/AIDS care requires antiretroviral therapy as a treatment option. Without access to antiretroviral therapy, people living with HIV/AIDS may not attain the fullest possible physical and mental health. Current Public Health Service (PHS) guidelines recommend that patients should be treated with combinations of three to four antiretroviral drugs, with at least two of the three available classes of drugs represented in the regimen, that is, nucleoside reverse transcriptase inhibitors [NRTIs], non-nucleoside reverse transcriptase inhibitors [NNRTIs], and protease inhibitors [PIs]. Most combinations include a backbone of nucleoside agents used in conjunction with NNRTIs and/or protease inhibitors. On one hand, selection of ARV treatment regimens for individual patients put into consideration potency, frequency of dosage and side effects which are known to influence adherence of the patient population to a regimen. On the other hand, adherence to medication is influenced, among other factors by the knowledge of and attitude towards the drugs.

Medication adherence, particularly for complex regimens such as highly active antiretroviral therapy (HAART), is a complex behaviour, requiring patients to remember multiple medications and dosing schedules. A theoretical framework encompassing cognitive factors has been suggested by researchers who assert that health behaviour modification like ARV adherence requires knowledge, skills, and self-efficacy. Knowledge has been defined variously as awareness of personal health status as well as general knowledge of the afflicting condition.

Studies have also reported that understanding of medication effectiveness is associated with better adherence (while inadequate knowledge and confusion have been associated with lower adherence. In contrast; some studies have described no

significant lasting benefits of knowledge upon adherence. Now highly active antiretroviral drugs are introduced to prolong the life of the HIV patients.

NEED FOR THE STUDY

The NACO reported that 25% of people living with HIV in India had been refused medical treatment on the basis of their HIV-positive status. It also found strong evidence that most of the HIV patients ate not aware of antiretroviral therapy. People in marginalized groups - female sex workers, hijras (transgender) and gay men - are often stigmatized not only because of their HIV status, but also because they belong to socially excluded groups and also unaware of the treatment modalities available for them.

Antiretroviral drugs work by attacking the virus (HIV) that causes, AIDS, slowing the progression of the diseases and prolonging life. People those who have inadequate knowledge regarding the antiretroviral therapy may affect perceptions, thoughts, attitudes and action of HIV patients. The core of nursing profession, not only informed, scientific based nursing care, but also humanistic and holistic care consistency with nursing values to direct the HIV patients for better treatment and care.

Antiretroviral drugs (ARVs), which can significantly delay the progression from HIV to AIDS have been available in developed countries since 1996. Unfortunately, as in many resource-poor areas, access to this treatment is limited in India an estimated 300,000 adults (aged 15 and above) were receiving free ARVs by April 2010. This represents less than half of the adults estimated to be in need of antiretroviral treatment in India. While the coverage of treatment remains unacceptably low, improvements are being made. Increasing access to ARVs also

means that an increasing number of people living with HIV in India are developing drug resistance.

Rosenberg (2007) indicated that the introduction of highly active antiretroviral therapy has been a tremendous success. Before this therapy was introduced, about half of those infected were expected to live for ten years after diagnosis, much less if they were, say, 40 years old when infected. Now, people treated with these combinations of drugs can live longer than, that of before.

The antiretroviral therapy awareness programme has been successful in improving the knowledge of the HIV patients about various treatment modalities, but its achievements have been modest. While contextual and structural factors (high level of illiteracy, poor access of knowledge, and poverty) are partly responsible for the limited success of the programme (Chhabra, 2002)

Inadequate knowledge of antiretroviral therapy and incomplete or enormous information about where to obtain this therapy and how to use them are the main reasons for not accepting antiretroviral therapy. Studies assessing correct, adequate and timely knowledge suggest that only a small proportion have complete knowledge of various methods of antiretroviral therapy (Levine, 2008).

There is a need to promote awareness about antiretroviral therapy among sex workers and motivate them to accept the treatment (Dhillon, 2005).

Further the researcher has personally observed that many HIV patients are unaware about the antiretroviral therapy. Hence it directly motivated the researcher to carry out research in this particular area. It is observed that all HIV patients should

have adequate knowledge on antiretroviral therapy and also to develop healthy attitudes.

STATEMENT OF THE PROBLEM

A evaluative study to assess the effectiveness of structured teaching programme on knowledge regarding anti-retro viral therapy among HIV patients in selected community care centres in Kanyakumari District

OBJECTIVES

To assess the level of knowledge regarding antiretroviral therapy before and after structure teaching programme among HIV patients.

To evaluate the effectiveness of structured teaching programme on antiretro viral therapy among HIV patients.

To associate the post test knowledge score among HIV patients regarding antiretroviral therapy with selected demographic variables such as age, sex, type of family, marital status, education, occupation, and income.

HYPOTHESIS

a. There will be a association between knowledge and selected demographic variables like age, sex, type of family, marital status, education, occupation, and income at 0.05 level of significance.

b. There will be a increase between post test and pre test knowledge at 0.001 level of significance

OPERATIONAL DEFINITION

Antiretroviral Therapy

Antiretroviral therapy is a group of drugs given in combination which consistently results in sustained suppression of HIV – 1 – RNA replication, resulting in gradual increases of CD4 cells which prevents immune deterioration and promotes or improve the survival rate and quality of life.

In this study antiretroviral therapy means that the treatment modality used for HIV patients to prolong life.

HIV

Human immune deficiency virus is a retro-virus that leads to AIDS, a condition in humans in which the immune system begins to deteriorate, leading to life threatening opportunistic infections.

In this study HIV refers to the virus which affects the HIV patients

Knowledge

Knowledge is defined as the extent to which one is aware of the facts about particular issue.

In this study knowledge refers to the correct verbal response of knowledge questions regarding antiretroviral therapy by questionnaire.

Structured teaching programme

Structured teaching programme is defined as a well designed structured teaching method to give mass education.

In this study structured teaching programme refers to a well planned teaching design to provide information, improve knowledge and attitude regarding antiretroviral therapy for HIV patients.

ASSUMPTIONS

→The knowledge of antiretroviral therapy varies from one another.

→The level of knowledge of antiretroviral therapy is influence by selected demographic variables like age, sex, type of family, marital status, education, occupation and income.

LIMITATIONS

→The study was limited to a period of six weeks.

→Sample selection was concentrated to a selected geographical area

→The study was limited to HIV patients.

→The study was limited to fifty HIV patients who have not adopted the antiretroviral therapy. Hence generalization is possible only for the selected sample.

PROJECTED OUTCOMES

→The study will help to know the knowledge on antiretroviral therapy among the HIV patients.

→The study will improve the knowledge on antiretroviral therapy and it will promote adherence.

→The study will help the HIV patients to follow antiretroviral therapy.

CHAPTER – II

REVIEW OF LITERATURE

INTRODUCTION

This chapter describes about the review of literature of the study. It is a written summary of the state of existing knowledge on research problems. (Polit, 2006). It provides a background for understanding current knowledge on a topic and illustrates the significance of the study. It also provides the reader with an understanding about the topics under the study.

In this study the literature review was made from journal references, online journals, searching of website and referring through similar studies. The review of literature was presented under the following headings.

1. Studies related to prevalence, triggering factors and risk factors of HIV.
2. Studies related to etiology, signs and symptoms.
3. Studies related to adherence to antiretroviral therapy.

DEFINITION

Human Immuno Deficiency (HIV) infections are an acquired infection, in which the HIV integrates itself into (CD4) helper T4 cells causing severe immuno dysfunctions.

STUDIES RELATED TO COMPLIACNE AND ADHERENCE TO ANTIRETROVIRAL THERAPY:

Xander (2003) and his colleagues studied the determinants of compliance with anti retroviral therapy. This study was implemented in 83 patients with HIV

infection at Boston city Hospital. Compliance was measured by means of patients self report, as well as size of red blood cells. It was found that zidovudine is known to be associated with increased red blood cells volume. While no differences in CD4 count. A total of 67% of group reported having taken zidovudine at least 80% of the times proceeding week, only 33% reported (100%) compliances. Serum and urinary drug levels were found in general to correlate with patient self report of compliance.

Chesney (2008) has done a study on compliance to antiretroviral therapy in a San Francisco based community center for AIDS prevention. The study indicates that only 10% to 15% of patients are skipping doses on any given day.

Mukasa (2008) conducted a study on to determine the reason for non adherence to antiretroviral therapy on 108 HIV patients who were getting treatment from ART clinics in community care centers. He identified that three basic types of stigma; enacted stigma, felt stigma and self-stigma. Enacted stigma refers to the discrimination and violation of human rights that PLHIV or people assumed to be infected with HIV/AIDS may experience. Felt stigma refers to the feelings an individual has about his/her condition and the fear of how others will react to this condition. Felt stigma is the fear of, or anticipation of enacted stigma. Felt stigma impairs the individual's perception of available support. Self-stigma arises out of both enacted and felt stigma and is expressed when an individual internalizes enacted- or felt-stigma in such a way that results into devaluation of one's identity both socially and at a personal level.

Ruddy (2009) conducted a study on compliance and degree of adherence to antiretroviral therapy. He experimented three drug antiretroviral therapy on 1004 patients including 94 children, under 13 years of age in John's Hopkin's University. It was found that 87 percent adults and adolescents and 98 percent of children were alive one year after beginning treatment due to median increases in CD4 cells. It was concluded as adherence is enhanced if regimen becomes a part and parcel of life. Patients can learn to tailor an assigned a regimen to fit their personal routine, rather than tailoring their routine to accommodate the regimen.

Cauldbeck (2009) conducted a study on adherence to antiretroviral therapy. A cross-sectional anonymous questionnaire survey of 60 HIV antibody positive patients was carried out with patients attending HIV outpatient services at the Chest and Maternity Centre, Rajajinagar, and Wockhardt Hospital and Heart Institute, Bangalore. Consent was obtained. Data was analysed using SPSS statistical analysis. A response rate of 88% (53/60) was achieved. The mean patient age was 39.98 years, with 50% aged 30–40, and 73.6% of participants being male. Mean family size was 4.8 (1–13). 21% lived less than 50 kms and 21% greater than 400 kms from clinic. 60% reported they were fully adherent. Adherence was statistically significantly linked to regular follow-up attendance (70.5%, $p = 0.002$). No other results were statistically significant but trends were found. "100% adherence" trends were seen in older patients, male gender, those from larger families, those who had a previous AIDS defining illness, those taking fewer tablets, and without food restrictions. The common side-effects causing non-adherence was metabolic reasons (66%) and GI symptoms (50%).

Berhan (2009) done a comparative cross sectional survey on adherence to antiretroviral therapy. It was carried out at Yirgalem Hospital between July 10 and August 30, 2009. The two-proportion formula for unmatched case control study with 1:3 ratios was used to calculate the sample size. Systematic sampling was used to recruit patients. Using a structured and pre-tested questionnaire, data on drug adherence were collected through interview and pill count. Non-adherent patients were compared with adherent patients and associations with key risk factors were determined. Two hundred and ninety one AIDS patients were involved in the survey. Prevalence of adherence in the week before interview was 74.2%. Main reasons of non-adherence cited by the patients were; being busy or simply forgetting (51%), change in daily routine (9.4%), and being away from home (8.3%). Non-adherence was common among patients reporting symptoms in the past four weeks.

Levine (2009) has done a study on effects of antiretroviral therapy. He did this research on a group of 100 patients who were undergoing antiretroviral therapy. He did a cross sectional survey for this study He found that multiple factors have been associated with non compliance of the patients. The factors have been associated with non compliance of adherence of drug treatment have include complexity of regimen, duration of therapy, presence of social support of interest, increased severity of disease and increased difficulty with side effects were associated with decreased compliance with clinic visits.

Gabe (2009) conducted a study on compliance to antiretroviral therapy. A cross-sectional anonymous questionnaire survey among adult people living with HIV/AIDS (PLWHA) through a structured questionnaire was done. A total of 99

patients were enrolled. Among them, 55.6% knew the name of antiretroviral agents of regimens prescribed. All patients had a good knowledge of treatment schedule. The treatment regimens based on 2 NRTIs + 1 NNRTI were used in 90% of patients. The average adherence rate was 89.8% of the total doses prescribed while 62.62% of patients showed an adherence rate of 95% or above. The treated groups were similar in term of median % of medication doses taken according to PLWHA epidemiological characteristics. However, patients reported forgetting (34.9%), travel (25.6%), cost of treatment (13.9%) and side effects (11.6%) as the main factors of missing at least once a dose intake. These results should encourage the association and all the involved actors in the HIV/AIDS's program to strengthen counseling, education and information interventions for HIV-infected patients in order to overcome the potential barriers of poor adherence.

Kaplan (2009) conducted a comparison study of multiple measures of adherence to HIV protease inhibitors. 108 HIV-infected adults receiving protease inhibitors or non-nucleoside reverse transcriptase inhibitors who were monitored for 666 monthly intervals. Mean antiretroviral adherence differed by adherence measure (MEMS, 0.63; pill count, 0.83; interview, 0.93; and CAS, 0.76). Composite adherence score decreased significantly over time. Composite adherence score, MEMS values, pill values, and interview values were statistically significantly associated with achievement of an undetectable viral load within 6 months of initiating therapy. Composite adherence score showed the strongest predictive relationship (odds ratios for a 10% increase in adherence for CAS, MEMS, pill count, and interview. Different measures applied to the same patient suggest different levels of adherence. Adherence may be underestimated by MEMS and overestimated by pill count and interview. A summary measure combining several measures is more strongly related to a clinical response, but more practical measurement methods are needed for clinical use.

Schuman (2009) did a study on adherence to antiretroviral therapy (ART) among women. 196 HIV+ women participating in the HERS and WIHS with a CD4+ count of 200 mm/3 or less at any prior study visit were interviewed at HERS sites in NYC, Baltimore, and Detroit. Women were 62% black, 19% Latina and 17% white. Median age was 39 years. Recent injection drug use (IDU) was reported by 10%. Fifty-nine percent had depression. Six-four percent had CD4+ counts of < 200 mm/3 at interview. Eighty percent of women reporting have an ART prescription; of these, 95% reported combination therapy. ART adherence in the prior 2 weeks was reported: 50% took ART 100% of the time; 25% took > 75% of the time; 10% took 50-75% of the time; and 10% took from 25-50% of the time and 6% never took it. Reported reasons for non-adherence: forgot to take (57%); side effects (39%); felt too good (22%); and suspect ART not working (20%). Women with CD4+ > 200 mm/3 at interview were more likely to report taking ART > 75% of the time. Forgetfulness and perceived side effects were most frequently reported as reasons for poor adherence.

These findings suggest that a significant percentage of treated patients appreciate the importance of strict compliance with their assigned antiretroviral regimen and patients who are trying to achieve perfect compliance.

STUDIES RELATED TO EFFECTIVENESS OF EDUCATIONAL PROGRAMME ON HIV/AIDS:

Peter (2004) did a study to determine the effects of HIV/AIDS educational interventions on knowledge and attitudes of mothers of HIV affected children. Population consisted of 50 mothers selected by random sampling method. Baseline and post intervention knowledge was assessed. The finding revealed that knowledge score improved from 65% to 95%. After 6 months of education there were significant change in the knowledge and attitude of HIV/AIDS.

Rogger (2005) conducted a follow-up study to evaluate HIV/AIDS education within midwives at the department of midwifery in London 36 midwives were selected randomly. The finding revealed that training and education provided better changes in knowledge, attitude and improved infection control procedures on maternity wards. They are able to perform their critical roles in maternal health care and prevention of HIV/AIDS transmission.

Chambers (2008) did a research for correlating HIV knowledge and testing. A convenience sample of 429 respondents in the Republic of South Africa participated in the study. Volunteers completed the HIV knowledge questionnaire and other items pertaining to the study variables. The study predicted that there would be significant relationships between knowledge of HIV transmission, and testing for HIV, educational level, and gender. Testing behavior was also predicted to be associated with gender and knowing someone who has HIV/AIDS or someone who has died of the disease. Results from the ANOVA showed that as education level increased, so did knowledge of HIV. Females had more knowledge of HIV than males. An independent samples *t* test showed that those who had been tested for HIV had more knowledge than those who had not. Chi-Square analyses indicated that as education level increased, so did the frequency of testing; and that knowing someone who has HIV/AIDS or someone who has died of the disease tends to increase testing behavior.

Dhital (2009), did a study on the effectiveness of teaching programme on prevention and control of HIV/AIDS. The investigator has selected the pre experimental design (One group pre test and post test design). Random sampling technique was used to select samples. The sample size was 100 students. It was observed that the participants had moderate knowledge. Results showed that, students needed intervention programme.

STUDIES RELATED TO KNOWLEDGE AND ATTITUDE IN RELATION TO HIV/AIDS AND ANTIRETROVIRAL THERAPY:

Auslander (2004) conducted a study to assesses the level of Knowledge, attitudes and behaviors related to AIDS among youth in residential centers. The study evaluated the impact of a short educational intervention on the youth's knowledge, attitudes, and behaviors related to AIDS. Findings suggested that the respondents are relatively knowledgeable about the disease and how to prevent it. However, a substantial proportion of them do not hold positive attitudes toward prevention and are actually engaging in unsafe behavior. The results also showed that a short intervention that provides information about AIDS is ineffective in reducing engagement in high risk activities.

Pract (2006) conducted a study to determine the knowledge and attitude of youths (15 - 25 years) of HIV/AIDS and to routine HIV screening were assessed using anonymous questionnaires, among 9500 respondents in which 4950 were males and 4550 were females. Subjects (56%) indicated that they have heard about HIV/AIDS, 4180 (44%) had no knowledge of HIV/AIDS at all. 2240 of 5320 (42.1%) had some knowledge; 1593 (29.9%) had adequate knowledge and only 1487 (28.0%) had sufficient knowledge. 6365 (67%) did not believe it exists and as a result they are not bothered by it. 825 of the 3750 secondary school students had multiple sexual partners. Majority had single partners for those who had at all. While among the University students 2990 (52%) had multiple sexual partners, while others had between one and two sexual partners. Only 36210 (38%) believe it is real and a killer disease frightened about it and are already changing their sexual behaviours. Three thousand nine hundred and ninety respondents (42%) would agree to routine HIV

screening and 5510 (58%) would not agree to routine screening. The reasons adduced for rejecting routine HIV screening included psychological trauma, not necessarily high cost of and lack of anti-retroviral drugs, infringement on fundamental human rights, and fear of living with positive screening, stigmatization and victimization at place of work if positive.

Titi (2007) has done a study to investigate knowledge on mode of transmission of HIV and attitude toward voluntary counselling and Testing (VCT) amongst Nigerian undergraduates. A cross-sectional questionnaire survey containing questions on HIV transmission, condom use, sexual practices and VCT on HIV were administered to 1,200 randomly selected students from three tertiary institutions in southern Nigeria. In this study 405(88.8%) of males use condom while 51(21.1%)of males are involved in sexual activity without the use of condom. For their female counterpart 256(76.12%)of females had sex with condom, while 81(23.89%) are involved in sexual activity without the use of condom. The study revealed that 345(59.9%) males had not gone for voluntary counselling and testing. Out of the 345(62.5%) females who had not gone for voluntary counselling and testing, 288 (83.48%) were sexually active while 57(16.52%) were sexually inactive. there was no significant difference $p< 0.05$ between sexually active males that have gone for voluntary counselling and testing and sexually active females that have gone for voluntary counselling and testing. In this study the major reason while males do not go for voluntary counselling and testing was because of the anticipated suicidal inclination in case of a positive result. Conversely the females do not go for voluntary counselling and testing mainly because they feel it will cost them a lot of money to do the test.

Aoyagi (2008) conducted a study to assess the knowledge and attitudes concerning HIV infection and individuals with AIDS among 383 female students attending colleges in Nagasaki, Japan. A structured questionnaire containing knowledge about AIDS, sources of information, beliefs and attitudes toward people with HIV/AIDS was administered during sessions set up for that purpose. The mean age of participants was 18.8 ± 0.8 years (± SD). The main source of information for AIDS awareness as reported by the students was the mass media. Good knowledge about AIDS was positively associated with ease of acceptance of living in the same house with a person diagnosed with AIDS 1.90 95% confidence interval (CI): 1.07–3.38]. However, residing at home (OR: 0.64; 95% CI: 0.42–0.98) and involvement in nurse education programmes (OR: 0.59; 95% CI: 0.37–0.95) showed a negative association. Students demonstrated a high level of knowledge concerning AIDS and HIV, but had considerable misconceptions and prejudices about people having HIV/AIDS. The study results suggested that a more appropriate education programme in colleges in Japan may be necessary to reduce the discrepancy between general knowledge and desirable attitude regarding HIV/AIDS

Highleyman (2008) conducted a study to investigate barriers that may pose a threat to a successful implementation of an antiretroviral treatment (ART) program in Ethiopia. He measured knowledge and attitudes towards several aspects of ART and provided an educational intervention to five hundred and fifty employees. The proportion of participants having good knowledge on issues concerning adherence was found reasonably good (67.7%), concerning the benefit of ART was intermediate (37.7%) and concerning eligibility was very low (16.8%). Knowledge concerning eligibility improved somewhat after the provision of the educational intervention.

Only one third of HIV infected persons discloses their HIV status to their partner. Several aspects that could impact adherence to ART will be discussed, such as ART knowledge, social support, willingness to take ART, and disclosure of serostatus, taking the cohort study site into account. Results indicate a tremendous need to educate cohort participants before and during introduction of ART. Efforts to increase knowledge of ART, and especially knowledge of eligibility criteria to start ART, seem warranted, as well as encouragement to identify social support and disclose HIV serostatus, as these factors directly impact the success of an ART program.

Ruhunda (2008) did a study on knowledge about HIV/AIDS and antiretroviral therapy (ART) was conducted in the general population of a rural district in western Uganda. Three hundred seventy-two participants were selected by random cluster sampling and interviewed with an interview-administered questionnaire. Data were analyzed quantitatively with descriptive, univariate and linear multivariate statistical analysis with the knowledge score about ART as the dependent variable. The results indicate that the mean knowledge was 7.7 in a scale from 0 to 13. Predictor for better ART knowledge was a higher educational status of the participants. Older participants over 50 years were less ART knowledgeable. Only 19% of the participants have been tested for HIV. The conclusions are that the ART knowledge in this population is remarkably high which is reaffirming and important for achieving a high adherence to ART. Of concern is the low proportion of persons tested for HIV in this general population.

Bandyopadhyay (2009) conducted a study on knowledge and attitude of HIV and antiretroviral therapy in seventy-five senior nurses attending a workshop. They

were surveyed with questionnaires using two separate scales. Their knowledge about transmission and precautionary measures, and their general attitude towards HIV/AIDS as well as willingness for patient-care were assessed. The nurses showed a satisfactory level of knowledge (mean percentage score 74.3), but misconceptions regarding disinfection and precautionary measures were present; 33% had overall negative attitudes and 24% unwilling to provide care for HIV-infected patients. Knowledge and attitude were positively correlated (r = .32). Knowledge deficits of some aspects of infection leading to fear of contagion and judgemental outlook towards HIV infection might lead to negative attitude impeding proper care. It is suggested that continuous in-service training be instituted to dispel misconceptions and to develop favourable and non-discriminatory attitude.

Renaud (2009) has done a cross-sectional study of knowledge, attitudes, beliefs, and practices (KABPs) toward HIV and antiretroviral therapy (ART) in Soweto, South Africa, using a standardized validated questionnaire. Of 105 HIV clinic patients evaluated, 70% of whom were not on ART, 89% had good knowledge about the cause of HIV infection and 83% knew about modes of transmission. Fifty-nine percent reported they were not worried about ART side effects. Sixty-five percent agreed that missing ART doses can lead to disease progression. Ninety percent had disclosed their HIV serostatus to 1 or more persons, but only 62% of those with a current sexual partner reported having told that partner. Approximately 80% reported that if they were taking ART, they would not be worried about family or friends finding out. Forty-nine percent believed that ART can cure HIV, a belief that was associated with a low level of education ($P<0.001$). Overall, knowledge of the cause of HIV/AIDS, modes of transmission, and importance of ART adherence

was good in our study population. Further research is warranted to assess the extent to which this knowledge and attendant attitudes predict ART adherence levels. The low rate of HIV serostatus disclosure to sexual partners calls for multidimensional interventions to reduce HIV-related stigma.

Potchoo (2009) did a study to assess the knowledge of antiretroviral therapy among HIV patients . A total of 99 patients were enrolled. Among them, 55.6% knew the name of antiretroviral agents of regimens prescribed. All patients had a good knowledge of treatment schedule. The treatment regimens based on 2 NRTIs + 1 NNRTI were used in 90% of patients. The average adherence rate was 89.8% of the total doses prescribed while 62.62% of patients showed an adherence rate of 95% or above. The treated groups were similar in term of median % of medication doses taken according to PLWHA epidemiological characteristics. However, patients reported forgetting (34.9%), travel (25.6%), cost of treatment (13.9%) and side effects (11.6%) as the main factors of missing at least once a dose intake. These results should encourage the association and all the involved actors in the HIV/AIDS's program to strengthen counseling, education and information interventions for HIV-infected patients in order to overcome the potential barriers of poor adherence.

Therefore to increase the knowledge about antiretroviral therapy and HIV intensive massive awareness campaign through radio, television jingles and education is getting popular. Knowledge about HIV/AIDS and its treatment measures should be made aware for the population and is highly recommended. It will surely alter their current negative attitude to routine HIV testing and also to increase their knowledge about HIV/AIDS, antiretroviral therapy that will perhaps help to change their sexual behaviour.

CONCEPTUAL FRAME WORK

Conceptual framework is a brief explanation of a theory or those properties of a theory to be tested in a study (Grove, 2003).

The conceptual frame work of this study is based on J.W. Kenny's Open System Model.

Nurses are increasingly using systems theory to understand not only biologic systems but also systems in families', communities and health care.

All living systems are open in that there is continuous exchange of matters, energy and information. Open systems vary in the degree of intention with the event the system receives input and give back output in the form of matter energy and information. For survival all systems must receive varying types, amount of matter and information. The main concepts of the system theory are input, throughput, output and feedback.

This model of J.W.Kenny's Open System Model is suited to this study which is undertaken to assess the effectiveness of structured teaching programme on antiretroviral therapy among HIV patients.

Input

Input refers to resources taken or received from the external environment.

In this study input refers to the assessment of the knowledge of IV patients regarding antiretroviral therapy.

Through put

Through put refers to the process of conversion of resources within the system.

In this study throughput refers to the transformation of knowledge among HIV patients regarding antiretroviral therapy which will occur within the system because of structured teaching programme

Output

Output refers to the whole of the system expected back into the environment.

In this study output refers to increase in the level of knowledge of HIV patients regarding antiretroviral therapy.

Feedback

Feedback refers to a continuing source of information conceiving the relationship with the external environment used to make necessary changes in order to survive the groups.

Feedback is essential to know that the given education was effective or not and hence the cycle has to be repeated. Feedback emphasized to strengthen the input and throughput.

In this study feedback refers to the analysis of the post test.

The conceptual frame work based on J.W. Kenny's Open System Model is presented in figure 1.

CONCEPTUAL FRAME WORK

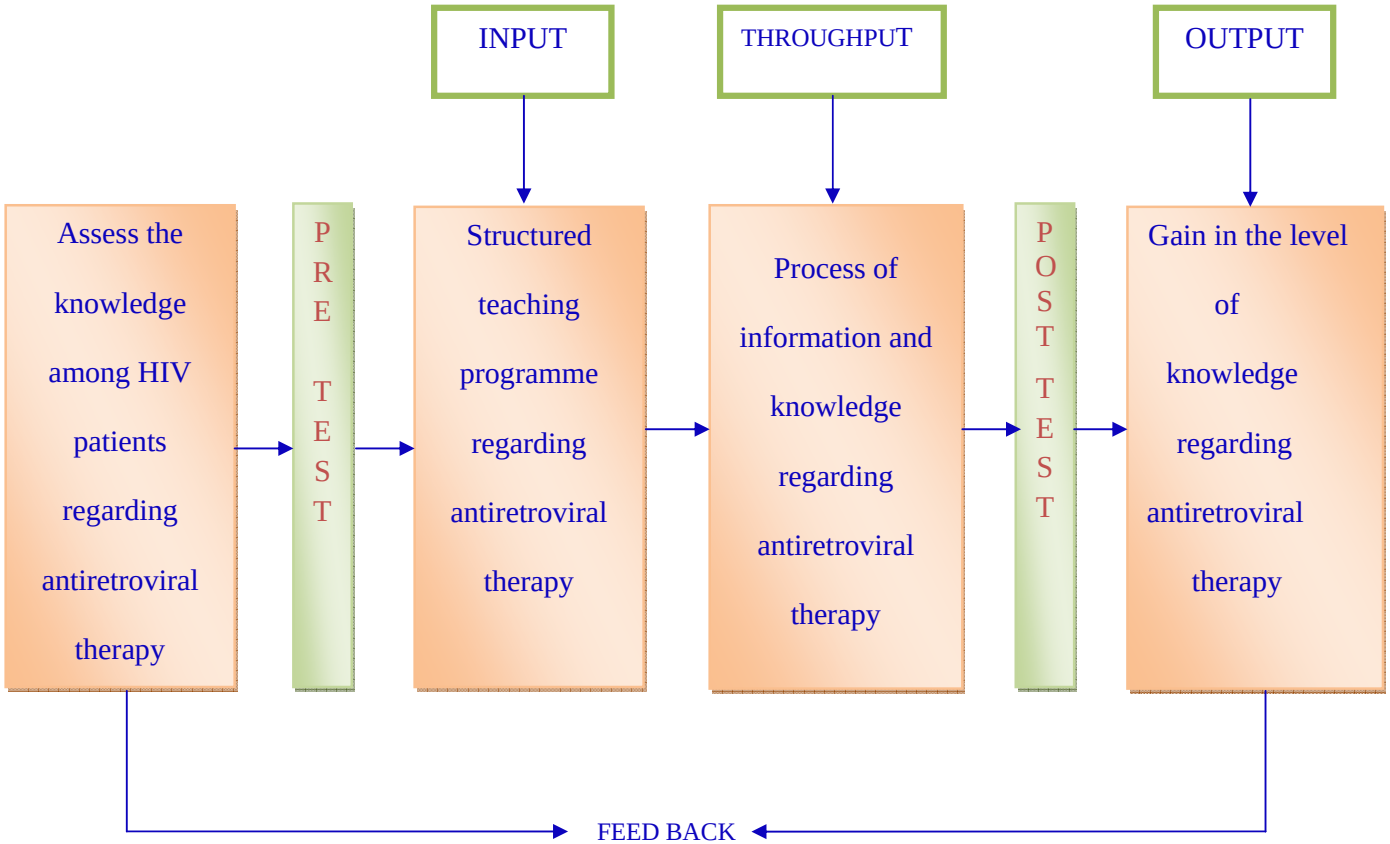


FIG-1: THE CONCEPTUAL FRAMEWORK BASED ON J.W. KENNY'S OPEN SYSTEM MODEL (2002)

CHAPTER – III

RESEARCH METHODOLOGY

Methodology is a systematic approach of exploring facts with the application of principles of reasoning to scientific and philosophical enquiry. It involves orderly procedures by which the researcher starts from an initial identification of a problem to its conclusion (Sharma, 1990). Methodology indicates the general pattern for organizing the procedure for gathering valid and reliable data. It included research approach, research design, setting, sample size, sampling technique, criteria for sample selection, data collection tool, plan for data analysis and protection of human rights (Polit, 2005).

RESEARCH APPROACH

The research approach adopted for this study is evaluative approach. Evaluative approach helps to explain the effect of independent variables on the dependent variables. This approach is considered most suitable for this study.

RESEARCH DESIGN

The research design used for this study is quasi experimental one group pre test post test design. There is no control group in this study. Selection of particular design is based on the purpose of the experiment, the type of variable to be manipulated and the conditions or limiting factors under which it is conducted. Quasi Experimental design enables the researcher to test the hypothesis by reaching valid conclusions about the relationship between dependent and independent variable. Only through this design the cause and effect and relationship between variables can be

established. The great strength of quasi experimental design is that it possess practically, feasibility and to a certain extent generalizability. By selecting one group pretest, post test design there is no control group the investigator assures great value to ethical conscience (Polit,2005).

SETTING OF THE STUDY

Setting is the physical location and condition in which data collection takes place in study (Polit, 2008). The present study was conducted at selected community care centres in Kanyakumari. The reason for selecting theses centres is mainly due to the availability of group of HIV patients who are undergoing antiretroviral therapy to give structured teaching programme.

POPULATION

The target population selected for this study includes HIV patients who are undergoing antiretroviral therapy in community care centres in Kanyakumari District

SAMPLE

A sample is a selected portion of the defined population (Polit, 2008). HIV patients who fulfill the inclusion criteria were selected as samples.

SAMPLING TECHNIQUE

It refers to the process of selecting a portion of the population to represent the entire population (Polit 2005). In this study the technique used was non probability convenience sampling.

CRITERIA FOR SAMPLE SELECTION

The sample was selected based on the following criteria

Inclusion Criteria

- HIV patients including both men and women who are undergoing antiretroviral therapy
- Who are between age group 18 and above
- Who are willing to participate in this study
- Who can understand English and Tamil

Exclusion Criteria

- Who are very sick and debilitated
- Who are undergoing treatment for any other disease condition other than HIV

RESEARCH TOOL AND TECHNIQUE

PREPARTION OF THE TOOL

A review of literature regarding the disease condition, the knowledge, attitude, beliefs and practice of HIV patients helped to attain clarity in the selection of questions. Discussion with the concerned experts and guides directed and highlighted the areas to be touched while preparing the questionnaire. The investigator's own experience in various clinical settings helped to formulate and refine questions.

The researcher developed an interview schedule and questionnaire to assess the knowledge regarding antiretroviral therapy before and after structured teaching programme. It includes selected aspect of the knowledge related to the disease process and about the knowledge on antiretroviral therapy.

TECHNIQUE

The researcher had chosen the following technique in this study:

The technique of pre test and post test was used to assess the knowledge of HIV patients. The investigator used this technique because it shows the changes in the dependent variable after planned teaching.

TOOL

The tool was designed based on the objectives for the study and it was interview schedule. It consisted of two sections

Section A

Demographic data included age, sex, type of family, marital status, education, occupation, and income.

Section B

This section consisted of 24 questions on the knowledge regarding HIV and antiretroviral therapy. Each question has four responses, among that one was the correct answer. The correct answer was given a score of ‘1’ and wrong answers ‘0’. The total attainable score for the knowledge item was 24. The scores was ranged as follows.

TESTNG OF THE TOOL

CONTENT VALIDITY

The extent to which a measurement gives consistent results. The content validity of the tool was determined by submitting the tool to six experts, two from physicians of concerned specialty, three from nursing faculty and one from the counselor. Based on their suggestion the tool was restructured. More questions on antiretroviral therapy were included in the questionnaire.

RELIABILITY

Reliability is the consistency of a set of measurements or of a measuring instrument, often used to describe a test. For assessing the reliability of the tool, the tool was administered to five HIV patients in James community care centre by using Karl Pearsons correlation coefficient formula. The tool was reliable, r=0.86

PILOT STUDY

Pilot study is a small version or miniature of the main study (Polit, 2005).

In order to test the feasibility, relevance and practicability of the study, pilot study was conducted in community care centre in Colachel among five HIV patients in which the final study could be done. Prior permission was obtained from Medical Officer. The pilot study revealed that the study was feasible.

DEVELOPMENT OF STRUCTURED TEACHING PORAMME

Structured teaching programme consisted of

1. Definition of HIV
2. HIV transmission
3. Incubation period
4. HIV Life cycle
5. Diagnosis
6. Definition of antiretroviral therapy
7. Approved antiretroviral therapy drugs
8. Treatment modalities
9. Usage of antiretroviral therapy drugs
10. Initiation of antiretroviral therapy drugs

METHOD OF DATA COLLECTION

The data was collected within the given period of 6 weeks after obtaining a written permission from the concerned authorities. The purpose and nature of the study was explained and data were collected. Data were collected using interview schedule, and knowledge questionnaire. Quasi experimental one group pretest post test design was selected. Teaching was employed on the same group. Effect of teaching was assessed by statistical methods. Effectiveness of the interventional programme was assessed by pretest, following teaching session and post test was conducted after 2 weeks. The teaching session was conducted for each individual. Doubts were clarified, tried to remove misconceptions related to antiretroviral therapy. The difference in knowledge were assessed and statistically tested for significance.

PLAN FOR DATA ANALYSIS

This was planned according to the objectives and hypothesis of the study. The data collected were analyzed using descriptive and inferential statistics,

PROTECTION OF HUMAN RIGHTS

The collection of the data was performed on individual basis. The purpose of the study was explained individually to the patient and a consent form was signed from them before the data collection. No pressure is exerted to enforce them to participate in the study. All samples were voluntarily agreed after explanation of the study clearly. Assurance was given to the study subjects that anonymity of each individual was maintained. This was done for assuring the moral and ethical as well as for the legal safety of the investigator.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter presents the analysis and interpretation of data collected from 50 HIV patients on antiretroviral therapy in order to determine their level of knowledge, practice and effectiveness of structured teaching programme. The data collected were organized, tabulated, analyzed, and interpreted by means of statistical tables, figures on the basis of objectives.

The objectives of the study were;

To assess the level of knowledge regarding antiretroviral therapy before and after structure teaching programme among HIV patients.

To evaluate the effectiveness of structured teaching programme on anti-retro viral therapy among HIV patients.

To associate the post test knowledge score among HIV patients regarding antiretro -viral therapy with selected demographic variables such as age, sex, type of family, marital status, education, occupation, and income.

ORGANISATION OF THE FINDINGS

The data obtained were analyzed using descriptive and inferential statistics as follows

Section I

Data on selected demographic variables among HIV patients on antiretroviral therapy.

Section II

Assessment of knowledge before and after structured teaching programme.

Section III

Effectiveness of structured teaching programme on antiretroviral therapy

Section IV

Association between demographic variables with post test knowledge

Demographic Characteristics

The demographic characteristics of the study were analyzed by computing the statistics, mean, median and standard deviation. The level of the significance was tested by 't' test. The association between the knowledge and selected demographic variables were tested by chi-square test. All the above analysis and interpretation were taken at 0.05 level of significance.

DESCRIPTION OF THE HIV PATIENTS:

HIV patients of the study sample were described in terms of percentage according to their demographic characteristics namely age, sex, type of family, marital status, education, occupation and income in terms of percentage.

SECTION-I

Data on selected demographic variables among HIV patients on antiretroviral therapy.

TABLE–1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF SELECTED DEMOGRAPHIC VARIABLES

(N=50)

Selected demographic variables		Frequency	Percentage
Age in years	< 20 years	2	4
	20 – 29 years	27	54
	30 – 39 years	18	36
	40 years and above	3	6
Sex	Male	20	40
	Female	30	60
Type of family	Nuclear	43	86
	Joint	7	14
Marital Status	Unmarried	5	10
	Married	40	80
	Widow/divorce	5	10
Educational status	Illiterate	5	10
	School level	37	74
	College level	8	16
	Professional	-	-
Occupation	Coolie	40	80
	Driver	5	10
	Business	5	10
	Professional	-	-
	Nil	-	-
Income	Less than Rs. 2000	35	70
	Rs.2001 - 5000	8	16
	Rs. 5001 - 8000	7	14
	Rs.8000 and above	-	-

The above table – 1 reveals that 50 HIV patients selected for the study majority 54% (27) of them were between age group of 20 – 29 years. Among the sex 60% (30) of them were females. The majority 86% (43) of them belongs to nuclear family and 80% (40) of them were married. In the educational status 74% (37) of them had school level education and 80% (40) of them were coolie. In respect of their income status 70% (35) belongs to less than Rs.2000 per month.

SECTION – II

TABLE – 2: ASSESSMENT OF KNOWLEDGE BEFORE AND AFTER STRUCTURED TEACHING PROGRAMME

(N=50)

Score	Percentage of scores	Grade of knowledge	Pre-test		Post-test	
			Number of HIV patients	Percentage	Number of HIV patients	Percentage
0 – 8	< 33.3	Low	34	68	5	10
8 – 16	33.3 – 66.3	Moderate	16	32	30	60
16– 24	66.3 – 100	High	-	-	15	30
Total			**50**	**100**	**30**	**100**

The knowledge of HIV patients regarding the antiretroviral therapy was assessed in table – 2 before introducing structured teaching programme. (Pre-test) 68% (34) of them had low and 32% (16) of them had moderate knowledge.

After introducing the structured teaching programme (Post-test) the low knowledge was decreased to 10 (5) HIV patients. The moderate and high knowledge were increased to 60% (30) and 30% (15) respectively

SECTION – III

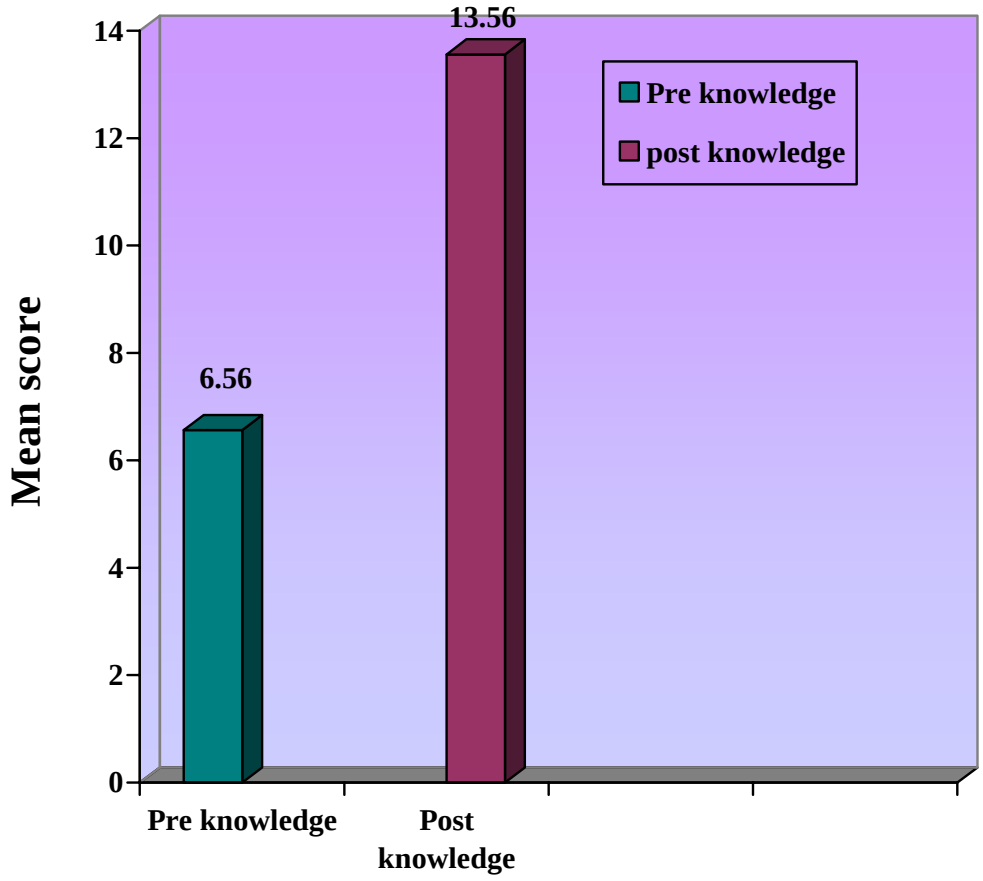
Effectiveness of structured teaching programme on antiretroviral therapy

TABLE – 3: EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE OF ANTIRETROVIRAL THERAPY

Variable	Pre-test		Post-test				't'	d-f	Signifi-cance
	Mean	S.D	Mean	S.D	SEMD	SDMD			
Knowledge	6.56	3.68	13.6	4.8	0.16	1.12	10.37	49	P<0.050

In table-3, it indicates that there is an increase in knowledge after the implementation of structured teaching programme. It also observes that the mean score during pre-test was 6.56 ± 3.68 and has changed to 13.6 ± 4.8 in post-test. The difference observed is statistically significant, ($p<0.050$). The improvement of knowledge was attributed to the effectiveness of structured teaching programme.

FIG - 2: EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE OF ANTIRETROVIRAL THERAPY



SECTION – IV

Association between selected demographic variables and post-test knowledge regarding antiretroviral therapy

Table – 4

Sl. No	Category	Knowledge level of antiretroviral therapy									
		Low		Moderate		High		Total		χ^2	p value
		F	%	F	%	F	%	F	%		
1	Age										
	<20 years	0	0	2	4	0	0	2	4		p<0.05*
	20 – 29 years	4	8	13	26	2	4	19	38	7.39	df-6
	30 - 39 years	1	2	14	28	11	22	26	52		
	40 yr & above	0	0	1	2	2	4	3	6		
2.	Sex										
	Male	0	0	8	16	12	24	20	40		p>0.0
	Female	5	10	22	44	3	6	30	60	15.54	df-2
3.	Type of family										
	Nuclear	5	10	26	52	13	26	44	88		p>0.05
	Joint	0	0	4	8	2	4	6	12	4.065	df-2
3.	Marital status										
	Unmarried	0	0	2	4	3	6	5	10		p>0.05
	Married	5	10	21	42	12	24	38	76	3.204	df-4
	Widow	0	0	7	14	0	0	7	14		
4.	Education										
	Illiterate	0	0	4	8	1	2	5	10		p>0.05
	School level	5	10	22	44	10	20	37	74	3.098	df-6
	College level	0	0	4	8	4	8	8	16		
	Professional	0	0	0	0	0	0	0	0		
5.	Occupation										
	Coolie	5	10	27	54	8	16	40	80		p>0.05
	Driver	0	0	1	2	4	8	5	10	4.845	df-8
	Business	0	0	2	4	3	6	5	10		
	Professional	0	0	0	0	0	0	0	0		
6.	Income										
	Less than Rs.2000	4	8	23	46	8	16	35	70		p>0.05
	Rs.2001 - Rs.5000	0	0	4	8	4	8	8	16	0.186	df-6
	Rs.5001 – Rs.8000	1	2	3	6	3	6	7	14		
	Rs.8000 & above	0	0	0	0	0	0	0	0		

* Statistically Significant at 0.05 levels

Table 4 shows the results of χ^2 values reveals that there was no significant association between the demographic variables like sex, type of family, education, occupation and income with knowledge level of antiretroviral therapy (P>0.050) except the age factor

Hence the above demographic variables did not influence knowledge after structured teaching programme.

Fig 3 shows that among the age group of 30-39 years, 22% of them have high knowledge and 28% of them have moderate knowledge about antiretroviral therapy. The data also identifies that the level of knowledge regarding antiretroviral therapy increases with age. The association between age and level of knowledge is statistically significant, (p<0.050)

Fig 4 shows that among males 24% of them have high knowledge and 16% of them have moderate knowledge, but for females 44% of them have moderate knowledge. The data also identifies that level of knowledge for males is greater than females about antiretroviral therapy. The association between sex and level of knowledge is not statistically significant, (p>0.050)

FIG.3: PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE OF ANTIRETROVIRAL THERAPY AND AGE

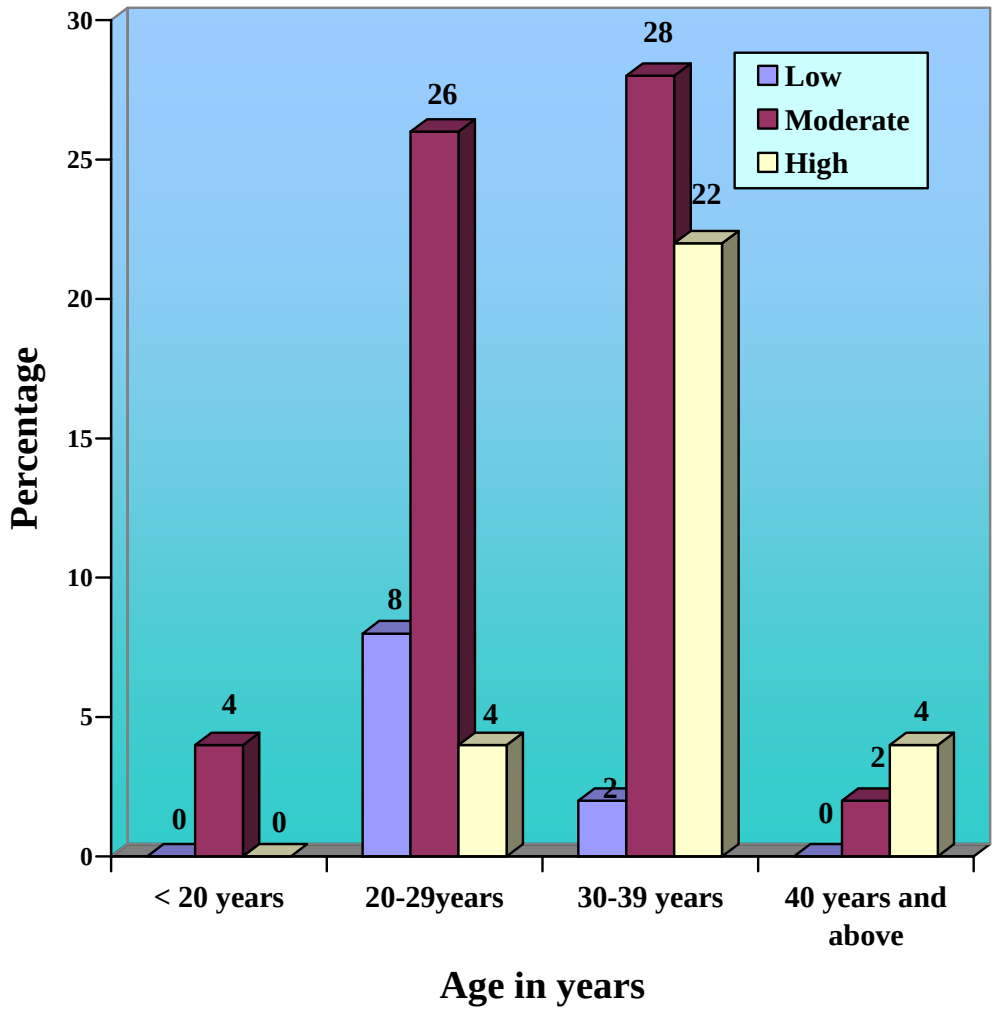
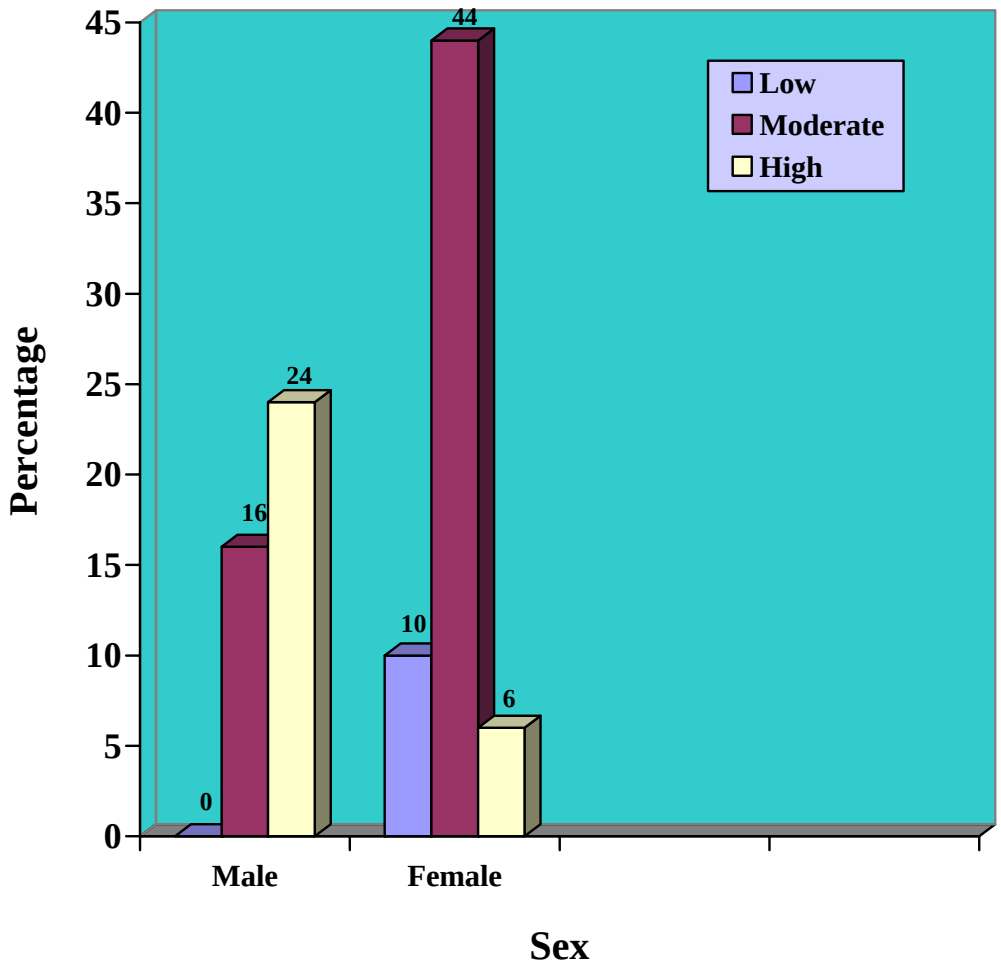


FIG.4 PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING ANTIRETROVIRAL THERAPY AND SEX



CHAPTER V

RESULTS AND DISCUSSION

The present study was undertaken to assess the effectiveness of structured teaching programme on knowledge of antiretroviral therapy among HIV patients in selected community care centers in Kanyakumari District. A total number of 50 patients were selected for the study. The knowledge was assessed by using structured questionnaire.

OBJECTIVES

The objectives of the study were;

To assess the level of knowledge regarding antiretroviral therapy before and after structure teaching programme among HIV patients.

To evaluate the effectiveness of structured teaching programme on anti-retro viral therapy among HIV patients.

To associate the post test knowledge score among HIV patients regarding antiretro -viral therapy with selected demographic variables such as age, sex, type of family, marital status, education, occupation, and income.

SIGNIFICANT FINDINGS AND DISCUSSIONS

SAMPLE CHARACTERISTICS

On analysis of data obtained from table 1, the sample characteristic of HIV patients were in such a way that 54% (27) of them were between age group of 20 – 29 years. Among the sex group 60% (30) of them were females. The majority 86% (43) of them belongs to nuclear family and 80% (40) of them were married. According to

the educational status 74% (37) of them had school level education and 80% (40) of them were coolie. In respect of their income status 70% (35) belongs to less than Rs.2000 per month.

The first objective of the study was to assess the level of knowledge regarding antiretroviral therapy before and after structure teaching programme

On analyzing the data in table 2, reveals that the knowledge of HIV patients regarding the antiretroviral therapy before introducing structured teaching programme. Among that in the pre-test 68% (34) of them had low and 32% (16) of them had moderate knowledge. There was no one had high knowledge.

After introducing the structured teaching programme (Post-test) the low knowledge was decreased to 10% (5) HIV patients. The moderate and high knowledge were increased to 60% (30) and 30% (15) respectively

The second objective of the study was to evaluate the effectiveness of structured teaching programme on antiretroviral therapy.

The data obtained from table 3 shows that the knowledge of HIV patients before and after giving structured teaching programme. It reveals that the knowledge regarding antiretroviral therapy of the HIV patients was improved. It also observes that the mean score during pre-test was 6.56 ± 3.68 and has changed to 13.6 ± 4.8 in post-test. The difference observed is statistically significant $P<0.001$.The difference between pre test and post test knowledge score was large and it was significant. Statistical significance was calculated by using paired t-test. On average HIV patients improved their knowledge from 6.56 to 13.6 after structured teaching programme. During pretest they were able to answer correctly only 6 questions and after structured

teaching programme they were able to answer up to 13 questions correctly. It shows that structured teaching programme was effective

The third objective of the study was to associate the selected demographic variables with level of knowledge on antiretroviral therapy

The data obtained from table - 4 shows the association between selected demographic variables and knowledge of antiretroviral therapy. The association with the age, the chi-square (χ^2) value is 7.39, with 6df, $p<0.050$ hence the findings were statistically significant**.** The association between sex and knowledge the chi-square value is 15.54 with 2df, $p>0.050$, hence the findings showed no statistical significance. The association with the type of family chi-square value was 4.065 with 2df, $p>0.050$, hence the finding was not statistically significant. In the association with the marital status chi-square value was 3.204 with 4df, $p>0.050$, hence the findings were not statistically significant. The association with the education and knowledge the chi-square value was 3.098 with 6df, $p>0.050$, hence the findings were not statistically significant. The association with the occupation chi-square value is 4.845, with 8df, $p>0.050$ hence the findings were not significant. The association with the income chi-square value was 0.186, with 6df, p0.050 hence the findings were not statistically significant.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

SUMMARY

This study was undertaken to assess the effectiveness of structured teaching programme on knowledge regarding antiretroviral therapy among HIV patients with a view to promote adherence.

OBJECTIVES OF THE STUDY

To assess the level of knowledge regarding antiretroviral therapy before and after structure teaching programme among HIV patients.

To evaluate the effectiveness of structured teaching programme on anti-retro viral therapy among HIV patients.

To associate the post test knowledge score among HIV patients regarding antiretro -viral therapy with selected demographic variables such as age, sex, type of family, marital status, education, occupation, and income.

MAJOR FINDINGS OF THE STUDY

4. Among 50 samples none of them had high knowledge during pretest. After structured teaching programme, in post test 30% of them had high knowledge.
5. Association between level of knowledge and selected demographic variables such as sex, type of family, marital status, education, occupation, and income have no significant association.($P>0.050$).
6. The mean score for knowledge during pretest was 6.56 and has changed to 13.6 in post test, $P<0.050$. After imparting the structured teaching programme there is a significant improvement in knowledge on antiretroviral therapy.

IMPLICATIONS OF NURSING

The health behaviour of an individual is influenced by various factors like knowledge, experience, age, educational level and severity of disease. Health care cannot be completed without the active participation of patient and families. Active participation is possible only if there is complete awareness about the disease process and importance of antiretroviral therapy. Since AIDS is a chronic incapacitating disease and is aggravated by triggering factor such as unprotected sex, reuse of needles, blood transfusion. etc. Modification of lifestyle, regular administration of prescribed medication, adequate teaching, intake of nutritional diet, more over awareness about all those factors contribute to the compliance of therapy. The present study confirms that there is association of demographic variables such as age, sex, marital status, education, occupation, and income with knowledge of antiretroviral therapy. Therefore the findings of the research study have considerable implication in nursing administration, nursing education, nursing service and nursing research.

NURSING ADMINISTRATION

Nurse managers and leaders are confronted with emergency health problems not only in the hospital setup, but in community at large. The nursing administration should take active participation in health policy making, developing protocols, procedures, and standing orders related to primary, secondary, and tertiary level prevention of HIV and its exacerbations.

- Nursing administrators in the hospital, community health centers can utilize this module as a resource material for preparing other teaching aids like pamphlets, leaflets, booklets, and posters.

- This module can be made available to all HIV patients attending outpatient and inpatient clinics and it serves as a guideline for quality care.
- Training and educational programme can be conducted for nursing personnel to improve their knowledge and skill in managing HIV patients.

NURSING EDUCATION

Nursing curriculum need to be strengthened in order to keep pace with the growth of other related profession. This will enable the students and teachers to anticipate the future needs of the society. Gaining adequate knowledge and skill develop self confidence thereby enabling them to impart their knowledge and practice for the consumers of health service. This study finding reveals significant improvement in knowledge after the education.

The module can be utilized by the nursing teachers for educating students

- Students can utilize the module for the clinical presentation; ward teaching and conducting seminars.
- Teachers and students can use it as reference material for preparing other visual aids like pamphlets, leaflets, handouts and posters.

NURSING PRACTICE

Nurses working in the clinical setting as well as in the community should have thorough understanding about HIV and antiretroviral therapy. During this study it was found that there is a huge gap between the adherence to antiretroviral therapy and other therapies.

- Nurse as well as the other health team members can utilize the instructional module for individual and group teaching of patients as an outpatient and inpatient, emergency departments, community health centers and in home settings.
- School health nurses can utilize this module for propagating knowledge among students.
- In service education and skill training programmes can be conducted among nursing service personnel.

NURSING RESEARCH

Research studies always form a foundation of further research at a large scale. This study helps the nurse researcher to develop an insight into the formation of a teaching module and transmit information for various HIV patients towards promotion of healthy life and for preventing frequent hospitalization.

- This study adds to the existing body of knowledge in nursing
- The data obtained from the study can be used for further reference.

RECOMMENDATIONS

- Similar study can be replicated with larger samples
- Comparative study can be conducted between male and female
- Comparative study can be conducted between urban and rural population
- Study can be conducted among children using antiretroviral therapy

CONCLUSION

This evaluative study reveals that among the 50 participants of the study 74% of them had high knowledge after post test. There is no statistically significant association between demographic variables such as sex, education, marital status, occupation, and income. The structured teaching programme was also found effective in improving the knowledge of antiretroviral therapy thereby adherence to this therapy can be improved.

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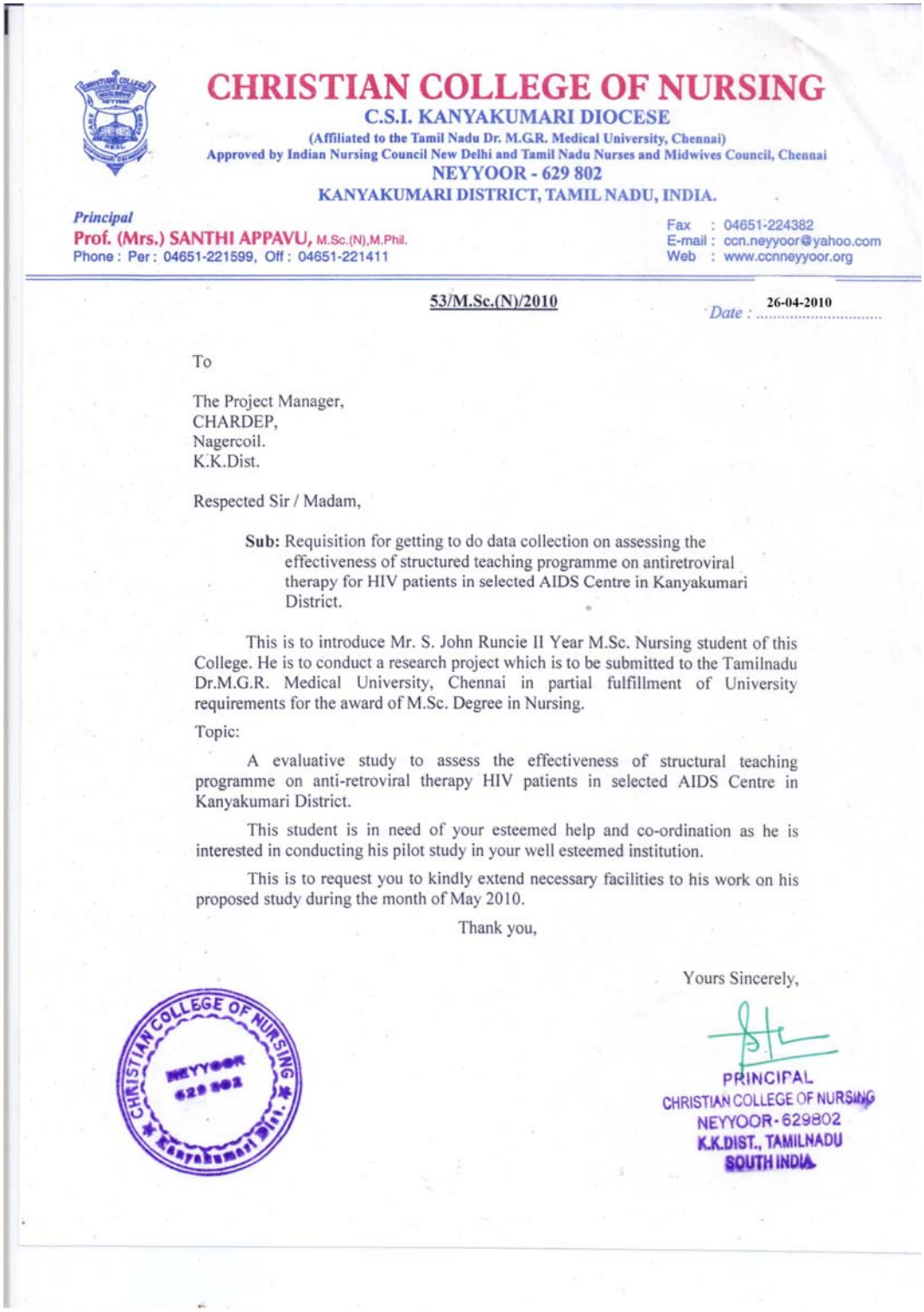
APPENDIX – I

LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY



CHRISTIAN COLLEGE OF NURSING
C.S.I. KANYAKUMARI DIOCESE
(Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)
Approved by Indian Nursing Council New Delhi and Tamil Nadu Nurses and Midwives Council, Chennai
NEYYOOR - 629 802
KANYAKUMARI DISTRICT, TAMIL NADU, INDIA.

Principal
Prof. (Mrs.) SANTHI APPAVU, M.Sc.(N),M.Phil.
Phone : Per : 04651-221599, Off : 04651-221411

Fax : 04651-224382
E-mail : ccn.neyyoor@yahoo.com
Web : www.ccnneyyoor.org

53/M.Sc.(N)/2010

Date : 26-04-2010

To

The Project Manager,
CHARDEP,
Nagercoil.
K.K.Dist.

Respected Sir / Madam,

Sub: Requisition for getting to do data collection on assessing the effectiveness of structured teaching programme on antiretroviral therapy for HIV patients in selected AIDS Centre in Kanyakumari District.

This is to introduce Mr. S. John Runcie II Year M.Sc. Nursing student of this College. He is to conduct a research project which is to be submitted to the Tamilnadu Dr.M.G.R. Medical University, Chennai in partial fulfillment of University requirements for the award of M.Sc. Degree in Nursing.

Topic:

A evaluative study to assess the effectiveness of structural teaching programme on anti-retroviral therapy HIV patients in selected AIDS Centre in Kanyakumari District.

This student is in need of your esteemed help and co-ordination as he is interested in conducting his pilot study in your well esteemed institution.

This is to request you to kindly extend necessary facilities to his work on his proposed study during the month of May 2010.

Thank you,

Yours Sincerely,

CHRISTIAN COLLEGE OF NURSING NEYYOOR 629 802 Kanyakumari Dist.

PRINCIPAL
CHRISTIAN COLLEGE OF NURSING
NEYYOOR-629802
K.K.DIST., TAMILNADU
SOUTH INDIA

APPENDIX – II

LETER SEEKING EXPERT OPINION FOR TOOL VALIDITY

From

John Runcie. S
M.Sc Nursing II yr
Christian College of Nursing
Neyyoor

To

Subject :- Content validity of the tool

Sir/Madam,

I have to submit a dissertation to Dr. M.G.R. Medical University as a part of fulfillment of the M.Sc nursing program. I have chosen the topic- **"A evaluative study to assess the effectiveness of structured teaching programme on knowledge regarding antiretroviral therapy among HIV patients in selected community care centres in Kanyakumari District.**" I prepared questionnaire.

So, I request to evaluate the tool for content validity. Your suggestion will enable me for the successful completion of the study.

Thanking you,

Yours truly,

Sd/

APPENDIX – III

EVALUATION CRITERIA CHECK LIST FOR TOOL VALIDATION

INTRODUCTION

The expert is requested to go through the following criteria for evaluation. Three columns are given responses and a column for remarks. Kindly place tick mark in the appropriate column and give remarks.
Interpretation of column:

Column I : Meets the criteria

Column II : Partially meets the criteria

Column III : Does not meet the criteria

S. No.	Criteria	1	2	3	Remarks
1.	Scoring - Adequacy - Clarity - Simplicity				
2.	Content - Logical Sequence - Adequacy - Relevance				
3.	Language - Appropriate - Clarity - Simplicity				
4.	Practicability - Easy to score - Precise - Utility				

Any other suggestion

Signature
Name
Designation
Address

APPENDIX IV

LIST OF EXPERTS

Dr. S.M Ramaswamy MBBS, MD.
Medical Officer
Community Care Centre
JMCT, Colachel

Dr. D. Augustin Jebaraj, MBBS, MD
Medical Officer
James Hospital
Colachel

Dr. S. Linsa Ratnalal, M.A.Ph.D
Associate Professor and H.O.D of Economics
N.M. Christian College
Marthandam

Mr.A.George Joe Kumar MSc Nursing
Vice Principal
St.Xavier's Christian College Of Nursing
Chunkankadai.

Mrs. Ajitha Jothis S.T MSc Nursing
Asst. Professor
C.S.I College of Nursing
Karakonam

Mrs. Jayarani R.S MSc Nursing
Senior Lecturer
SSNMM College of Nursing
Varkala

APPENDIX V

DATA COLLECTION TOOL

Sample No. **Date:**

Section A:

DEMOGRAPHIC DATA:

1. AGE
   a) < 20 years
   b) 20 – 29 years
   c) 30 – 39 years
   d) 40 years and above

2. SEX
   a) Male
   b) Female

3. TYPE OF FAMILY
   a) Nuclear
   b) Joint

4. MARITAL STATUS
   a) Unmarried
   b) Married
   c) Widow/Divorce/Widower

5. EDUCATION
   a) Illiterate
   b) School level
   c) College level
   d) Professional

6. OCCUPATION
   a) Coolie
   b) Driver

c) Business

d) Professional

e) Nil

7. INCOME
   a) Less than Rs. 2000

   b) Rs.2001 – Rs.5000

   c) Rs.5001 - Rs.8000

   d) Rs.8000 and above

Section B:

ASSESSMENT OF KNOWLEDGE ABOUT HIV AND ANTIRETRO VIRAL THERAPY

1. HIV is caused by
   a) Poverty
   b) A virus
   c) Cold Weather
   d) Being bewitched

2. HIV is transmitted by
   a) Living in the same house with HIV patient, Sharing utensils, and Sharing bed sheets, linen, food or drinks
   b) Coughing or Kissing
   c) Having sex without condom
   d) Mosquito that has been bitten someone with HIV

3. The life cycle of HIV is
   a) 1.5 days

   b) 5 days

   c) 10 days

d) 15 days

4. What immune cells does the HIV (Human Immunodeficiency Virus) infect?

a) CD4 positive (T –4 lymphocytes)

b) Macrophages

c) Both a and b

d) Do not know

5. Which of these can be taken as symptoms of HIV/AIDS?

a) Whitish coating in the throat, tongue or vagina

b) Appearance of purple spots in the anus, mouth, nasal passages or on the skin

c) Both

d) Neither

6. What is Acute HIV Syndrome?

a) When HIV progresses into AIDS

b) The stage immediately after HIV infection when the patient falls ill

c) The final fatal disease for the AIDS patient

d) The final fatal disease for the AIDS patient

7. Antiretro viral therapy means
   a) A Surgical treatment
   b) A disease condition
   c) A treatment modality
   d) A massage technique
8. Antiretroviral drugs are medications for the treatment of infection by
   a) Retro virus
   b) Staphylococcus
   c) Streptococcus

d) E.coli

9. What is the patients' main reason for starting treatment

a) To stay as healthy as possible

b) To become more healthy

c) To live as long as possible

d) To improve blood test results

10. The decision to begin antiretroviral therapy is based on

a) The CD4 cell count
b) The plasma viral load
c) The intensity of the patient's clinical symptoms
d) All of the above

11. What is the purpose of antiretroviral therapy drugs

a) Curing

b) Reducing pain

c) Reducing progression of HIV

d) None of these

12. Where can antiretroviral therapy drugs be obtained

a) Chemist/Pharmacy

b) Government Hospital

c) Private Clinics

d) None of these

13. Antiretroviral therapy is also recommended for patients with CD4 count less than

a) 350 and 500 CD4+ T cells/mm^3

b) 1350 and 1500 CD4+ T cells/mm^3

c) 3500 and 5000 CD4+ T cells/mm^3

d) 35000 and 50000 CD4+ T cells/mm^3

14. The primary benefit of antiretroviral therapy to the HIV-infected individual

a) Partial recovery of the immune system

b) No recovery of the immune response

c) To cure the HIV

d) None of these

15. Goals of ART includes all, except;

a) Prolongation of life and improvement of Quality of Life.
b) Greatest possible reduction in viral load for as long as possible.
c) Limiting drug toxicity
d) Elimination of HIV entirely from the body

16. Which of the following statements is FALSE about antiretroviral therapy:

a) ART increases survival rate.
b) ART reduces HIV-transmission.
c) ART is a cure for AIDS
d) ART reduces hospitalization.

17. Effectiveness of antiretroviral therapy is measured by:

a) A fall in the plasma viral load and an increase in theCD4 count.
b) A rise in red blood cell count and haemoglobin level.
c) A rise in plasma HIV antibodies level.
d) A reduction in opportunistic infections.

18. The standard Zidovudine dose for adults and adolescents in ART is;

a) 200 mg
b) 600 mg
c) 150 mg
d) 300 mg

19. Antiretroviral treatment with Neviparine is generally avoided in:

a) Hepatitis/Chronic Liver Disease (CLD)
b) Pregnancy
c) Tuberculosis
d) Cancer

20. Fixed-dose combinations in antiretroviral therapy means

a) Single antiretroviral drug combined into a single pill
b) Multiple antiretroviral drugs combined into a single pill
c) Single antiretroviral drugs combined into two or more pills
d) None of these

21. Drug holiday means

a) Structured treatment interruptions
b) No drugs in stock
c) Holiday for drug store
d) None of these

22. What influences the HIV patient to take antiretroviral therapy

a) The belief of delaying the disease process
b) Decreasing the viral load below limit of detection
c) Increase the CD4 count.
d) Treatment is simple to take

23. Reasons to consider art regimen "switch" include:

a) Occurrence of nausea and vomiting.
b) Reduction in viral load.
c) ARV treatment failure.
d) Increase in CD4 blood level count.

24. Factors contributing to drug failure in art are:

a) Sub-optimal ARV regimen.

b) Sub-optimal drug levels.

c) Lack of proper adherence to therapy

d) All of the above

ANSWER KEY AND EVALUATION CRITERIA

ANSWER KEY				
1. b	**2. c**	**3. a**	**4. c**	**5. c**
6. b	**7. c**	**8. a**	**9. d**	**10. d**
11.c	**12. b**	**13. a**	**14. a**	**15. d**
16. c	**17. a**	**18. b**	**19. a**	**20. b**
21.a	**22. c**	**23. c**	**24. d**	

Evaluation Criteria

0 – 8	→	Low
8 – 16	→	Moderate
16– 24	→	High

APPENDIX VI

PROTECTION OF HUMAN RIGHT

Written Consent

I the undersigned, ---------- do hereby agree to become a participant for the research study conducting by Mr. John Runcie.S, II yr M.Sc Nursing student of Christian College of Nursing, Neyyoor regarding HIV and

antiretroviral therapy. I was given explanation about the purpose and content of the study and no force is exerted for the study participation.

Place:

Signature of the participant

Date:

Signature of the investigator

APPENDIX VII

STRUCTURED TEACHING PROGRAMME

Topic : Knowledge regarding antiretroviral therapy among HIV patients

Group : HIV patients

Place	:	Community care centre, Nagercoil
Time	:	45 minutes
Name of the teacher	:	John Runcie. S
Method of Teaching	:	Lecture cum discussion
Teaching AIDS	:	Flash cards, Flip charts

General Objective:

The HIV patients acquire in-depth knowledge regarding antiretroviral therapy and develop desirable adherence to this therapy.

Specific Objective:

At the end of this structured teaching programme the HIV patients will be able to

- define HIV

- mention the methods of HIV transmission
- enumerate the incubation period
- explain the HIV life cycle
- list down the diagnostic measures
- define antiretroviral therapy
- enlist the approved antiretroviral therapy drugs
- mention the treatment modalities
- enumerate the usage of antiretroviral therapy drugs
- mention the initiation of antiretroviral therapy drugs

Introduction:

HIV is a virus. Viruses infect the cells that make up the human body and replicate within these cells. A virus can also damage human cells which is one of the things that can make person ill.

HIV/AIDS is one of the biggest problems facing the world today, so everyone should know the facts about HIV/AIDS and also about the antiretroviral therapy which is used to treat HIV.

Definition:

HIV:

A retrovirus that cause aids by infecting helper T cells of the immune system.

HIV transmission:

- Blood including menstrual blood
- Semen and other male sexual fluids
- Vaginal fluids
- Breast milk
- Reusing and sharing needles
- Unprotected Sex
- Mother to child transmission

Incubation period:

The window period for HIV is usually 2 weeks to 3 months but could be up to months.

HIV life cycle:

1. There are several steps in the HIV life cycle.

   Free virus circulates in the bloodstream.
2. HIV attaches to a cell.
3. HIV empties its contents into the cell.
4. The HIV genetic code (RNA) is used by the reverse transcriptase enzyme to build HIV DNA.
5. The HIV DNA is inserted into the cell's DNA by the integrase enzyme. This establishes the HIV infection in the cell.

6. When the infected cell reproduces, it activates the HIV DNA, which makes the raw material for new HIV viruses.
7. Packets of material for a new virus come together.
8. The immature virus pushes out of the infected cell in a process called "budding."
9. The immature virus breaks free of the infected cell.
10. The new virus matures: raw materials are cut by the protease enzyme and assembled into a functioning virus

Diagnosis:

- HIV antibody test {ELISA}. Enzyme linked immuno sorbant assay.
- Antigen test
- DNA PCR Test. [polymerase chain reaction]

  PCR tests comes in two forms

  (1) DNA – PCR

  (2) RNA – PCR

- Viral load

  To detect HIV genetic material and estimate the level of virus in the blood

- Serologic test

  Screening ELISA followed by confirmatory western blot test.

- HIV antibody test

  That gives results with 20 – 40 min

ANTIRETROVIRAL THERAPY:

Definition:

ART means treating retroviral infections like HIV with drugs. The drugs do not kill the virus. However, they slow down the growth of the virus. When the virus is slowed down, so is HIV disease. Antiretroviral drugs are referred to as ARV. ARV therapy is referred to as ART.

APPROVED ARV DRUGS

Each type, or "class", of ARV drugs attacks HIV in a different way. The first class of anti-HIV drugs was the nucleoside reverse transcriptase inhibitors (also called NRTIs or "nukes".) These drugs block Step 4, where the HIV genetic material is used to create DNA from RNA. The following drugs in this class are used:

- Zidovudine (Retrovir, AZT)
- Didanosine (Videx, Videx EC, ddI)
- Stavudine (Zerit, d4T)
- Lamivudine (Epivir, 3TC)
- Abacavir (Ziagen, ABC)
- Tenofovir, a nucleotide analog (Viread, TDF)
- Combivir (zidovudine/lamivudine combination)
- Trizivir (zidovudine/lamivudine/abacavir combination)
- Emtricitabine (Emtriva, FTC)
- Truvada (combination of emtricitabine and tenofovir)
- Epzicom (combination of abacavir and lamivudine)

A newer class of ARV drugs is entry inhibitors. They prevent HIV from entering a cell by blocking Step 2 of the life cycle. Two drugs of this type have been approved:

- Enfuvirtide (Fuzeon, T-20)
- Maraviroc (Selzentry or Celsentri, MVC)

The newest type of ARV drug is the integrase inhibitor. It prevents HIV from inserting its genetic code into the human cell's code in step 5 of the life cycle. The first drug of this type is:

- Raltegravir (Isentress, RGV)

USAGE OF ARV DRUGS:

Antiretroviral drugs are usually used in combinations of three or more drugs from more than one class. This is called "Combination Therapy." Combination therapy works better than using just one ARV alone, It also helps prevent drug resistance.

Manufacturers of ARVs keep trying to make their drugs easier to take, and have combined some of them into a single pill.

RESISTANCE TO ARV DRUGS:

When HIV multiplies, most of the new copies are mutations: they are slightly different from the original virus. Some mutations keep multiplying even when you are taking ARV drugs. When this happens, the drug will stop working. This is called “developing resistance” to the drug.

If only one ARV drug is used, it is easy for the virus to develop resistance. For this reason, using just one ARV drug (monotherapy) is not recommended. But if two drugs are used, a successful mutant would have to "get around" both drugs at the same time. And if three drugs are used, it's very hard for the right mutations to show up that can resist all three drugs at the same time. Using a triple-drug combination means that it takes much longer for resistance to develop.

AIDS CAN BE CURED BY ARV DRUGS OR NOT:

At present, there is no known cure for HIV infection or AIDS. ARVs reduce the viral load, the amount of HIV in your bloodstream. A blood test measures the viral load. People with lower viral loads stay healthier longer. They are also less likely to transmit HIV infection to others.

Some people's viral load is so low that it is "undetectable" by the viral load test. This does not mean that the entire virus is gone, and it does not mean a person is cured of HIV infection.

INITIATION OF ARV DRUGS:

There is not a clear answer to this question. Most doctors will consider your CD4 cell count and any symptoms you've had. ARV therapy is usually started if your CD4 cell count is dropping to near 350, if you are pregnant, need treatment for hepatitis B, or have symptoms of HIV-related disease. This is an important decision you should discuss with your health care provider.

TREATMENT METHOD:

Each ARV drug can have side effects. Some may be serious. Refer to the fact sheet for each individual drug. Some combinations of drugs are easier to tolerate than others, and some seem to work better than others. Each person is different, and you and your health care provider will have to decide which drugs to use.

APPENDIX – VIII

STRUCTURED TEACHING PROGRAM – TAMIL

முன்னுரை :

HIV என்பது ஒரு கிருமி. மனித உடம்பை உருவாக்கக்கூடிய கணுக்களை, இக்கிருமிகள் பரவச் செய்து, இக்கணுக்களுக்குள்ளே நேர் பகர்ப்பாக பிரியும். மனிதன் நோயினால் பாதிக்கப்படும்படிக்கு, ஒரு கிருமியானது மனித கணுக்களை கேடடையவும் செய்யும்.

HIV/AIDS என்பது உலகம் இன்று காண்கிற மகாப்பெரிய பிரச்சனைகளில் ஒன்றாகும். ஆகவே, ஒவ்வொருவரும் HIV/AIDS பற்றிய உண்மைகளையும் HIV

நோயை குணப்படுத்தக்கூடிய "ஆன்டி ரெட்ரோ வைரல்" சசிட்சையைப் பற்றியும் தெரிந்து கொள்ள வேண்டும்.

விளக்கவுரை :

HIV:

தடுப்புத்தன்மையை உண்டாக்கும் அமைப்பின் helper T கணுக்களை பரவச் செய்து AIDS ஐ உண்டாக்கும் ஒரு retrovirus கிருமி.

HIV பரவுதல் :

- இரத்தம், மாதவிடாய் இரத்தம் உட்பட
- ஆணின் விந்து மற்றும் இதர ஆண் பாலின திரவங்கள்
- பெண் குறியிலிருந்து வெளியாகும் திரவம்
- தாய்ப்பால்
- ஒருமுறை பயன்படுத்திய ஊசிகளை திரும்ப திரும்ப பயன்படுத்தல் மற்றும் அவைகளை பகர்தல்
- பாதுகாப்பற்ற உடலுறவு
- தாயிடமிருந்து பிள்ளைக்கு பரவுதல் அடைகாக்கும் (உருவாகும்) காலம்.

இன்குபேசன் காலம் :

HIV கிருமி ஓய்வு காலமாக 2 வாரங்கள் முதல் 3 மாதம் வரையிலும் மேலும் பல மாதங்களாகவும் இருக்கலாம்.

HIV வாழ்க்கை சுழற்சி :

HIV கிருமியின் வாழ்க்கை பல படிகள் உள்ளதாகும்.

1. சுதந்திர கிருமிகள் இரத்தத்தில் சுழன்று வரும்
2. HIV கிருமிகள் செல்லுடன் இணைந்திருக்கும்
3. HIV கிருமியின் உள்ளடக்கத்தை செல்லுக்குள் அமைக்கும்
4. HIV கிருமியின் ஜெனட்டிக் முறை (RNA) எதிர்மாற்று முறையில் HIV DNA உருவாக்க பயன்படுகின்றது.

5. HIV DNA இன்றகிறேஸ் என்ஸைம் மூலமாக செல் DNA யில் திணிக்கப்படுகின்றது. இது செல்லில் HIV தொற்றுநோய் உருவாக்குகின்றது.
6. நோய் ஏற்பட்ட செல் HIV DNA உடைய புதிய செல்களுக்கு உற்பத்தி பொருளாக அமைகின்றது.
7. உற்பத்தியாகும் புதிய பொருள்களின் தொகுப்பு ஒன்றாக கூடுகின்றது.
8. வளர்ச்சி அடையாத செல் நோய் தொற்றியிருக்கும் செல்லிற்கு வெளியே தள்ளப்படுகிறது. இந்த முறைக்கு பட்டிங் என்று பெயர்.
9. வளர்ச்சி அடையாத கிருமிகள் நோய் தொற்றியிருக்கும் செல்லிருந்து பிரிந்து செல்கின்றது.
10. புதிய செல்கள் வளர்ச்சி அடையும்போது உற்பத்தி பொருள்களிலிருந்து புரோட்டீஸ் என்ஸைம் மூலம் வேலை செய்யும் கிருமியாக கூடுகின்றது.

HIV கண்டுபிடிக்கும் முறைகள் :

- ❖ எலிசா
- ❖ ஆன்றிஜென் பரீட்சை
- ❖ டி.என்.ஏ பி.சி.ஆர் பரீட்சை (போலிமெறேஸ் செயின் : வேலை)

பி.சி.ஆர் பரீட்சை இரண்டும் விதம்

(i) டி.என்.எ – பி.சி.ஆர்

(ii) ஆர்.என்எ – பி.சி.ஆர்

- ❖ வைறல் லோட்

எவ்வளவு கிருமி இரத்தத்தில் தாக்கியுள்ளது மற்றும் ஹச்.ஐ.வி. சாதனத்தை அறிய

- ❖ ஸெறோலோஜிக் பரீட்சை:

எலிசா பின் வெஸ்றேன் ப்ளாட்

- ❖ ஹச்.ஐ.வி ஆன்றிபாடி பரீட்சை :

இருபது முதல் நாற்பது நிமிடங்களில் தேர்வின் முடிவு கிடைக்கும்.

ஆன்றிரெட்ரோ வைல் தெரபி :

விளக்கவுரை :

ART என்பது ரெட்ரோ வைரஸ் தொற்றுநோய் போன்ற HIV ஐ மருந்துகள் மூலம் குணப்படுத்தும் முறை ஆகும். மருந்துகள் நோய் கிருமிகளை கொல்வதில்லை. ஆனால் அதன் வளர்ச்சியை மெதுவாக்குகின்றது. நோய் கிருமியின் வளர்ச்சி குன்றும்போது HIV நோயும் குறைகின்றது. ஆன்றிரெட்ரோ வைரல் தெரப்பி என்பது ART எனக் குறிப்பிடப்படுகிறது.

அங்கீகரிக்கப்பட்ட எ.ஆர்.வி மாத்திரைகள்:

எல்லா தரப்பட்ட எ.ஆர்.வி. மாத்திரைகளும் வெவ்வேறு விதங்களில் ஹச்.ஐ.வி. யை தாக்குகிறது. முதல் தரப்பட்ட ஹச்.ஐ.வி –யை தடுக்கும் மாத்திரைகளில் னூக்ளியோசைடு றிவேர்ஸ் ற்ரான்ஸ்கிறிப்றேஸ் இன்ஹிபிற்றேர்ஸ் (என்.ஆர்.றி.ஐ.எஸ் அல்லது நூக்ஸ்) என்பவை அடங்கும். இது ஆர்.என்.எ யில் இருந்து டி.என்.எ –யை உருவாக்கும் ஹச்.ஐ.வி. ஜெனிறிக் சாதனத்தை உருவாக்க தடைசெய்கிறது. இது நான்காம் கட்டம் ஆகும். இத்தரப்பட்ட மாத்திரைகளின் வரிசையினை கீழே காண்போம்.

- ❖ சிடோவுடீன் (றிட்ரோவிற், எ.இசட்.டி)
- ❖ டிடனோசின் (விடெக்ஸ், விடெக்ஸ் இசி, டிடிஐ)
- ❖ ஸ்டேவுடீன் (ஸ்ஹெறிட், டி ப்போர் றி)
- ❖ லேமிவுடீன் (எபிவிர், த்றீடி.சி)
- ❖ எபெகவிர் (ஸியாஜென், எபிசி)
- ❖ ற்றெனோபிர், நூக்ளியோற்றைட் ஏனெலோக் (விறியேடு, றிடிஎப்)
- ❖ கோம்பிவிர் (ஸிடோவுடீன்/லேமிவுடீன் இணைப்பு)
- ❖ ற்றிஸிவிர் (ஸிடோவுடீன்/லேமிவுடீன்/அபேகவீர் இணைப்பு)
- ❖ எம்ற்றி ஸிட்டபின் (எமற்றிவ, எப்றிசி)
- ❖ ற்றூவேடா (எம்ற்றிஸிட்டபின், ற்றெனோபோவிர் இணைப்பு)

- ❖ எப்சிகோம் (அபேகவிர், லாமிவுடீன் இணைப்பு)
- ❖ என்புவிர்ரைட் (ப்புயூசியோன், றி-இருபது)
- ❖ மேராவிறோக் (செல்சென்ற்றி அல்லது செல்ஸென்ற்றி, எம்விசி)
- ❖ றால்றிக்றாவிற் (ஐசென்றெஸ், ஆர் ஜி வி)

ARV மருந்துகளின் உபயோகம் :

பொதுவாக ஆன்றிரெட்ரோ வைரல் மருந்துகள் ஒன்றுக்கு மேற்பட்ட வகுப்புகளை சேர்ந்த மூன்றோ அதற்கும் கூடுதலான மருந்துகளின் கூட்டமாகும். இதை "கூட்டு தெரப்பி" என அழைக்கப்படுகின்றது. ஒரு மருந்து உபயோகத்தை விட கூட்டு தெரப்பி நன்கு வேலை செய்கின்றது. இது மருந்து எதிர்ப்பு சக்தியை எதிர்கொள்ள உதவுகின்றது. ARV மருந்து உற்பத்தியாளர்கள் பல மருந்துகளில் கூட்டத்தை ஒரே மாத்திரை வடிவில் தயாரிப்பதால் உபயோகிக்க எளிதாகும்.

ARV மருந்திற்கு ஏற்படும் எதிர்ப்பு தன்மை :

HIV பெருகும்போது புதியவற்றின் தன்மை முதலில் உள்ளவற்றின் மாறுபட்டதாக அமைகின்றது. சில ARV மருந்துகள் எடுக்கும்போதும் பெருகுகின்றது. இப்படி நடக்கும்போது மருந்து வேலை செய்வது நின்று போகின்றது. இதை மருந்தின் எதிர்ப்புத்தன்மை வளர்ச்சி என அழைக்கப்படுகின்றது.

ஒரு மருந்து மட்டும் உபயோகத்தால் நோய் கிருமிக்கு "எதிர்ப்புத்தன்மை வளர்ச்சி" எளிதாகும். எனவே ஒரு ARV மருந்து மட்டும் உபயோகிக்க பரிந்துரைப்பது இல்லை. மருந்துகள் உபயோகித்தால் அவை ஒரே நேரத்தில் சக்தியாக வேலை செய்கின்றது. மூன்று மருந்துகள் உபயோகித்தால் மேலும் சக்தியாக வேலை

செய்கின்றது. பல மருந்துகளின் கூட்டத்தை உபயோகித்தால் எதிர்ப்புதன்மை வளர காலம் கூடுதல் எடுக்கப்படுகின்றது.

AIDS ஐ ARV மருந்துகள் உபயோகித்து குணப்படுத்த முடியுமா அல்லது முடியாத.

இப்போது HIV தொற்று நோய் அல்லது AIDS சுகப்படுத்தும் முறை இருப்பதாக தெரியவில்லை. ARV கிருமியின் பலத்தை குறைத்து இரத்தத்தில் HIV ன் அளவை குறைக்கின்றது. இரத்த சோதனை மூலம் கிருமியின் பலத்தை அளக்கலாம். கிருமி பலம் குறைந்த நோயாளி கூடுதல் காலம் ஆரோக்கியமாக வாளலாம். அவர்களிடமிருந்து நோய் பரவும் தன்மையும் குறைவாக இருக்கும்.

சிலரில் நோயின் பலத்தை சோதனை செய்யும்போது கண்டுபிடிக்க முடியாத அளவு குறைவாக இருக்கும். இது கிருமிகள் ஒன்றும் இல்லை என்றோ அல்லது பூரண சுகம் அடைந்ததாகவோ கருத முடியாது.

ARV மருந்து தொடங்கும் முயற்சி :

இதற்கு ஒரு சரியான பதில் இல்லை. மருத்துவர்கள் CD-4 எண்ணம் மற்றும் வேறு நோய் அடையாளங்கள் வைத்து தீர்மானிக்கின்றனர். CD-4 ன் எண்ணிக்கை 350 என குறைந்தால் ARV தெரப்பி தொடங்கப்படுகின்றது. கர்ப்ப காலத்தில் ஹெப்படைட்ஸ் B மற்றும் HIV சம்மந்தப்பட்ட நோயின் குறிகுறி தென்பட்டால் மருத்துவம் தேவைப்படுகின்றது. ஆரோக்கிய அதிகாரிகளுடன் கலந்துரையாட வேண்டும் என்பது ஒரு முக்கிய தீர்மானமாக வேண்டும்.

குணப்படுத்தும் முறை :

ஒவ்வொரு ARV மருந்து உபயோகத்திற்கும் பக்க விளைவுகள் உண்டு. சில மருந்துகள் மிக கடுமையானதாக இருக்கலாம். ஒவ்வொரு மருந்தின் உண்மைகளை

மேல் பரிசோதனை செய்ய வேண்டும். சில மருந்து கூட்டங்களை தாங்கி கொள்ள முடியும். சில மருந்து கூட்டங்கள் வேறு சிலவற்றை விட நன்றாக வேலை செய்யும். ஒவ்வொருவரும் வித்தியாசமானவர்களாதலால் ஒவ்வொருவரும் மருத்துவரும் எந்த மருந்துகள் எடுக்க வேண்டுமென தீர்மானிக்க வேண்டும்.