

# Assam Cancer Society &

Rural Based Preventive Oncology Research Centre,  
(Cancer Awareness Campaign)

National Highway-37, P. O. Bokakhat-785 612. Assam. India.

Registered under Assam Societies Registration Act. 1860; Registration No. 4780.

Telephone : 091-03776-268377/268790, Fax No. 091-0376-268770.

email< [skdebnath@sancharnet.in](mailto:skdebnath@sancharnet.in)>

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\*Dr.S.K.Debnath,MD, Histopathologist cum Cytopathologist,

\*Member of UICC, COPES Network of SEA, Member of UICC,Geneva(Data Base system ),

\*Certified by WHO&CGHS for Early Detection of Cervical Cancer,

\*Fully Sponsored by American Cancer Society,USA, to attend 2<sup>nd</sup> World Conference for Cancer Organizations held at Atlanta, USA,1999,

\*Cancer Data of ACS&RBPORC has entered into CDC(USA) Data Base System(for Cervical and Breast Cancer), CD-Rom file( approved from 1981 to 2002),

\*Director, Assam Cancer Society & Rural Based Preventive Oncology Research Centre,Bokakhat-785 612. Assam. India.Phones: 091-03776-268377,268790; Fax: 091-03776 268230/268770,

e-email[skdebnath@sancharnet.in](mailto:skdebnath@sancharnet.in).

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Bokakhat,  
April,27,2006

**Subject: Prayer for publication of a Paper entitled :*"Implementation of cancer screening programmes among underserved population of Eastern India. An analysis with 62,854 cases"***

Dear Sir,

Reference as above I am sending an article (full text article from Rural survey) by e-mail for perusal of assessors. If you find it can be published in your esteemed journal,please let me know whether it is correct in my approach in compiling a paper or it will require more correction . I hope this is a survey from extreme backward communities of India and hopefully everything here are new to my experience and people might get benefit out of it.

Moreover, if you accept and you need hard copies , please let me know.

Please guide me if it needs any corrections.

Thanking You Sir,

With kind regards.

Sincerely Yours

Dr.Surjya Kumar Debnath,MD

Director,ACS&RBPORC.

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Title of the Paper: **"Implementation of cancer screening programmes among underserved population of Eastern India. An analysis with 62,854 cases"**.

**Author: Debnath,S.K.**

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**INTRODUCTION :**

Ever since I have started Cancer Survey in Rural areas of North East India , it is found that the cancer cases are almost always detected late. However, symptom-free cases also examined in random fashion to detect early stage cancer ; to become more clear the screening programmes are conducted with purposes of raising awareness among rural population about cancer and its exact nature of illness and how to tackle the situation here in villages as well as education to make them free from fear of cancer which is a major concern here if a patient is declared as cancer it brings fear among them rather than approaching for treatment. So, to avoid fear from them; cancer education is a must and that too it should be done directly; that means a person to person approach is much more beneficial rather than media publication here. This is followed by early detection and preparation for early referral for treatment so that we can save lives as far as possible. To become clear we are successful to a greater extent in early detection and regarding treatment it is found to be difficult for poor cancer victims to accept all costly investigations and treatment there after. More over survey of Tobacco,betel-qiud alcohol consumption among the population are equally vital subjects here and we have stressed personally as far as possible to avoid harmful elements.ACS&RBPORC patient's format is also sufficient to include all the items. So, naturally, I have collected the datas with few other staff on mobile Vans and helping me to get their real status of life style, living habit, food habit, work,leisure,health education and many more.

It is pitifully noted that such a vast area is found in untouched manner and there is no other Institute to get in touch with the health problem of villagers and subsequent remedies.

What, I have found is briefly mentioned in this article. Because details cannot be placed here. Hopefully on subsequent stages, I shall be able to publish paper in continuance basis provided it is taking a shape for public use and can bring benefit to the people. The details are as below:

Cancer Education and various other subjects related to it were a dream in 1981. It took little shape when I have contacted Dr. C. S. Muir, Chief Division of Descriptive Epidemiology Lyon,France, (WHO Consultant for NCRP, in India) at Cancer Registry workshop in 1982,in India.The theoretical and practical knowledge that I have conceived helped me to drive the present Mission. Although, I was working in National Cancer Registry project, (NCRP),of Indian Council of Medical Research (ICMR), ( based at Dibrugarh, Assam Medical College, Hospital Tumour Registry), parallely I have devoted to campaign against cancer and in the cessation programmes of tobacco betel-quid and alcohol use. This is done along with anti-cancer mission.Cancer which is a major health problem in Assam and North East Region of India.I was working and studying Cancer distribution pattern in India along with my study..Finally, in 1991, , I have framed my ideas and looking to all Corners I have named the Centre as **Assam Aancer Society and Rural Based Preventive Oncology Research Centre** (Cancer Awareness Campaign). The office is presently at Bokakhat,785 612,Assam.India.

**The aim is :** IT IS THE UNIQUE ESTABLISHMENT PURELY AT RURAL ATMOSPHERE AND DEVOTED TO EDUCATE PEOPLE NOT TO USE TOBACCO ,

BETEL QUID, ALCOHOL ETC. AS THESE ARE HARMFUL FOR HEALTH. THIS PROCESS ALSO INVITED DETECTION OF CANCER AT THE EARLIEST POSSIBLE STAGE THROUGH CONTINUAL SURVEY AMONGST NORMAL POPULATION AND CANCER EDUCATION TO ALL WHO COMES TO OUR CAMP AND CENTRE AND PERSON TO PERSON DISCUSSION IN SIMPLE MANNER AT REMOTE AREAS WHERE EVER WE PROPOSE TO VISIT.WE ALSO OFFER CYTO-DIAGNOSTIC SERVICES FOR ALL SITES AND ALL TYPES OF CYTOLOGY STUDY. WE ALSO PERFORM MORPHOLOGICAL CODING BY APPLYING ICD-ONCOLOGY, ICD-10, ICD-2,ICD-3 UPDATE ETC.

**LOCATION :**

ACS & RBPORC is situated in the extreme North Eastern corner of India ie. middle part of Assam. It is a land of uncommon natural beauty with luxuriant vegetation, forest and internationally famous one horn Rhinoceros sanctuary called KAZIRANGA NATIONAL PARK, which is only twenty minutes drive distance from this centre.Assam has geographical area of about 78523 km<sup>2</sup> harbouring a total populational of 22,294000. The percentage of rural population constitute about 89.7% and they depend solely on agriculture for theirlivelihood. The share of agriculture to the state's economy is about 40%.ACS & RBPORC is situated at sub-divisional town of Bokakhat under Golaghat district of Assam. It is an unique Cancer detection centre established with the prime objectives of creating awareness, cancer education to rural population and early detection. The total geographical area of Golaghat District is about 3541 km<sup>2</sup> harbouring a population of 801740 and spreading from 93° 25 N, 94° 28 Longitude to24° 25 E & 26° 25 latitude.The institution has made substantial progress in the pioneering efforts on educating or raising awareness about cancer , ANTI-TOBACCO MISSION, and finally cancer management process was made easy by early detection schemes. The developmental activities of the anti-cancer and anti-tobacco mission were published in Annual Reports, News Papers, in Local meetings, in cancer camps, in conferences, in schools, etc.

**ABSTRACT:**

Ever since the ACS&RBPORC has started its various cancer screening under one roof and survey has been conducted from place to place (Table ) to detect with symptoms and without symptom cases. Also we have offered public education and stressed the need for Annual Cancer Check-up, Child hood Cancer check-up including genetic counselling for children and their importance. Follow-up of all recorded cases every year thereby we are confidently understand the exact state of health that has been presented to us and the module of treatment received and their percentage of cure stretching from 1991 till 2004, December.Total 62,854 cases detected from 1991 till 2004, December. Total cases screened were 2,60,000 cases in random fashioned from rural areas only. The people are poor and most of the cancer victims detected were fail to follow all the treatment modalities advised for them. For example surgey (S), Radiotherapy (R), Chemotherapy ( C), Hormone therapy etc. Most of the patient could not afford the surgical cost and some even could not go for chemotherapy. So, most of the victims used to resort to one kind of treatment module eg.Radiotherapy. In this study we will be able to focus our attention about the survival value of cancer victims. For men and Women together ENT areas or head and neck cancers are number one killer cancer; total 12,653 (20.13% ) cases recorded. In female ;Cervix and Ovary ; Total 5,016

(7.98%) cases together are number one killer cancer followed by breast cancer. In the subsequent follow-up cure rate found to be 12.6 % for all cases. Then after a gap of five years the cure rate remain to only 4.2%. Most deaths are due to incomplete treatment they received and late presentation of cases. Cancer of oesophagus could not show survival value after five year follow up in the rural communities. Only one cancer oesophagus case is still surviving which was detected fairly early and the site involved was lower third of oesophagus also the patient is a rich cultivator and took surgical treatment in the most premiere institute of India. This is a rare incidence here. So, cancer is still a dreadful disease for village based population. This is largely attributable to the following points: (1) People are poor, (2) mostly they are un-educated cultivator (literary rate 30% only), (3) the benefit from the knowledge of early detection of cancer and cure is not known to them, (4) Strategic plans are spreading across the cities mostly and no separate arm has been developed to look to them separately, (5) Technical hands are very much limited to cover one billion population in India. So, the cancer trend and scenerio both are at pathetic state.

**KEY WORDS:** (ACS&RBPORC) Assam Cancer Society & Rural Based Preventive Oncology Research Centre, (UICC) International Union Against Cancer, (WHO) World Health Organization, (NCRP) National Cancer Registry Project, (ICMR) Indian Council of Medical Research, (Scr.) Screening, (Prog) Programme, (TNM) Tumour Node and Metastasis, (ICD-O) International Classification of Disease for Oncology, (FNAC) Fine Needle Aspiration Cytology.

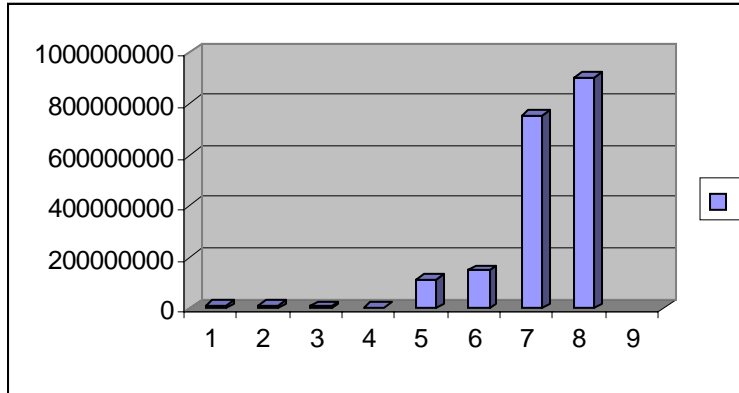
#### **MATERIALS AND METHODS:**

ACSRBPORC has introduced the following screening programmes for screening out early stage cancer. These are as below:

Screening Trials : 1. Breast Cancer Screening Programme 2. Cervical Cancer Screening Programme 3. Throat Cancer Screening Programme 4. Oesophageal Cancer Screening Programme 5. Annual Cancer Check-up. 6. Childhood Cancer Control Programme 7. Anal Canal Screening Programme for cancer 8. Rectal Cancer Screening Programme 9. Colon Cancer Screening Programme 10. Ovarian Cancer Screening Programme 11. Cancer Registry, Rural. 12. Skin Cancer Screening Programme 13. Melanoma Screening Programme 14. Oral Cancer Screening Programme 15. Leukaemia Screening Programme 16. Lymphoma Screening Programme 17. Cancer Treatment Guide. 18. Terminal Cancer Care. 19. Early Cancer Detection P. 20. Guide for Poor & illiterate Cancer Patient 21. Cancer Education Programme 22. Cancer Insurance. 23. Chemotherapy 24. Fine-needle Aspiration Cytology & Needle Aspiration Biopsy. 25. Cancer Research.

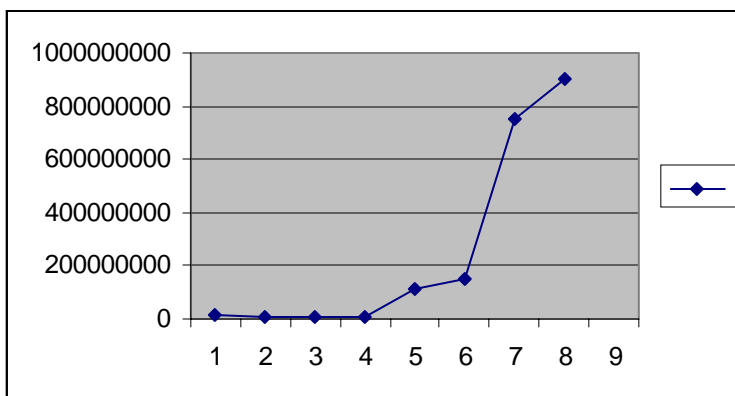
The screening programmes are mostly based on pathological diagnosis both cytopathological and histopathological. Image technology also plays vital role to screened out cancer. Surgical pathology followed by morphological coding, TNM classification are done to upgrade the cancer registry format.

**PERCENTAGE OF POPULATION DISTRIBUTION IN INDIA.  
(1991 census).IN METROPOLITAN CITIES :**



**Histogram No.1** showing the distribution of population in Urban areas and Rural areas. Bar one to four is showing the negligible anatomy of population that use to live in Metropolitan cities(Bar:1,2,3,4) and other cities together ( bar 5 ). Whereas together Metro-cities and other cities (Bar 6) contain fairly less population and could not exceed the two hundred (200,000,000) million mark while comparing with Rural and Semi-urban ares population (bar 7) which is almost closer to eight hundred million mark (800,000,000);thus it is seen that there is wide and significant gap of the anatomical distribution of population. But for such a big rural and semi-urban population hardly any ideal Cancer Centre is seen which can offer accurate investigations and treatment that can deal more in competetive cost while concerning with the economy of the underserved population. Probablbly ,this wide gap would be the cause of increase in the cancer trend and it is expected that it would be double the figure by 2025.And on the other hand city-based areas are having large number of sophisticated cancer centres and the investigations and treatments are accurate and can be comparable internationally and thereby justice is provided to cancer victims irrespective of cost. This anatomical variation have great impact in handling properly the rural and semi-urban population ( underserved population) for availing accurate and justified investigations and treatments at this time. ACS&RBPORC is very much hopeful that the underserved population would soon get justice by change in strategic plans.

**Line Diagram No.1** showing above the anatomical distribution of population from metropolitan cities(No.1,2,3,4 ) almost the line diagram is at the bottom of the graph



whereas the all other cities together (No.5 ) also showing slight elevation from base line. Even together metropolitan cities and all other cities(Line diagram no.6) shows only slight elevation and could not cross the 200 million mark and this is the base line demarcation. On the other hand for rural and semi-urban areas population together ( line diagram no.7) goes almost near to 800 million. This is a big gap in understanding population distribution in India; and so also the cancer patients and their future

Percentage of Urban and rural population in India. Briefly the anatomy of population is shown in the table below.

**Table 1.**

MUMBAI	12,571,720
CALCUTTA	10,916,278
DELHI	8,375,188
CHENNAI	5,361,468
TOTAL POPULATION OF CITIES	11,10,27,135
METROPOLITAN+CITY POPULATION	14,82,51,789
RURAL+SEMIURBAN POPULATION	75,17,48,211
<b>OUT OF TOTAL POPULATION OF INDIA</b>	<b>900,000,000</b>

**Table 2**

<b>OUT OF TOTAL POPULATION OF INDIA</b>	<b>PERCENTAGE</b>
METROPOLITAN CITY	4.14%
CITY	12.34%
RURAL+SEMIURBAN AREAS	83.52%
<b>TOTAL</b>	<b>100.00%</b>

**The table above shows :**

METROPOLITAN CITY-BASED STUDY AND APPROXIMATE CANCER DISTRIBUTION PATTERN.

METROPOLITAN CITY-BASED STUDY AND COMPARISON WITH RURAL AND SEMI-URBAN AREAS:

Since 1981 till today, a study has been done and following inference has been gathered. Out of 100 cancer cases about 50% cases are coming from or arising from rural communities; whereas semi-urban areas show approximately 28% cases. On the other hand Urban areas contain only 22% cases approximately.

So, from the above figures it is easily understood that in India cancer cases are mostly prevalent in Rural and Semi-Urban areas .Unfortunately there is no anti –cancer , anti tobacco mission and plans for treatment management. But instead, reverse facilities are available in regards to medical help in urban areas. Most of the specialists are away from rural communities and there is obvious difficulties for poor and illiterate patients to avail the treatment benefit and sophisticated investigations that are needed for treating cancer. So, each and every rural cancer victims are to retreat back with their own fate and naturally they are succumb to their ailments. Only very few who are rich cultivator

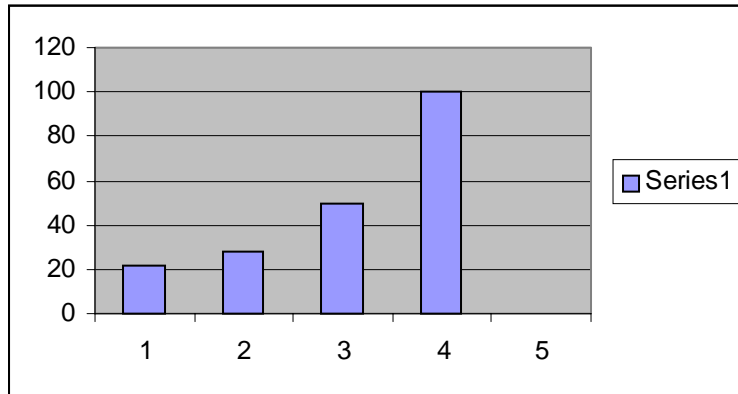
DISTRIBUTION OF CANCER AREA-WISE AS SHOWN IN THE TABLE BELOW:

**Table 3**

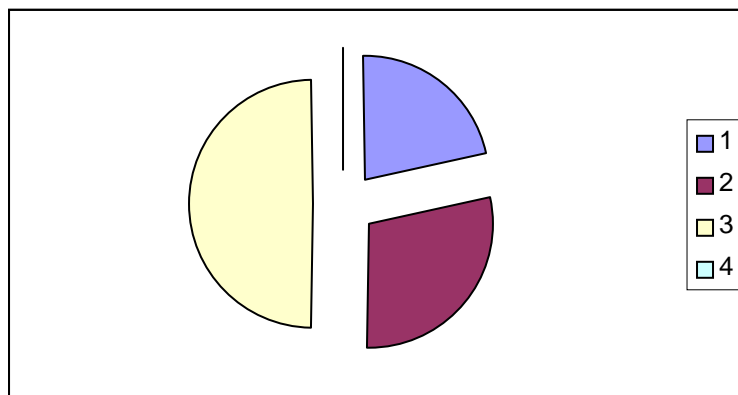
<b>DISTRIBUTION OF CANCER AREA</b>	<b>PERCENTAGE</b>
METRO-CITY+MAJOR CITY	22%
SEMI URBAN	28%

RURAL	50%
TOTAL AREAS	100%

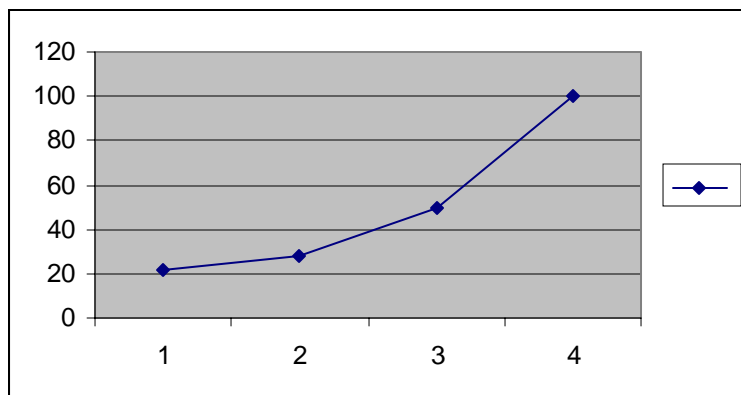
Histogram No. 2 showing distribution of cancer area-wise as below:



**Histogram No.2** showing percentage distribution of cancer causing areas. Bar no.1 indicates Urban areas and it contains both metro-politan cities and all other cities; where as bar no.2 and bar no.3 are showing cancer causing areas of underserved population (together they constitute 28% plus 50% that is 78% population are from underserved population zone). This is a big gap between Urban population and underserved population.



**Pie Chart no.1:** The broken pie chart is showing the population distribution among Urban ( 22%, indicates with blue colour), semi-urban 28% ( indicates with maroon colour) and half of the pie chart indicate 50% rural population. So, together rural and semi-urban population goes to 78%.



**Line Diagram No.2:** indicates percentage distribution of population from urban (22%) bottom point to semi-urban(28%) and together rural (50%) touching the line diagram far above the urban areas indicating a wide gap that actually is inviting a change in the cancer management policy so that ACS&RBPORC can see a better World with lesser cancer mortality rate by 2025 and not that the mortality would become double.

**Table 4.** Areas under survey for cancer screening as shown below.

Place	Population	Area (sq. km.)
ASSAM	2,22,94,562	78,438
ARUNACHAL	8,58,392	83,743
TRIPURA	27,44,827	10,486
NAGALAND	12,15,573	16,579
MANIPUR	18,26,714	22,327
MIZORAM	6,86,217	21,081
MEGHALAYA	17,60,626	22,429
WEST BENGAL	6,79,82,732	22,429

**AREAS INCLUDED IN SCREENING PROGRAMME for Cancer :  
A SCHEME UNDER CANCER EDUCATION PROGRAMME ; ANTI-CANCER  
MISSION:**

Table 5 showing various places of rural areas where screening programmes are conducted . However, many more areas are there to survey and due to lack of para-medical staff and financial constrains the programmes are limited to a few areas only.

**Table 5.**

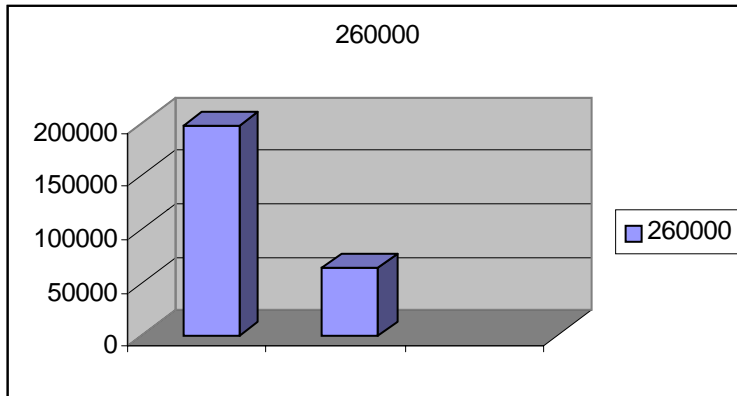
EAST	WEST
NAHORJAN	LOTABARI
IKARAJAN	SUBJURI
LOKHOWJAN	BORJURI
RAJABARI	METHONI
KHOTHIAKHOLI	SILJURI
BORSAPORI	DIRING
BEHORA	KAZIRANGA
NUMALIGARH	KOHORA
KAMARGAON	BAGORI
BONGAON	BURAPAHAR



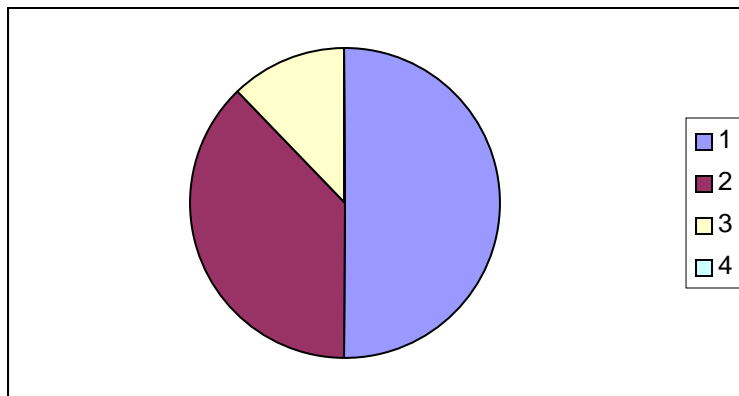
NAI GAON	SILBHETA
RONGAMATI	HALDIBARI
UPPER TEMERA	DOLAMARA
RADHABARI	JAKHALABANDHA
BADULIPARA	MISA
KHUMTAI	NOWGAON
DERGAON	HOJAI
NEGHERITING	PHULAGURI
RONGAJAN	ROHA
RONGAGORA	JAGIROAD
ATHKHELIA	PURANIGUDAM
KACHOMARI	SAMOGURI
MERAPANI	RANGALOO
HORUPATHAR	AMONI
BORPATHAR	KOLIABOR
JORHAT	THEKERAGURI
TITABAR	KHETRI
<b>MANY MORE AREAS ARE UNDER REVIEW</b>	<b>MANY MORE AREAS ARE UNDER REVIEW</b>
<b>NORTH</b>	<b>SOUTH</b>
MAJULI	BOKOLIA
SONITPUR	BOKAJAN
BISWANATH CHARIALI	MANTA
TEZPUR	SILONIJAN
DHEKIAJULI	WATING
UDALGURI	FORKATING
TONGLA	UKHAGORONGA
MONGOLDOI	DIPHU
DORONG	DIMAPUR
<b>MANY MORE AREAS ARE UNDER REVIEW</b>	<b>MANY MORE AREAS ARE UNDER REVIEW</b>

### **RESULTS AND OBSERVATIONS:**

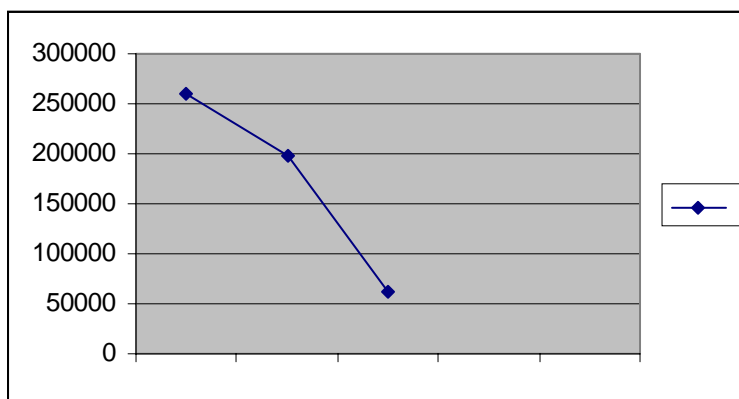
In the present series ACS&RBPORC is conducted cancer detection and other programmes as per table no.5. Also the society's office is also recording many cases . It works relentlessly throughout the week. Only Thursday afternoon is closed for weekly prayer as a mark of gaining spiritual health. Below there is a list of cancer detected from screening(Table 6). The presentation here is a gross one; only to project a few salient feature from rural areas not usually found in city-based study. We have omitted the details of cancer registry format as it will become more voluminous here. ACS&RBPORC shall look to this angle on subsequent stages of publications.



**Histogram 3** showing cancer detected on screening. Total 2,60,000 cases screened and 1,97,146 cases were found cancer free while 62,854 cases were detected of having cancer of various types.



**Pie chart 2:** showing above the distribution pattern of number of screening cases 2,60,000 ( No.1 with blue portion of the pie chart), and number of cancer free cases are 1,97,146 cases( No.2 in the pie chart with maroon colour) and 62,854 cases of cancer detected both from field survey and at society's office(no.3 of the pie chart with yellow colour).



**Line diagram No.3:** Line diagram is showing total screening is 2,60,000 cases with upper end point of the line diagram. The middle point in the line diagram is

showing cancer free cases ( 1,97,146 cases) and the bottom point on the line diagram indicates total cancer (62,854) cases that had been screened out.

**Table:6**

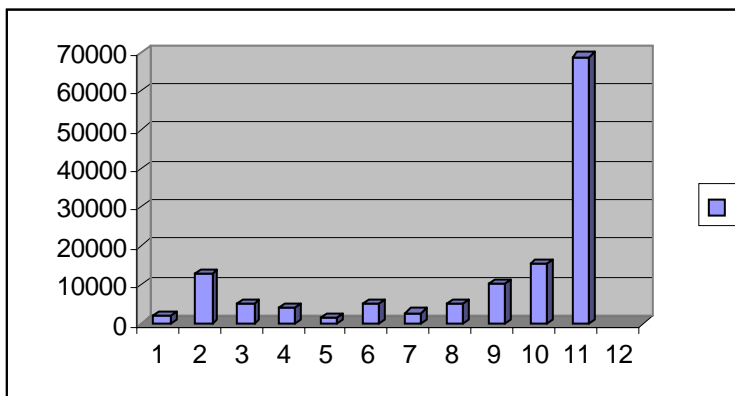
Serial number	Number of cases screened	Number of cancer detected	Percentage of cancer cases	Number of cancer-free cases	Percentage of cancer free cases
1	2,60,000	62,854	24.2%	1,97,146	75.8

From the above table no.6 it is found that out of total 2,60,000cases screened ACS&RBPORC recorded 62,854(24.2%) cancer cases. And 1,97,146 cases found to be cancer free(75.8%)

GROSS ANALYSIS OF MALIGNANCIES DETECTED THROUGH SCREENING:Cytological and histopathological detection are the main detection tools along with image technology.

**Table 7.**

Serial Number	ORGANS	Number of cases	Percentage
1	Oral Cavity	1,821	2.89
2	All ENT	12,653	20.13
3	Respiratory Organs	5,210	8.28
4	Breast	3,950	6.28
5	Genito-urinary Organs	1,256	1.99
6	Lymphoma and Leukaemia	4,896	7.78
7	Bone and Soft-Tissue	2,749	4.37
8	Cervix and Ovary	5,016	7.98
9	Digestive Organs	10,105	16.07
10	Others	15,198	24.18
11	<b>Total Organs</b>	<b>62,854</b>	<b>100.00</b>



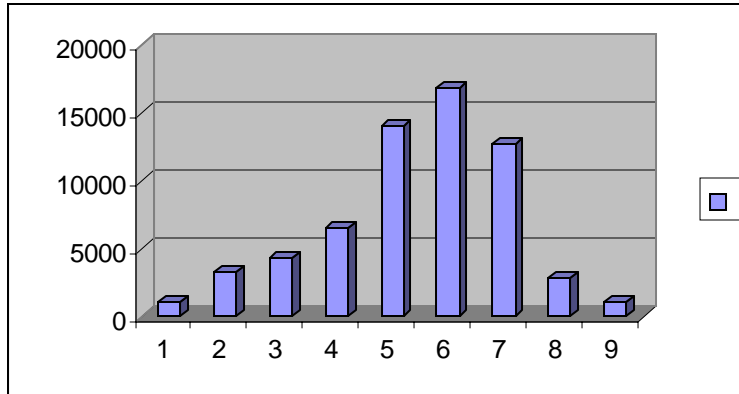
**Histogram No. 4** : is showing cancer distribution pattern involving various organs ; that is from Bar 1 through 10.Bar number 2 ( All ENT areas , 12, 653 and 20.13%) is showing highest number of cancer cases . how ever , on site wise basis cancer of Pyriform sinus

, Ary Epiglottic Fold, Pharynx and larynx constitute 8,022 (63.4%) cases as recorded in our series. It is noted that cancer of head and neck regions together is the number one killer cancer here. On the other hand cancer of the oesophagus is the number one killer cancer here on site-wise basis ; number nine bar where 9104(90.09%) cases of cancer of the oesophagus involving all sites were recorded. To break it further ; for example upper third 2186 (24.01%) cases , middle third constitutes 5830(64.03%) cases and lower third presents with 1088 (11.95%) cases. So, briefly, cancer of oesophagus is a major health problem here more so with middle third of oesophagus ;64.03% which is the only site wise number one killer cancer and ACS&RBPORC wishes to focus this area to the World so that new strategic plan might help these population to survive. Otherwise cancer oesophagus and its treatment cost is beyond the reach of underserved population and only a negligible portion of people use to attend higher centre in the metropolitan cities and they could manage to live for 3 to 5 years only. This is again due to late detection or fairly advanced cases use to sought treatment; so, it is seen from 1991 through 2004 that 5 year and above survival is nil irrespective of age. Only one case is still living who was suffering from cancer of lower third of oesophagus. He underwent surgery and other modules of treatment in the most premiere institute of India. This is an exceptional case and I am citing here only to raise hope for others and parallelly ACS&RBPORC deserves attention of Global Cancer Control group and it is expected that only their kind attention would be able to make these people survive.

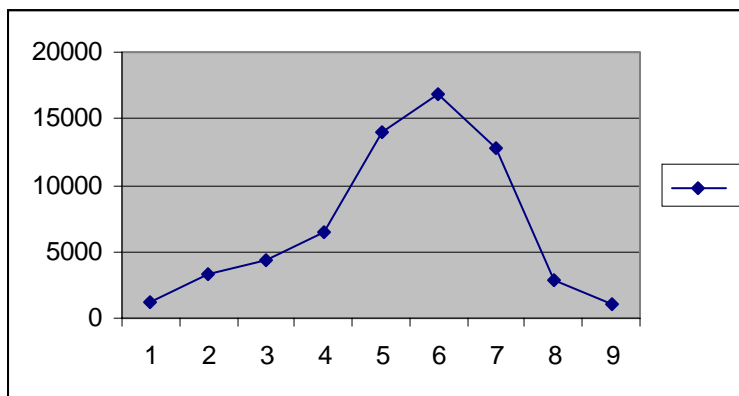
**Below the Table No. 8 is showing age distribution of cancer cases:**

Serial number	Age of the patient	Number of cases	Percentage
1	0-9	1135	1.80
2	10-19	3268	5.20
3	20-29	4369	6.95
4	30-39	6488	10.32
5	40-49	13,994	22.26
6	50-59	16,838	27.36
7	60-69	12,785	20.34
8	70-79	2,873	4.57
9	80+	1104	1.76
Total number		62,854	100.00

From the table no. 8 it is seen that most of the cancer cases are between the age group of 40 to 69 years of age as studied in the present series. However there is substantial number of cases detected from age group of 0-9 to 20-29 and ACS&RBPORC has recorded mostly these are blood borne cancer and connective tissue tumour involving both the soft-tissue , bone and cartilage. However, the same type of cases are also seen prevalent in other age group. However, ACS&RBPORC wishes to focus in the present series of study about the cancer occurrence in the underprivileged areas and their incomplete investigations and treatment. So, details of various cancer in each group would be discussed in the subsequent publications.

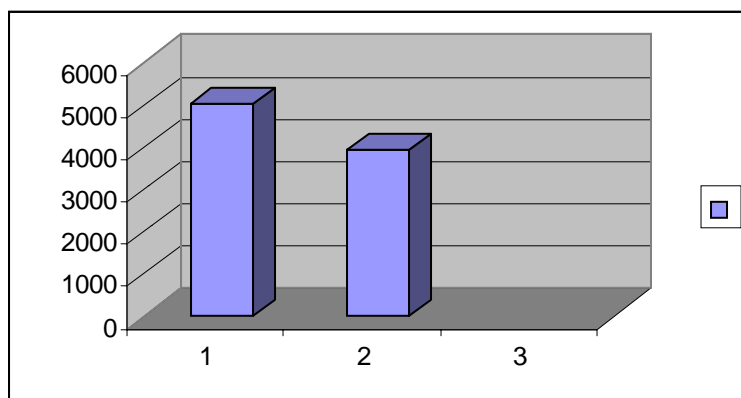


**Histogram No.5** is showing age distribution among cancer patients. From the histogram it is evident that Bar no. 5,6, and 7 are showing age range from 40 years to 69 years old. Most of the cancers are found to occur in the middle age group both in male and female. However, early age group cancers are mostly leukaemias, lymphomas and connective tissue tumours. It is seen that age demarcation for a particular variety of cancer cannot be made like water tight compartment; that is any age group may have any kind of cancer except Retinoblastoma, which is mostly found from 0 to 5 years of age.

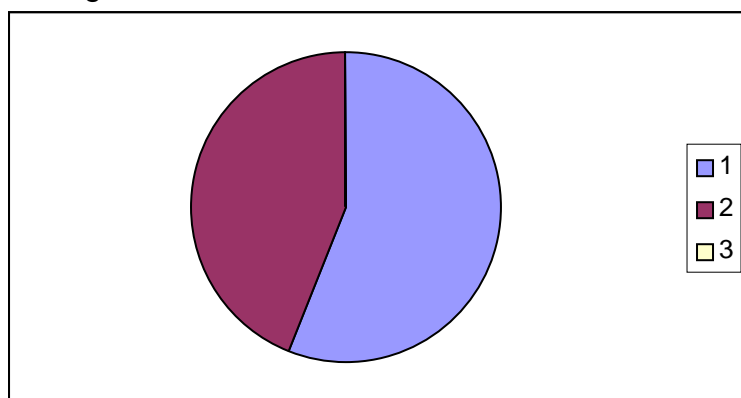


**Line Diagram No.4:** showing cluster of cancer cases between 5,6, and 7 points covering age range between 40 years of age to 69 years of age. However cancer use to occur at any age as the line is showing no evidence touching the baseline. That is from 0-9 years to 80+ years of age the cancer can occur; but there may be variation of cancer type. Say for example Retinoblastoma, Wilms' Tumour, acute leukaemias etc are more common in early age whereas cancer of throat, oesophagus, stomach, colon, skin cancer etc. may occur as late as 80+ years of age.

**Women Cancer:** At ACS&RBPORC women cancer mainly concern for cervical and breast cancer. Here, cancer of the cervix is still the number one killer cancer (5,016 cases and together with ovarian cancer consists of 7.98%) among women. Although the cancer of ovary is showing together with cervical cancer the total number of ovarian cancer is 62 cases only. This is followed by breast cancer (3950 cases; and 6.28%).



**Histogram No.6:** is showing women cancers. Bar no.1 indicates cancer of cervix and ovary together. However, ovarian cancer is less( total 62 cases recorded) in our survey study. Still, in the underserved areas of India cancer of the cervix is a major health problem. On the other hand bar no.2 indicates incidence of breast cancer as recorded in the present series. Although the incidence of breast cancer is less here; there is competitive figure seen(3950 cases) and it is expected that the trend of cancer of the breast might take the position of cancer cervix in the coming decade.



**Pie Chart no.3:** is showing women cancer distribution pattern. The blue mark no1 from the pie chart indicates more prevalent of cancer cervix along with ovarian cancer. Maroon colour, the no2 of the pie chart indicates prevalent of breast cancer and its figure is much ominous that in the next decade the incidence of breast cancer would go high among Women cancer.

## **DISCUSSION:**

In the discussion I like to write only a few sentences as this paper is exclusively focussing on cancer sufferers of underserved population and their investigations and treatment. It is noted in our country that the anatomical distribution of population is very important along with their economic status. For example population distribution in Metropolitan cities together is 4.14% which is really a small population compare to our huge population now crossing one billion. It is fortunate that the most of the cancer centres and highly skilled specialists are living in these cities. So, 4.14% population are lucky; because they are getting

the best investigations, treatment, cancer support group and economic and social support. Not only that, there are large number of specialists are coming form outside India and these patient can avail the benefit out of them. Even Non-resident Indian Doctors, social and cancer support personnels are also available at times to help them. So, it is seen that the premiere cancer centres in India are showing high success rate in treatment of cancer; say for example 60% and above. It is also seen that the specialists are becoming more clear to the patient regarding treatment and accept those cases which can bring positive results like complete cure. To become more clear; it is seen that a cancer patient is fully assessed prior to treatment plan and if the cases are fairly late and can become a time consuming case they use to refer back to the institute from where they are coming to such premiere cancer centres. This is because, cancer load is becoming very high compare to cancer centre's capacity and the Oncologists and other staffs are meagre in that occasion. So, in future, if India cannot generate more efficient Oncologists in sufficient number then the World would definitely look to the fate of one billion population in a more precarious form. Then India would stand as the yard stick example from the point of cancer issues and the health as a whole.

On the other hand the 12.34% city-based populations are also doing their best to combat cancer; but it is seen that sometime they use to depend on highly specialized cancer centres placed at metropolitan cities. Sometime, in some cities all high tech diagnostic facilities and high tech treatments are not easily seen.

Rest of the population constitute 83.52% and unfortunately they are both, educationally and economically are not sound and have to resort to palliative cancer management. Due to inadequate cancer education the underserved population are lately contacting their Doctors for any complain that could be cancer and finally they leave behind nothing but a helpless life which usually succumb after a long suffering. The scenes are very pathetic. ACS&RBPORC expecting from the Global Cancer Control Group to combat cancer of underserved population ; not only for India but any where in the World; so that in the coming decade we can see a better World in regards to Cancer Control.

## **CONCLUSION:**

In the conclusion ACS&RBPORC wishes to express that cancer screening in rural areas must be a major programme for each and every cancer society, NGOs, Medical Colleges etc. so that the constant exposure of these underserved population would definitely help in early detection and education about cancer. In this regard, I like to mention that the cancer screening for women like cervix and breast may be done by cytological screening with the help of pathologist. It has been found here that exfoliative cytology for cevical cancer and FNAC for breast cancer( also nipple discharge cytology falls under exfoliative cytology category) are fairly easy, less expensive and fast results are coming out. For doubtful cases in the case of breast lump mammography can be recommended. So, also the same idea can be transmitted to all kinds of

screening where the role of pathologist may be taken as pivotal one. This is my experience and extremely beneficial to the patients. Finally, even the economically backward group of population also be able to understand the magnitude of cancer problem and definitely they would voluntarily come forward leaving behind all other things for a health check-up and then they would be able to read their future and if at all the underserved population are suffering from cancer then the early detection will bring joy because the treatment will be less expensive and the life will become safe and cheerful. This is what I am looking for.

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