CHAPTER ONE

INTRODUCTION
CHAPTER - I

INTRODUCTION

"आयु : सत्त्वलगत्रोप्य सुखप्रीतिविवर्णा : |
कटुवम्लगत्वणात्युणातिशणिक्षणविदाहिना : ||"

(The Geeta : Lord Krishna)

Acquired Immunodeficiency Syndrome (AIDS), which is associated with entire spectrum of human immunodeficiency virus (HIV), is recognised as ‘killer sex disease’, by worldwide (Osoba and Ogunbanjo, 1986). Whole world tremored due to heavy impact of AIDS on socio-economic status, immunity and health with 100 per cent mortality rate hence, the worldwide medical policies are now giving top priority to prevention of this disease. The evidence of HIV infection was found through the blood sample analysis from a sailor in Kinshasa, Zaire from Africa in 1959. HIV has been genetically found to be the closest to the simian immunodeficiency virus (SIV) which was found in monkeys and is presumed to have originated from it (Bhatlavande and Gangakhedkar, 1999). Whereas a group of symptoms called OJAKSHAYA found in Sushruta Samhita in Ayurveda (Kulkarni, 1999) are very nearer to the AIDS syndrome.

SIV (the monkey virus) is genetically more related to HIV-2 than HIV-1 and FeLV (Feline immunodeficiency virus in cats). Therefore, it is presumed that HIV-2 has originated from SIV. How this virus (SIV) was transmitted from monkeys to human beings is still being debated.
'Green monkey theory', 'Germ warfare theory and mutation theory' are the supportive documented reports give the original occurrence of HIV infection whereas the degree of travel between countries in modern society ensured it's rapid spread to produce simultaneous epidemics in USA, Africa and all over the world (Sepulveda, 1988).

'AIDS was first discovered in 1981 in Los Angeles (USA). An unusual type of pneumonia and a skin cancer i.e. KS (Kaposi's Sarcoma) were seen among a few young homosexuals. These reports signalled the arrival of a mysterious acquired disorder of the human immune system which disabled the body's defence. The disease was named 'gayrelated immunodeficiency syndrome' (GRID). However, within short period; similar signs and symptoms were also noticed among heterosexuals, intravenous drug users indulging in needle sharing and haempophiliacs who required repeated blood transfusions as a life support measure. AIDS came later to WHO's South-East Asia Region. The first reported case was in Thailand in 1984. In Kigali, Rawanda and Kinshasha, Zaire there was an increase in the disease cryptococcal meningitis. In Rakai district in Uganada, a disease was found where young people dramatically lost weight and died. There this disease was referred as a 'slim disease'. In 1984, this same wasting disease was reported in Zambia together with Karposis sarcoma, similarly in Africa and in USA.

In India the first case of HIV infected patient was reported in April, 1986 at Madras amongst a few sex workers. Even the HIV
epidemic also reported amongst the intravenous drug users in the north-eastern parts of India. In Maharashtra, Mumbai and Pune cities recorded first cases of AIDS among the males as sexually transmitted disease (GOI, 1986). Now the high HIV reactivity rates have been reported from districts in Western zone of Maharashtra amongst the commercial sex workers, migrated truck drivers and voluntary blood donors (Dainik Sakal, 2000).

HIV belongs to a family of viruses known as retroviruses. The person gets HIV infection mainly through three routes of transmission. The most common of there is through sexual intercourse. HIV can spread both through homosexual and heterosexual intercourse when a partner is already infected (Heymann, 1995). In those infected, HIV is found in body fluids like blood, semen, vaginal secretions, tears, saliva and breast milk. However, only blood, semen, vaginal fluids and breast milk have been implicated in the transmission of HIV. The risk increases four to six fold, particularly if the partner has sexually transmitted diseases (STD's) like genital ulcer, syphilis, chancroid or herps. Transmission of HIV through infected blood, blood products and through the contaminated needles and syringes are also the higher risk of routes. The third route of HIV transmission is from an infected mother to her foetus during pregnancy, at birth or shortly after birth (Bang et al., 1989).
The routes of transmission of HIV are very close to the individuals which found one of the cause to develop stigmatization and discrimination. Hence, in this condition it is very difficult to make the people aware about the mode of transmission of HIV, its dangerous effect and preventive control measures. However, majority of the government, non-government organizations are now found busy with the awareness and preventive policies about AIDS. Many extension activities are also carried out through different programmes to promote the awareness about prevention of AIDS. Certain organisations are found to conduct the programmes in the red light areas. They distribute condoms, give information regarding particularly how to use the condoms to young college students, etc. (Garg et al., 1993). Mass medias are also making efforts to convey of this message, Television programmes, film shows, conferences, Seminars, discussions, street drama, exhibitions, special AIDS Cells in the hospitals, telephone services, e-mail and multimedias are the various ways by which the awareness is brought. Each region in the world is giving a top priority to the financial aid in the plan and budgetary allotment for this disease (Nayar, 1999). Global programmes on AIDS (GPA), International and National AIDS Control Boards, like United National AIDS (UNAIDS), The AIDS Support Organisation (TASO), network of Global Blood Safety Initiative (GBSI), National AIDS Control Board (NACB) and State AIDS Control Boards (SACB) Ashwamedh, Mukti and Adhar
Centres at regional level are playing active role to strengthen, support, expand response, provide care and reduce the infection load among the individuals and community to STD’s/ HIV/ AIDS. Moreover, the efforts taken by various agencies are found meagre and marginal as compared with wide growth of this disease in the population. HIV has spread at a faster rate to almost all the countries in the world, surpassing geographical and socio-economic boundaries, particularly in underdeveloped countries.

Disease control, prevention, estimate that approximately one million people or one in every 250 people in the United States are infected with HIV (CDC, 2000).

India is one of the most populous developing countries in the world. WHO’s future predictions of HIV infection suggest that by 2000 A.D. contribution from the developing countries will increase to 90 per cent. Due to poverty, ignorance, illiteracy, population explosion, hypocrisy, ignorance about sex and misbelief, migration, misuse of advanced technology, etc. the infection can spread like a wildfire in the developing countries like India.

According to the statements given by research institute on AIDS at Bangalore, in the news letter (Dainik Sakal, 2001) recently, 3 to 4 crore people in the world are infected with HIV positive. Among these infected world population, 10 per cent HIV patients, are from India. In
India, 20,304 number of people are recorded as AIDS patients. Among these patients 77 per cents are male (15,520). Tamil Nadu, Maharashtra state and Karnataka are the states ranked as first (9,714 or 47 per cent); second (4,459 or 22 per cent) and third (918 or 5.5 per cent) respectively in the Indian AIDS population. The number of infected children is growing most rapidly in Asia and particularly in India (Chin, 1989).

The spread of HIV/ AIDS infection has introduced a new dimension to the world, its impact cannot be measured in terms of loss of socio-economic status, immunity power and health status of the individuals. Younger generation who are the economic and social backbone of the country are more prone to this disease (Baride, 1999). AIDS and AIDS related complaints (ARC'S) resulted in abortions, breaking family structure, increased number of orphans due to greater maternal mortality from AIDS, increased burden on health care expenditure, and tremendous loss of ‘man days of work’ etc. (Erben, 1995). The impact of AIDS affected the health status of the individuals by depriving nutritional status, malnutrition, weight loss, diarhoea, tuberculosis, fever, skin infection, oral karposis sarcoma, dysphagia, odynophagia (difficulty with swallowing), dyspepsia and anorectal symptoms (rectal pain or discomfort) (Mann, 1986; Keusch and Farthing, 1990; Kotler et.al., 1990; Mckinley et.al., 1994; Chlebowski et.al. 1995; Kulkarni, 1999; and WHO, 2000).1 AIDS is not a single disease but it is a syndrome a set of diseases, which result
from the destruction of the body's defences by the HIV infection. HIV zeroes in on white blood cells (WBC) called lymphocytes, which play a vital role inorchestreating the defences of the immune system. They possess a molecule called CD4 on their surface which help the immune cells to communicate with each other. HIV, on gaining entry into the CD4 cells, manipulate the genetic apparatus of the cells and inserts its own genetic information, turning the cells into a factory that produces several new copies of infected cells and destruction of the original lymphocytes. The dangerous game of hide and seek ends when so many of the WBC's have been destroyed that the body falls prey to opportunistic infections after several years (more than five years). If, once the HIV infection is successfully prevented by any barrier methods, the furthermore risk of developing AIDS and ARC's can be prevented in the population. Hence it is very necessary to give more emphasis on the prevention of HIV infection by changing sexual behaviour or otherwise to increase the immunity of the HIV positive patients to suppress the development of AIDS and ARC's at an early stage of infection. By taking regular balanced diets, maintaining healthy food habits and adopting better hygienic practices one can improve the immunity power of the individual. Major nutrients like protein, caloric and minor nutrients such as vitamins i.e. β-carotene, vitamin B3, B12, vitamin E, vitamin C, and trace elements i.e. iron, zinc and selenium play a significant role in an enhancing the immunity system into more powerful
action. If the patient is already suffering from malnutrition and poorer state of health, the immunity power will get deteriorated and the AIDS symptoms may be found at an early stage. Hence, to improve the immunity power before emergence of the symptoms of AIDS, is the priority based strategy need to be followed immediately after HIV positive detection. ‘Food is medicine’ has been the basic premise since times immemorial. Even modern medicine has recognised the therapeutic role on many foods. There is an increasing awareness among the scientists that nutrients of the balanced diet may play a vital role in the management of several chronic and metabolic disorders. Several studies documented that diet can modify the disease progress. Hence, primary prevention through dietary modification has great promise to the determination of the health and nutritional status of people (CDC, 1986 and Kotler et.al., 1990).

The relationships among nutritional status, infectious disease, and the immune system suggest that nutrition may be a cofactor in HIV progression. Certain studies (Dowling et.al., 1990; Martin et.al., 1991 and Babgalehb and Tollefson, 1994) demonstrated that poor nutritional status and infection affect the immune system and interact with each other. Whereas Jain and Chandra (1994) reported that, nutritional deficiencies play an important role in the pathogenesis of AIDS. HIV infected persons along with malnutrition and nutritional deficiencies develop AIDS more quickly than well nourished HIV infected patients.
Nutritional supplementation with certain vitamins and minerals to animal models of HIV, as well as in human subjects found an increased progression in immunity with moderating immunosuppression (Suttmann et al., 1996; Heller, 1997; Young, 1997 and Salomon et al., 1998). Besides this, the nutritional status of the individual with HIV infection is important to consider early in the course of the infection which has a bearing on improving better quality of life of HIV positive person than that of AIDS patients (WHO, 2000). Hence, management of dietary treatment through counselling and nutrition education to the infected patients is emerging as a popular therapy in the field of clinical and therapeutic nutrition. These therapies will become more effective when the patients will give more positive response to the suggested dietary guidelines.

In the present situation, the emergence of AIDS along with illiteracy, poverty, fear, stigma and prejudice of acquiring this potentially deadly infection has lead to a marked decline in promiscuity among population groups particularly exposed to AIDS infection. HIV infected families are psychologically, socially, economically under the tension and pressure which results into lack of exposure. Far away from proper medical treatment and probably adopting a fraudulent therapies with this disease leads to increase in the number of deaths. Therefore, under such condition, change in sexual behaviour remains the feasible option at first and to maintain proper immunity with better nutritional
status of the HIV infected people for longer period within the limited life span is the secondary important option. Both the strategies require intensive STD/ HIV/ AIDS awareness campaigns at the community level regularly and urgently. Hence, the challenge is not only to create awareness but also to sensitise policy makers, formulate programmes, mobilise resource personnel, evaluate the policy and programmes. The challenge is sustainability, where competing priorities and the risk of declining public interest may gradually deprive AIDS programmes of their vital resources. The challenge is the necessity of AIDS programmes to permit the entire health, social systems and integrate themselves closely with each other on-going initiatives. At the same time, AIDS directs an unprecedented focus on individuals beliefs, behaviours, needs and rights. Information and education are essential strategies. But alone they are not sufficient. Hence, they must be linked to health and social services. So as to provide support for sustained behavioural change. There is an urgent need about proper awareness, strengthening the knowledge, use of technology through sex and health education programmes to these HIV/ AIDS infected people. There is also an urgent need of guideline programmes which minimises the misconceptions about HIV infection. An organisation of counselling programmes related to diet therapy will also essential for maintaining and improving the immunity and health status of these infected patients.
Many researchers have claimed that although there appears to be widespread awareness about the basic messages about AIDS, there is often a lack of adequate understanding about this disease (Verma, et al., 1995; Rangaiyan, 1996 and Surender et al., 1996). Hence, education campaign, rallies and activities are mostly required to bombard and propaganda should be made at three-four fold time more than that of present spreading rate of HIV infection. Besides this change of sexual attitude and to acquire the nutrition knowledge in the contemporary society through education is a great challenge for reducing the load of HIV infection to the future generation and to strengthen the life span of HIV infected patients also.

AIDS is now receiving the attention of researchers and policy makers throughout the world. It's considered as newly emerging pattern by several scientists, physicians, psychologists, sociologists and also the nutritionists. Studies on AIDS problems like awareness, sociological, economical and medical are being studied multidimensionally; but the studies regarding the nutritional aspects and evaluation of nutritional status of HIV/ AIDS patients is more or less neglected in our country and especially in this region. Immunity is directly reflected to the better nutritional status of an individual hence, it is pressing need to investigate into nutritional profile of the HIV/ AIDS patients. Such type of research studies have better scope for strengthening the life span and improving the quality of life of the HIV/ AIDS patients. With aid of this it also
helpful to develop skills, acquire knowledge, change in sexual attitude which helps to prevent the further spread of STD’s/ HIV/ AIDS and to minimize discrimination towards persons living with HIV/ AIDS.

Kolhapur is a well known historical place established by Shahu Maharaj. On the map of Maharashtra state, Kolhapur district lies in the southern part of Maharashtra and towards eastern side of Western Ghat zone of Konkan (Map No.1). The jurisdiction of the district lies between 15 to 17 north latitude and 73 to 75 east longitudes. The border of Sangli district towards north of Kolhapur district. Whereas the border of Ratnagiri and Sindhudurg district is at the west. Towards the southern side there is state border of Belgaum district of Karnataka. The geographical area of the district is of 7685 Sq. kilometers and located 390 to 900 meters above sea level. In the district the annual rainfall ranges between 550 to 600 mm. 5.17 lakh hectares land of the district is under the cultivation. Kharif paddy and sugarcane are the major cash crops cultivated under irrigation at a large scale. The rivers like Panchganga, Warana, Krishna, Dudhganga and Bhogawati are the main rivers flowing through Kolhapur district. The district has 29.74 lakh population (Maharashtra, 2000). Literacy rate of the district is 66.94 per cent. Where per cent of literacy rate is found more in male i.e. 80.33 than female 53.08. It has a great heritage place of ‘Ambabai temple’. It is popularly recognised as ‘mother land of Marathi films’. Kolhapur is located in such a way that, each adjacent area has its own historical
KOLHAPUR DISTRICT
LOCATION & ADMINISTRATIVE UNITS

(Map 1)
heritage (Panhala, Vishalgad, Jyotiba) and natural geographical importance (Amboli, Radhanagari, Mahabaleshwar, Matheran, Ratnagiri and Goa state). Hence, many tourists are tempted to enjoy these places with major halts in pleasant environment as a central place in a Kolhapur.

According to the Annual report (2001) of health and statistic department of Kolhapur district, the population of rural and urban mainly infected by diarrohea (24617 No.) influenza (2500 No.) and dysentery (1907 No.). Gastro, jaundice, typhoid are the other common health diseases prevalent among the population of this district. Whereas this district has 71 public health centres, 13 rural health centres, 7 public health units and now special AIDS cell in the government hospital.

Due to the bright and attractive features of Kolhapur with easy communication facilities (Miraj railway junction), tourists, pilgrims and visitors crowd into the city. Sometimes situation is beyond the control. Scarcity of the facilities, particularly hygienic practices are knowingly and unknowingly found in such places. Such meagreness directly reflects on the increasing risk of health hazards. However, these may be the causes where HIV/ AIDS infection is found interlinked with the spread of this disease.

Since 2-3 years, different medias had brought into the focus the emerging issues related to prevalence of HIV/ AIDS in the population of
Kolhapur. Due to highest infection of this epidemic Kolhapur district has emerged in hit list in the Western Konkan zone of Maharashtra. Keeping this in view the present study has been designed and conducted with following objectives.

I. To understand the basic socio-economic status of HIV/ AIDS patient of Kolhapur.

II. To evaluate the dietary pattern, actual food consumption pattern, knowledge attitude practices of HIV/ AIDS patients.

III. To examine the nutritional status of HIV/ AIDS patients by using anthropometric measurements.

IV. To analyse the nutritional status of HIV/ AIDS patients by using biochemical and clinical examinations.

V. To study the sexual behavioural profile of the HIV/ AIDS patients.

VI. To determine the impact of nutrition education counselling and communications in sex and health awareness against STD’s/ HIV/ AIDS.

VII. To assess the correlating factors with HIV/ AIDS infections among the patients.
REFERENCES


