

## **CHAPTER 1**

### **INTRODUCTION**

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### **Background of the Study**

Globally, 10 million new cancer patients are diagnosed each year and this has been predicted that it could be increased to 15 million by the year 2020 (WHO : 2003). Indeed, Cancer undoubtedly is becoming an important public health issue and to tackle it we need immediate and major inputs from various agencies. In decades to come, the health of the nation would become a major determinant of our human and economic wealth and the pace at which we will achieve our rightful place in the world order. Though cancer is not in the United Nations 'Millennium Development Goal' health agenda, based on the emerging trend, WHO has predicted that by the year 2020, almost 70% of the world's 20 million cancers patients will be in the developing nations (Sarin : 2005) .

In our march towards becoming a healthier, wealthier and pre-eminent nation, coordinated and need based research for understanding the threats to the nation from chronic diseases such as cancer and ways to counter such threats will assume increasing importance (Sarin : 2005) .

Cancer has become one of the ten leading causes of death in India. According to an estimate there are nearly 1.5 – 2 million cancer cases at any given point of time. Over 7 lakh new cases of cancer and 3 lakh deaths occur annually due to cancer. Nearly 15 lakhs patients require facilities for diagnosis, treatment and follow-up at a given time. Data from Population-Based Registries under National Cancer Registry Programme indicate that the leading sites of cancer are oral cavity, lungs, oesophagus and stomach amongst men and cervix, breast & oral cavity amongst women. Cancers of mouth and lungs in males and cervix & breast in females account for over 50% of all cancer deaths in India ( Rao, Gupta and Agarwal : 2001)

Every year about 700,000 new cancer cases are detected in India. It is a matter of serious concern that even in the new century, over two-third of the cases are detected in advanced stages, when it is not possible to completely

cure the patients. As a result of this, the average duration of life after detection of cancer cases is no more than two or three years, and about 300,000 cancer patients die every year (Pant : 2003) .

Globally, the burden of new cases in 2000 was estimated to be 10.1 million representing a 20% incidence over the previous decade with 53% occurring in the developing world. Similarly 56% of the estimated deaths from cancer occurs in the developing world. This is projected by the WHO to dramatically increase to 20 million by 2020 with 70% in the developing world with access to only 5% of the global resources ( Dinshow : 2001 ) .

In the developing countries, almost 75% of cases present themselves to medical facilities with advanced stage of the disease. Early detection should therefore be an important strategy – through the two principal routes of public education and screening. Oral cancer, so highly prevalent in countries of the Indian subcontinent, is one site, easily accessible to self-examination of the mouth for early detection by public education ( Dinshow : 2001) .

In India, It is estimated that there are approximately 2 - 2.5 million cases of cancer in the country at any given time. Nearly 800,000 cases were diagnosed in the year 2000 and 550,000 deaths due to cancer occurred in the Indian population. The tobacco related cancers account for almost a third of cancers diagnosed in head and neck, lung and oesophagus in the Indian population. The two most common cancers of women viz. cancer of the cervix and breast further account for half the cancer burden in Indian women. The heavy cancer toll is due to the fact that 70% present in the clinically advanced stages T3-T4 with catastrophic economic impact ( Dinshow : 2001 ) .

Data from the National Cancer Registry Programme in India shows that, in 1998, the crude incidence rate of cancer in urban areas ranged between 54 to 87 out of 100,000 in men and 62 to 101 out of 100,000 in women. The incidence of cancer in rural areas was only half than that in the urban areas. In women, cancer of the cervix is found to be the most common forms of cancer, but now breast cancer is becoming more common. It is estimated that by 2020, the number of cancer cases in India will be double, and breast cancer is likely to be the most common cancer in women (Pant : 2003) .

Although the incidence of cancer has been rapidly increasing in the country, to increase in awareness of causes of disease has not been significant. The causes of cancer are largely cultural in nature because the disease is related to culture bound food habits, traditional stimulating substances such as betel nut, pan, tobacco, alcohol, etc. and some cultural habits and lifestyle. It has been known from several studies that if these cultural habits are controlled or changed the incidence of cancer decreases. This indicates that awareness will help to change the cultural habits which are the cause of cancer and consequently incidences of cancer may decline.

In India, even though the most prevalent cancers – breast, cervical, oral – are largely preventable or treatable, more than 70 percent of cancer cases are detected at later stages, when it is too late for effective treatment. Moreover, alarmingly high rates of tobacco use among both adults and children contribute to the soaring incidence of oral cancers – more than 5 million children are addicted to “*gutkha*,” a smokeless tobacco product. An estimated 250 million people in the country use tobacco, accounting for 800,000 to 900,000 annual deaths ([http:// promoteindiaicon.com/understandcancer.asp](http://promoteindiaicon.com/understandcancer.asp) ). As a country in economic transition, India’s disease burden is shifting – non-communicable diseases, including cancer, are emerging as a major public health problem, reflecting changes in lifestyle. As such, the overstretched public health system confronts myriad challenges, including:

- Competition exists for limited health resources to address both non-communicable diseases, including cancer, as well as the still high burden of infectious disease.
- Access to cancer information is limited to a few large metropolitan areas due to difficulties in outreach to remote and low-income areas and challenges in content development related to low literacy, which is compounded by the existence of 18 regional languages in the country.
- Vast underserved populations remain vulnerable due to geographical gaps in the availability of cancer treatment, early detection, and palliative care services.

Cancers of the liver, head and neck and oesophagus remain major burdens in developing world predominantly. In men, in the developing world the 5 leading cancer sites are lung, stomach, liver, oesophagus and head and neck. These

sites accounted for more than 55% of the cases diagnosed and almost two-thirds of deaths due to cancer for the year 2000. Breast cancer remains the leading cancer site overall and the leading cause of death in the developed world. This is followed by colo-rectal, lung, body uterus, ovary and stomach in the developed world. Cancers of the breast and cervix are the two most important cancer sites and account for one-third of all cases diagnosed in the women of the developing world. This is followed by stomach, lung, and colo-rectal all together accounting for 53% of all cancers diagnosed and 50% of all deaths in women in the developing world in 2000. Cancers of the liver head and neck and oesophagus also affects huge numbers of women in the developing world ( Dinshow : 2001 ) .

Recent times have seen an increase in the incidence of cancer. This is mainly attributed to urbanization, industrialization, lifestyle changes, population growth and increased life span (in turn leading to an increase in the elderly population). In India, the life expectancy at birth has steadily risen from 45 years in 1971 to 62 years in 1991, indicating a shift in the demographic profile. It is estimated that life expectancy of the Indian population will increase to 70 years by 2021-25 ((Murthy and Mathew:2004) . This may bring about a paradigm shift in the disease pattern from communicable diseases to non-communicable diseases like cancer, diabetes and hypertension.

Cancer is a group of diseases with similar characteristics, which can occur in all living cells in the body and different cancer types have different natural history. The myth that cancer affects people mostly in the developed countries is being broken by the fact that, of the 10 million new cancer cases seen each year worldwide, nearly 5.5 million are in the less developed countries. Cancer is the second most common cause of death in the developed world and a similar trend has emerged in the developing countries too.( Stewart, Kleihues : 2003).

Cancer prevalence in India is estimated to be around 2.5 million, with over 8,00,000 new cases and 5,50,000 deaths occurring each year due to this disease ( Nandakumar :1997). More than 70% of the cases report for diagnostic and treatment services in the advanced stages of the disease,

which has led to a poor survival and high mortality rate (Dinshaw, Rao and Ganesh : 1999) .

Cancer is not just one disease, it is actually an umbrella term for at least 100 different but related diseases, which are the causes of cancer-related deaths. Cancer is neither caused by injuries nor contagious. It can not be passed from one person to another like a cold or flu. It can affect any part of our body and for this the signs and symptoms are also different. According to WHO, 7 major symptoms are- (1) A sore that doesn't heal (2) Lump or swelling (3) Changes of Bladder or Bowel habits (4) Nagging Cough or Hoarseness of voice (5) Recent Changes in a Wart or Mole (6) Unusual bleeding or discharge (7) Difficulty in swallowing or Dyspepsia.

Diagnosis of cancer disease usually requires the histological examination of a tissue, although the initial indication of malignancy can be symptoms or radiographic imaging abnormalities. Most cancers can be treated and some cured, depending on the specific type, location, and stage (extent of the disease). Once cancer is diagnosed, it is usually treated with a combination of therapy i.e. surgery, chemotherapy and radiotherapy.

The impact of cancer is far greater than mere numbers. Its diagnosis causes immense emotional trauma and its treatment, a major economic burden, especially in a developing country like India.

The initial diagnosis of cancer is perceived by many patients as a grave event, with more than one-third of them suffering from anxiety and depression. Cancer is equally distressing for the family as well. It could greatly affect both the family's daily functioning and economic situation. The economic shock often includes both the loss of income and the increase of expenses because of the treatment and health care. This disease is associated with a lot of fear and despair in the country.

Prevalent myths and the spread of misinformation about cancer have been fueled by lack of access to accurate information and by ingrained societal shame surrounding cancer. Cancer is stigmatized and viewed as a "death sentence" – much of the population is not aware that cancer is largely treatable through early detection and treatment.

Early detection of cancer is based on the observation that treatment is more effective when the disease is detected earlier in its natural history, prior to the development of symptoms, than in advanced stages. There are two principal components of early detection programme for cancer : Education to promote early diagnosis, and Screening.

The prime objectives of a cancer control programme are reduction in cancer mortality, and cancer associated morbidity. Reduction of incidence is thus an essential pre-requisite for cancer control. No cancer control strategies should be successful without evidence-based strategies. Evidence-based means that the policies and practices employed in the prevention, early detection and treatment of cancer are based on principles that have been proven through appropriate scientific methods.

It is very important to be mentioned here that Cancer is a preventable Disease . It is the fact that in majority of Indian patients, cancer can definitely be prevented. About 50% cancers are Tobacco related e.g. Lung Cancer, Oral Cancer (Cancer of Mouth), Laryngeal Cancer (Voice box), Oesophageal Cancer (Food pipe), etc. and they can be prevented to a large extent by avoiding intake of Tobacco. Certain other Cancers like bowel Cancers can also be prevented by Dietary habits. Moreover , it is also the reality that Cancer is curable provided if detected early. The results of treatment in stage I and stage II (early stage Cancer) are about 80%. In late stage diseases (Stage III & Stage IV) the results are very poor (Less than 20%). In India, about 70% patients present in advanced stage diseases and hence difficult to treat (Govt. of India : 1985) .

Thus there has been the utmost necessity to acquire and accumulate knowledge on this aspect to gain insight in this regard which may contribute towards taking the more feasible measures by the policy makers , planners related with the prevention and treatment of cancer diseases in the purview of easy access to accurate information as well as to eradicate the ingrained societal shame surrounding cancer by creating congenial and feasible awareness among the mass in the society. Taking

this into consideration, this study has a great value considering the prevalent situation of consciousness vis-à-vis awareness and access to the accurate information surrounding cancer disease in the purview of its proper treatment and preventive measures in the society. Its ultimate objective is to gain insight in the prevailing social situation in relation to cancer diseases.

Undoubtedly, the lack of access to effective information and awareness as well as ingrained social shame surrounding cancer diseases and together with these the lack of access to the effective treatment have been playing positive contributing role in turn to the increase of suffering from cancer diseases as well as behind taking the necessary measures for treatment in much later stages by the end of cancer patients in the society

As the most research based on secondary data, the present study being an explorative one will highlight the grave role of access to knowledge resources and awareness related with the proper access to the treatment and prevention of cancer diseases in West Bengal.

In the light of the above delineation vis-à-vis issues the present study is undertaken among the Cancer Patients registered for treatment in Regional Cancer Center vis-à-vis CNCI, Kolkata and the emphasis is laid on the particular aspect i.e. the access to the knowledge and awareness in the prevailing society in relation to access to proper effective treatment and prevention issues of such diseases in West Bengal

## **Review of Literatures**

### **Studies related to cancer diseases in India and abroad**

Though a very few works had been done to date regarding awareness and accesses to cancer treatment in West Bengal yet the rationale of the present study can be envisaged by over viewing some of the related earlier studies in this regard. Some of the studies in this context are very briefly reviewed in the preceding discussion.

Thurman (2009) noted that the African American population in the U.S. bears disproportionately higher cancer morbidity and mortality rates than any racial and ethnic group for most major cancers. Many studies also document that decreased longevity is associated with low educational attainment and other markers of low socioeconomic status (SES), both of which are prevalent in African American communities across the nation. Evidence suggests that this phenomenon may be due to attitudes that reflect a lack of knowledge surrounding facts about cancer awareness and prevention.

It is reasonable to postulate that the strategy for cancer control in India should be forced of health education for the rural population and the creation of an infrastructure for cancer management. These system with low-cost technology might be able to be duplicated as a model for developing countries with two capital inputs (Desai : 2002).

Rao. (2002) said that tobacco chewing, bidi or cigarette smoking and alcohol drinking did not emerge as a high risk factors for stomach cancer. Consumption of dry fish at least once in a week compared to never or once an every 2 weeks showed at 12 fold excess risk for stomach cancer among the non-vegetarian food items considered. A protective effect of tea consumption, showing 59% reduction in risk was identified , which could be of use for possible control and prevention of cancer.

According to Phukan (2001) , consumption of very spicy foods, hot foods and beverages, a diet containing high amount of chili , and leftover food was positively associated with the risk of esophageal cancer. Green leafy vegetables and fruits were protective for esophageal cancer. The risk factors associated with the consumption of locally prepared food items , e.g. kalakhar, and some dietary practices did not decrease, even after adjustments with different confounding factors.

Zain, (2001), opined that the ethnic differences and socio-cultural risk factors in relation to oral pre-cancer and cancer. Taking the socio-cultural risk factors , Mathew (2000) mentioned through a case control study that socio-

economic / demographic background, tobacco chewing, tobacco smoking and alcohol habits are mostly responsible for stomach cancer. Increased risk were observed with higher consumption of rice , risk was high for those consumption of spicy food , high consumption of chili and consumption of high-temperature food. On multivariate analysis, high consumption of rice, high consumption of chili and consumption of high- temperature food were found to be independent risk factors.

Besides, Rajkumar (2003) through a study mentioned that non-viral factors contribute to human papilloma-virus (HPV) related to cervical cancer. They also said that paan chewing and dietary habits have a direct association with cervical cancer. Low education level and low body weight were also risk factors for cervical cancer. The adverse influence of paan chewing on cervical cancer risk seemed to be attributable to a higher prevalence of cervical HPV infection in women who chewed. In this context, Znaor, (2003), said that tobacco chewing emerged as the strongest risk factor for oral cancer. The strongest risk factor for pharyngeal, and esophageal cancer was tobacco smoking.

Dorairjan (2002) observed that the cumulative life-time risk factor of thyroid cancer in Chennai was one in 970 in males and one in 565 in females. High dietary intake of iodine was the most significant risk factor for the etiology of papillary thyroid cancer. While Wollina (2002) observed that betel nut chewing has its own morbidity and mortality due to the induction of benign and malignant diseases. There is a lack of controlled trials although both betel nut chewing and the associated diseases are common.

Gangadharan (1974) remarked that epidemiology of cancer of the esophagus is varied on geographical differentiation. Chewing paan and smoking bidi / cigarette are associated with the high rate of disease since risk levels among "habit" groups are double those in the "non habit" group. Besides, Rao (1998) made a conclusion on the basis of retrospective case-control study of male tongue cancer patients, that the bidi smoking was found to be a significant risk factor of base of tongue patients and tobacco chewing for anterior portion of

tongue patients respectively. The location of cancer has got a direct bearing with the type of tobacco use and other related habits.

Moreover, on the basis of study in Southern India Balaram (2002) remarked that smoking , drinking , paan chewing and oral hygiene have a greater influence on oral cancer. And, Gupta (2001) did a case control study on lung cancer undertaken at Chandigarh , North India and made a conclusion that smoking was the principal risk factor for causation of lung cancer among men. In women there could be several other risk factors besides smoking, as the association with smoking was not as strong.

Phukan (2001) suggested in case of cancer of esophagus, that there is a significant trends in risk ratios associated with the frequency of chewing each day, with the duration of chewing in years and with the age at which the habit was started that were apparent for both males and females and which remained significant after allowance was made for other known risk factors, notably tobacco smoking and alcohol consumption. In this context, Hashible (2002) suggested, for the first time, that body mass index (BMI) was inversely associated with the risk of oral sub-mucous fibrosis for both genders when potential confounding factors were adjusted. Results indicated that alcohol drinking might be a moderate risk factor and chewing tobacco are a strong risk factor for oral sub-mucous fibrosis.

Srivastava (1995). Discussing about health hazards, he observed that consumption of sweet meat, aerated drinks, soda water, un-permitted artificial coloring foods are the causes of cancer and liver disease. While the study of Chelleng (2000) reveals an association of neso-pharyngeal carcinoma with consumption of smoked meat in Nagaland. The use of herbal nasal medicine seems to be an additional risk factor for neso-pharyngeal carcinoma in Nagaland and suggested further assessment.

Chaturvedi (2001) in his study find out the carcinogenicity of asbestos. Dutta, et.al. (2000) said that chronic typhoid carrier state was the most important risk factor among patients with carcinoma of gallbladder and gallstones. From the cancer registries data it was suggested and indicated that Christians in India

have the greatest risk of breast cancer and Muslims have the lowest rate. In all the populations breast cancer was found to be less prevalent at the lower education level and the incidence increased with the high education level. The trends for increase in breast cancer incidence over time for most of the populations in India were found to be statistically significant (Yeole : 2003).

Sharma and Bhatnagar (1995) emphasized the persistence of toxic substance in the women blood and milk is a serious global problem and they suggested for special care in nutrition throughout the life, especially during pregnancy and lactation, and also advised to avoid consumption of fatty food stuff, heavily polluted working environment and use of insecticides in house holds. Kabra (1995) criticized the existing of health policies in respect of tobacco use, alcohol and pesticides which causes of different types disease. Kumar (1987) has discussed various cancer causing factors and occupational cancer. Vig et.al. (1987) discussed the toxic manifestation of heavy metals namely Cadmium, Lead, Mercury, and Arsenic. Gupta (1987) discussed on the environmental impact on health and cancer.

Chandra (1998) studied in newly admitted patients at an oncology center in South India about awareness regarding cancer diagnosis and its relationships to psychiatric morbidity. 54% of patients were aware that they had cancer and were able to discuss their diagnosis, 46% of patients reported non-awareness of diagnosis. More patients in the 'un-aware' group refused treatment for psychological distress.

### **Studies related to cancer diseases in West Bengal**

Chakraborty (1999) studied the cultural concepts to the health in general and mental health of some villages in West Bengal. He shows there was a clear difference of occupation according to their socio-economic status. Poor and non-educated segment stressed much more on the physical ability and lack of economic resources in relation to health , whereas educated and comparatively economically stable segment with some urban influence ,

stressed more on both physical and emotional stability as a measure of good health. Results on the study promoted to take intensive community awareness programme for effective health coverage of the population.

Ghosh (2004) mentioned that, lack of information about the disease pattern throughout India creates problems problem for maintaining community health for prevention . However , the district wise distribution in West Bengal shows maximum incidence among industrial areas.

A pilot survey has been made by Ray and Mandal (2004). The work is based on survey conducted among 900 respondents from all the 19 districts of West Bengal to standardize the questionnaires to be used at the time of data collection. From the Pilot Survey it has been found that the average Knowledge Index is  $58.020 \pm 1.768$  irrespective of socio-economic and personal status of the respondents.

Another study regarding access has been made by Lahiri (2001). Rural residing in six Districts of the Northern part of West Bengal, nearly 80 percent of the patients in benign condition are coming from within 100 km. Distance from Hospital. Their per capita annual income is bellow Rs.5000/-. In malignancy, however people do not think of distance or expenses due to seriousness of the disease. In 14.5% cases Fine Needle Aspiration Cytology (FNAC) remains in conclusive where as in 85.5% cases in provide definite diagnosis.

“An epidemiological survey of carcinoma cervix in North Bengal zone” was done by Bhattacharyya (2000). It aimed at detecting and recognizing women at high risk for cervical carcinoma with special reference to social habits, economic background and educational standard in sub-Himalayan region. The findings of the study are as follows:- (i) cervical carcinoma forms the largest group (73%) of all malignancies affecting the female reproductive organs; (ii) significant correlation between cervical carcinoma and age 41-50 years; (iii) low socio-economic status is factor; (iv) first coitus before age 17 years is another factor and (v) low literacy level has positive correlation with access and awareness.

All the aforesaid studies have wealth of materials regarding cancer diseases with different dimensions of the diseases both at micro and macro levels. But the aforesaid studies however do not reveal the dimension in the purview of the social aspects/factors related to treatment in earlier stage of such diseases and its prevention in the present day society especially on the context of access to the information vis-à-vis knowledge resources related with entirely cancer treatment and proper awareness associated with such diseases vis-à-vis access to its effective treatment. Moreover, the commonalities and peculiarities of the problem of cancer diseases in urban and rural areas were not properly addressed. Taking the above points of consideration which were not dealt in the aforesaid previous studies emphasize the gravity of the present study.

Indeed, the above literature review so far reveals and articulates to the fact that the in-depth and comprehensive study on this issues is rather scanty in the state of West Bengal. While, the present study attempts to make an in-depth investigation empirically both in rural and urban settings as to how the phenomenon takes place.

### **Significance of the present study**

In fact, for nearly half a century, the proportion of deaths attributed to cancer has increased progressively and it has doubled in many developed countries (Doll : 1991). Developing countries which accounts for nearly 75 per cent of the world's population have lower incidence rates of cancer, in comparison to industrialized (Magrath and Litvak : 1993). Until recently, communicable diseases were the major cause of death in India. The remarkable increase in urbanization and changes in life style patterns, socio-economic progresses have all contributed to the phenomenal increase in cancer incidence (Marimuthu, Chatterjee : 2002). Apart from these, the remarkable industrial growth also may have bearing upon the increasing incidences of cancer diseases in India. All these emphasize the very need of a study to envisage the importance vis-à-vis role of social context behind particularly the level of awareness and access, and socio-economy to availing appropriate resources in

terms of information vis-à-vis knowledge in the purview of proper diagnosis and access to the treatment of cancer including its prevention in the present day society.

Globally, 10 million new cancer patients are diagnosed each year and this has been predicted that it could be increased to 15 million by the year 2020. However, the report also provides clear evidence that healthy lifestyle, public health action and increasing awareness efforts by the governments, health practitioners and health educators could stem this trend, can prevent one third of cancers, cure another third and provide good palliative care to the remaining third of cancer worldwide (WHO:2003). Therefore, it may be presumed that the situation related with the cancer diseases may have bearing upon to bring about change towards betterment in the prevention of cancer in the today's society.

In this context, the present study is so important taking the social context to envisage its role vis-à-vis importance behind in the purview of the level of awareness and access of the population to availing appropriate resources in terms of information vis-à-vis knowledge in the purview of proper diagnosis and access to the treatment of cancer apart from the role of their socio-economic situation in this regard.

So, it is now much significant and interesting taking the prevailing social situation of cancer disease related contexts in present day society. Since the very limited information are available on this aspect this empirical study has been so important and the study merits because no such study on the level of awareness and access to the cancer diagnosis and treatment along with the importance of socio-economic background in this regard so far has been undertaken in West Bengal.

Moreover, importance and need of this study may be envisaged from the above fact vis-à-vis citation and in the absence of a comprehensive study on such aspect, it is difficult to make a correct assessment of the situation of cancer incidences in the purview of taming the growth in the number of cancer incidences and its ultimate prevention. Therefore, taking

these into consideration such empirical research study is important and the outcome of the study being that it may contribute towards the knowledge/information on this aspect in the purview of treatment and prevention of cancer diseases. Apart from this, it may add to the knowledge/information on the importance and effectiveness of social situation behind the incidences related to the cancer diseases in the society particularly in the arena of Social Sciences, in view of unavailability of comprehensive and in-depth studies on this aspect.

### **Objectives of the Present Study**

The main objectives of the present study are to explore, examine and analyze the level of awareness and access to the treatment of cancer and its prevention. In view of above, the specific *objectives* of this study that have been derived from the said general objectives are as follows :

1. *To assess the demographic, socio - economic, educational, socio-cultural, living status background of cancer patients of West Bengal .*

The **first objective** is intended to delineate the Demographic i.e. places of residence vis-à-vis rural and urban , Sex and Age; Education ; Marital Status ; Religion ; Types of family and Family-size; Cancer patient and kin group ; Occupation ; Income ; and Living Status of the households in terms of Type of Houses , Kitchen , Toilet , Drinking water , usages of Fuel etc. of the cancer patients in West Bengal.

2. *To examine the extent vis-à-vis level of awareness of cancer diseases before coming to Chittaranjan National Cancer Institute of West Bengal .*

The **second objective** has been included with a view to find out their awareness of the diseases and its causes by socio - economic background of cancer patients of West Bengal , along with the type of sources of acquiring the knowledge regarding preventive measures of the diseases.

3. *To assess the extent vis-à-vis level of access to resources in the purview of treatment and prevention of cancer diseases in West Bengal .*

The **third objective** has been included with a view to find out their access to the resources associated with the treatment and prevention of cancer diseases in West Bengal.

### **Research Hypothesis**

On the basis of the afore cited research questions the following hypothesis is drawn and that have been examined in the present study and the findings accordingly presented in the preceding discussions.

*Level of awareness plays one of the important crucial roles to have the access to the treatment and prevention of Cancer diseases .*

### **Methodology and Source of Study**

The design of the present research has been formulated on the basis of the nature of the study . The main purpose of this study is to explore and gain insights and experience on the issues specifically level of awareness and access to the treatment of cancer and its prevention . The approach of this study is descriptive with an analytical base. It is purely an exploratory study with diagnostic outlook in some cases. The study has been carried out with the help of following methodological techniques. The study areas, the sample, the tools and techniques for data collection have been chosen as per the objectives/research questions of the study.

#### **Selection of the Study areas**

- Since the present one being the partial representative study on cancer patients , the study area was selected purposively . The main purpose being to have sufficient number of cancer patients for quantification.
- In this context, Chittaranjan National Cancer Institute is the center for Eastern Region known as Chittaranjan Cancer Hospital, and it is situated in Kolkata, West Bengal. This Institute conducts research and provides cancer treatment for over 4 decades. It has about 200 patient beds for indoor cancer treatment and has outdoor treatment facilities, where near about 150 patients come for treatment every day on an average. Since this is a Government organization, patients with various economic, rural and urban background used to come for the treatment. That is the main reason

behind selection of this Cancer Institute as a sample area for field survey particularly among those patients who come from different places for treatment in this Cancer Institute to get the sufficient number of cancer patients for quantification. Therefore, main purpose behind that quite a good number of cancer patients from different places of West Bengal is to be available in one place i.e. Chittaranjan National Cancer Institute vis-à-vis Cancer Hospital located in Kolkata for quantification.

### Techniques of data collection

- The empirical data have been collected by conducting **field work/survey** among cancer patients registered for treatment in Chittaranjan National Cancer Institute (Regional Cancer Institute), Kolkata .
- This study is based on field survey conducted among Cancer Patients who came from different places of West Bengal for treatment in Chittaranjan National Cancer Institute. The field work was started during January 2006 . Indeed , the field work for this study had been conducted during the period between January 2006 to December 2009 .
- The major technique of data collection has been the **interview** conducted among the cancer patients with the aid of interview schedule. The data collected through various techniques are being supplemented by observation on the cancer patients and their close relatives. The **observation** technique has been adopted mainly to knowing in greater detail of respondent's life style etc.

Information were also obtained through informal discussion with the relatives of the patients who voluntarily took part in discussions on several occasions.

### Sample selection procedures and sample size

The objectivity was maintained while selecting the sample .

- In fact, the main field study was restricted to those Cancer Patients who came from different places for treatment in the Chittaranjan National Cancer Institute(CNCI). On the whole, an estimated 200 patients use to come to CNCI every day for treatment . For selecting the sample respondents, the patient registration book of the Institute having preliminary information including income has been consulted everyday to collect the



names of Cancer Patients. For doing this the stratified sampling procedure was adopted and thus the names of cancer patients was placed according to three broad categories i.e. strata on the basis of monthly income viz. upper income group (monthly income Rs. 9,000/- above), middle income group (monthly income above Rs. 3,000/- to 9,000/-) and lower income group (monthly income Rs. below 3,000/-). Indeed, the above said three broad categories of income range had been prepared particularly after consulting the last three years' ( the day before initiating main field work) patient Register Book of CNCI keeping the purview of incomes of cancer patients recorded in the Register during the period .

In such a way , after preparing the list of cancer patients with a maximum 45 patients everyday for each of the income categories , the random sampling procedure was adopted to select 2 numbers of samples i.e. 22<sup>nd</sup> and 44<sup>th</sup> cancer patients from the list of each strata i.e. income group per day. Hence, a total 6 interviews per day was conducted among the cancer patients . In this context , the aid of filled-in forms containing the preliminary information on the socio-economic background of patients for registration in view of initiating the treatment in the Cancer Institute was undertaken . In this way, a total 400 samples from each of the three strata was selected and interviewed . Thus . a total 1200 samples were interviewed during the field survey conducted in Chittaranjan National Cancer Institute .

- The **universe** of this study is the total number of cancer patients in Chittaranjan National Cancer Institute (CNCI). And the **sample unit** of the study is one who have been suffering from cancer diseases . The **sampling traits** have only been those having confirmed diagnosis about his/her disease of suffering from cancer and registered for treatment in CNCI.
- **Sample size** of this research study has been 1,200 cancer patients. The number of total sample of each of the strata is given below.

<u>Income Group</u>	<u>Number of sample</u>
Low Income Group (up to Rs.3000 / Month)	400
Middle Income Group (Rs.3001 to Rs.9000 / Month)	400
High Income Group (Above Rs. 9000 )	400
Total	1200

### **Sources of Study**

- The data for this empirical research has been gathered mainly from **primary sources** by conducting interview among the cancer patients.
- Apart from primary data, **secondary data** are collected from various publications of Cancer Research Institutes, statistical and other publications vis-à-vis reports of Government of India i.e. Ministry of Health and Family Welfare, Census of India, publications of West Bengal State Government . Besides , the articles, research papers, books etc. published on cancer diseases and its' related issues are also consulted and utilized for this research study.

### **Data Processing , Analysis and Presentation**

The data collected through field study were processed after necessary checking and editing. In the course of data processing , the completeness and accuracy of data had been carefully examined. Tabulation and data processing were mainly done manually though in some cases computer-aid had been used. However, at the first stage, frequency counts of each variable were taken and presented in a chart with percentages so that the overall situation could be manifested at a glance .

However, data had been analyzed by both quantitative and qualitative methods consisting mostly of percentages and analytical discussion. The analysis of quantitative data were made through systematic and analytical description of the collected facts . In course of analysis, methods of comparison had been followed. Data were presented by using different tables, graphs and charts in relevant chapters . At the last an attempt was made to summarize the findings in general with concluding remarks and recommendations. .

On the whole, the delineation of the situation i.e. the level of awareness and access to the treatment of cancer and its prevention may help as a source of reference for the planners and policy makers in relation to prevention and control the incidences of cancer in the society.

## Scheme of the Study

This thesis contains six chapters based on in-depth research on the level of awareness and access to the knowledge vis-à-vis information resources associated with the treatment of cancer and its prevention in West Bengal .

- ◆ The first chapter is **Introduction** , that deals with theoretical part of the research including background and utility of the study, statement of the problem, study area, review of literature, significance of the study, research design , aims and objectives , research methodology , research questions and hypotheses, , schemes of the study, limitation of the study and also socio-economic classification.
- ◆ **Chapter II** contains **The Cancer Diseases , its Control and Prevention : An Overview** in which presentation is made on the aspects of cancer diseases, national cancer control programme and a brief background of Chittaranjan National Cancer Institute . Besides, a very brief health profile of West Bengal is also presented in this chapter.
- ◆ **Chapter III** deals with **Socio-economic Profile of the Respondents** on the back ground of cancer patients under the study in terms of demography, education, marital status family, occupation, income and their household profile.
- ◆ **Chapter IV Awareness of Cancer Diseases : A Conspectus** which reflects the level of awareness of cancer diseases, its curability, its symptoms, sources of knowing cancer diseases, cancer in own relatives, cancer treating hospitals, investigating procedures to detect cancer, awareness about the effect of biopsy /operation, social situation surrounding cancer patients, risk factors of cancer diseases and its sources, interest and exposure to cancer awareness programmes and government/NGO relief fund .
- ◆ **Chapter V** deals with **Some Aspects of Access to the Treatment of Cancer** . It deals mainly the level of suffering from cancer by stage, attendance to CNCI for follow-up treatment, distance , availability and mode of conveyance to reach CNCI for treatment , staying places , type of referral persons, availability of cancer treating hospitals, places of diagnosis, time

gap since manifestation of cancer symptoms and initiation of treatment, physician consulted before coming to CNCI, and suggestion for cancer control.

◆ **Chapter VI** confers on **Observation and Conclusion** of the study .

### **Problems and Limitations of the study**

This study restricted to the aspect particularly on the level of awareness and access to the knowledge vis-à-vis information resources associated with the treatment of cancer and its prevention in West Bengal. Hence, only the cancer patients registered for initiating treatment of cancer diseases in Chittaranjan National Cancer Institute , Kolkata are under the purview of the study .

During the field study I encountered some difficulties particularly faced at the time of interviewing the cancer patients as they initially refuse to disclose as well as denial to give answers . This problem faced acutely in case of female cancer patients . All these has been due to their ingrained societal shame and conservativeness . But the situation has been managed by overcoming through discussion and convincing them the relevance of the study in the light of prevention and control of cancer diseases in the society.