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- A - EVALUATION OF CANCER ACTIVITIES IN THE EASTERN MEDITERRANEAN REGION
DURING 1977
- C - SUGGESTIONS FOR CO-OPERATION IN IMPROVING CANCER INFRASTRUCTURES AND
CANCER ACTIVITIES
- D - HOW TO DEVELOP A COMMUNITY APPROACH FOR CANCER PROGRAMMES IN EASTERN
MEDITERRANEAN COUNTRIES

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A - EVALUATION OF CANCER ACTIVITIES IN THE EASTERN MEDITERRANEAN REGION
DURING 1977

INTRODUCTION

An increase of the interest expressed by National Health Authorities in the Eastern Mediterranean Region for cancer activities was evident during the year 1977.

The First Middle East Cancer Conference, the development of cancer registries, the intention of the Ministry of Public Health in Saudi Arabia to initiate a comprehensive Cancer Programme, a number of seminars, courses and other activities are clearly demonstrating this interest.

Activities during 1977

Reproduction and distribution of the reports on the Group Meeting on Cancer of the Cervix Uteri and the Second Meeting of the Regional Advisory Panel on Cancer, both held in Tunis in November 1976. These reports have been distributed to all health authorities and to some specialists interested in CCU and oncology in general. It was noted that some EM countries like: Libya, United Arab Emirates, Iran, Cyprus, Pakistan have demanded additional copies of the reports for larger distribution. It is not clear how far these reports have reached all those interested in the Region and what will be the impact of the report on CCU, one fact was noted in Cyprus and Pakistan - the local specialists used to a different system for staging and treatment of CCU were not prepared to accept this specific part from the recommendations made by the report. It is suggested for the Regional Reference Centre on Breast and Uterine Cancer in Tunis to undertake a study with regard to this aspect and also to prepare for a follow-up study on CCU to be undertaken in 1980 in order to assess if some improvements in detection, staging and treatment of CCU have resulted from the Group Meeting recommendations.

Cancer programme in Saudi Arabia

At the request of the Ministry of Public Health of the Kingdom of Saudi Arabia, the Regional Office sent a WHO Consultant for a period of four weeks to assess the situation and advise on the development of a comprehensive cancer programme. The report of Professor El Kharadly, member of the Regional Advisory Panel on Cancer has reviewed the situation in this country and made proposals for a comprehensive cancer project which has chances to be implemented by the Government.

Seminar on Tumours of the Female Genital Tract

This has been organized in Karachi, Pakistan in March 1977 at the request and with the participation of the Government of Pakistan. WHO has provided two short-term consultants, who have presented subjects related with Carcinoma of the Cervix, Carcinoma of the Corpus Uteri, Malignant Tumours of the Vulva and Vagina and Rare Tumours of the Genital Tract. Sixty-three participants from Pakistan have attended the Seminar.

Meeting on Strengthening Cancer Activities at country level

This Meeting was held in Geneva from 1-3 June 1977 and has been attended by the Regional Adviser on Radiation Health and Cancer. In preparation for this meeting a few EM countries were approached in view to investigate the willingness of health authorities to participate in a pilot project with the above-mentioned aim. Kuwait, Iraq and the Sudan have expressed interest for this pilot project. As a conclusion of the Meeting, it was decided to arrange for visits to countries participating in this pilot project by a team from HQ and the Regional Office. Letters informing the health authorities on such visits have been sent to Iraq, Kuwait and the Sudan.

Meeting on Comprehensive Cancer Programme

This Meeting organized by WHO/EURO, Copenhagen in July 1977 has been attended by the Regional Adviser on Radiation Health and Cancer.

Course on Epidemiology of Chornic Diseases with special emphasis on Cancer

This has been organized by WHO EMRO in collaboration with the International Agency for Research on Cancer (IARC) and the Government of Pakistan in Karachi, 22 October - 3 November 1977. The course was attended by thirty-one participants, from Egypt (2), Iran (2), Iraq (1), Kuwait (1), Pakistan (24), Saudi Arabia (1) and the Sudan (1). The aim of this course was to give to medical specialists working in the field of cancer and other chronic diseases some basic knowledge on how to mount epidemiologic studies in this field in order to identify causal agents, to find the efficacy of preventive measures or simply to measure the magnitude of the health problem investigated. For this course WHO has sponsored twelve participants and one member of the faculty and IARC has sponsored the rest of six members of the faculty plus the secretarial help and the books given to the participants.

First Middle East Cancer Conference, Cairo, 5-8 November 1977

A Federation of Middle East Cancer Organizations has been established during this Conference attended by participants from Egypt, Iran, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, Sudan, Syria and Tunisia, as well as by representatives of UIOC, WHO, IARC and scientists from USA, France, etc.

The Regional Office has sponsored three participants and three temporary advisers and has been actively involved in this Conference where a first session has analyzed the data of Cancer Epidemiology of the Region and subsequent sessions have discussed Cancer of the Breast, Cancer of the Head and Neck, Cancer of Genito-Urinary Organs, Cancer of Digestive Organs, Nomenclature and Coding of Tumours, Chemotherapy in Cancer. A round table chaired by Mrs Jehane Al Sadat has been devoted to Cancer Campaign and Voluntary Organizations. The discussions have been successful in leading to the banning of advertisements on cigarettes in the Egyptian press, radio and television.

During this Conference two important projects, developed by the Cancer Institute in Cairo in collaboration with the National Cancer Institute, USA, have been presented. One is dealing with early detection of urinary bladder cancer in rural areas in Egypt and the second represents a comprehensive approach for schistosomal induced urinary bladder cancer having as a research aim to elucidate the etiopathogeny of the disease and to improve its treatment. A special therapeutic protocol is now under clinical trial in Cairo.

The Conference has been successful in raising the interest in cancer activities in Middle East although some countries where such activities are present, have not participated (Cyprus, Jordan, Pakistan), or in other cases, the participation has not been as active as it should have been. It was also noted the almost exclusive participation of oncologists from Cairo Cancer Institute, although cancer activities are not restricted in Egypt to this Institute. A larger co-operation of all medical institutions working in this field in Egypt is very much needed.

Development in the field of Cancer Registries

Cancer registration has progressed during 1976 - Baghdad Cancer Registry has improved its coverage; the same applies to Cancer Registry in Kuwait. The staff of the Cancer Registry in Alexandria has been increased and a better coverage of local hospitals is expected. In Iran a WHO consultant has visited Teheran, Isfahan, Shiraz, Tabriz and the Caspian Littoral assessing Cancer Registries already established in a few places. The report, which has been received recently, is giving a sound evaluation of the existing activities and making valuable recommendations for the further improvement of those activities. It should be stressed the fact that the consultant has endorsed the recommendations made by the Second Meeting of the Regional Advisory Panel on Cancer in regard with Cancer Registration. A special emphasis is made on the fact that the Cancer Registry on the Caspian Littoral which is only recording cancer cases without any action in terms of services offered to the patient, is strongly advised by the consultant to start offering such services.

From the data collected at the Regional Office some minimal incidences could be calculated for Kuwait, population data being also recorded. A census has been made in Baghdad during 1976, when data will become available also minimal incidences for this city will be calculated.

Pakistan has decided recently to establish permanent cancer registries in five centres which have participated in the previous seven centres study. Such cancer registries will be initially hospital-based and will become gradually population-based defining precise area (and population) of catchment. Special attention is directed toward bone and female genital tract tumours in Pakistan.

Although cancer registries are not available in Saudi Arabia some cancer data have been collected during the last ten years by specialists working in hospitals in Dhahran and Riyadh. Few of those data were available to the WHO short-term consultant during his mission in Saudi Arabia.

Development of IPSID Project

Dr C.W. Heath, WHO Consultant, has visited Iran and Algeria in order to advise on an epidemiological study for the immunoproliferative small intestinal disease (IPSID). His report including a very elaborate protocol for a case control study has been distributed to the interested specialists throughout the Region for comments and eventual implementation. A relevant comment has been received from Tel Hashomer Cancer Centre (Israel) asking to extend the investigation to all intestinal lymphoma with or without alterations of the alpha heavy chain. Reactions of other specialists are still awaited.

Fellowships

One fellow from Iran has been awarded a WHO fellowship to France - UK - Switzerland in Cancer Registry for a period of 9 weeks (March - April 1977). It should also be mentioned that this Regional Office has sponsored thirteen participants for the Course on Epidemiology of Chronic Diseases with special emphasis on Cancer and three participants at the First Middle East Cancer Conference.

Visits to Eastern Mediterranean countries

During the year 1977 the Regional Adviser has visited Bahrain, Iraq, Cyprus, Kuwait, Iran, Pakistan and Egypt in relation with other activities. In each country visited, attention to the ongoing cancer activities was also given. In Bahrain a cancer epidemiologist, Dr Armenian from the American University of Beirut is working with the Ministry of Health. He has started to collect data on cancer in Bahrain.

Also the Regional Adviser has attended the Group Meeting on Comprehensive Cancer Programme, organized by WHO/EURO in Copenhagen in July 1977.

C - SUGGESTIONS FOR CO-OPERATION IN IMPROVING CANCER
INFRASTRUCTURES AND CANCER ACTIVITIES

I. What should be improved in cancer activities in EM countries:

1. detection of most common early detectable cancers: CCU, breast, bladder, esophagus, nasopharynx, oral, skin;
2. diagnosis of cancer-radiologic, nuclear medicine procedures, thermography immunological and biochemical tests together with cyto- and histopathology and other procedures;
3. treatment - surgical, radiotherapy, chemotherapy using better standardized procedures which could be easily followed and assessed in terms of efficacy;
4. data on cancer incidence (registration) and of cancer patient survival - which include proper follow-up;
5. rehabilitation of cancer patients in terms of physical and psychosocial reintegration of patient;
6. education of public - for better attendance of medical institutions, detection programmes (when and if offered), changing hazardous habits (smoking, chewing, drinking, eating, personal hygiene, etc.);
7. education of medical personnel at all levels - specialists, general practitioners, medium personnel and paramedical personnel involved directly and indirectly in cancer activities;
8. legislation adequate for cancer prevention in the framework of the general and health legislation.

II. How international cooperation could be used in improving the activities mentioned above:

1. Detection

- a) known methods tested in various centres of the Region should be extended within the Region once all constraints have been identified and solutions found as well as sensitivity, specificity and cost/benefit defined
- b) new methods applicable to cancer sites specific to the Region have to be developed and tasks could be divided within the Region - WHO RRC having to play their role

c) comparison of detection campaign and concerted effort in mobilizing health personnel from the frontline in cancer detection should be exchanged at Regional level in order to find new and better solution to the day-to-day cancer detection activity.

2. Diagnosis

a) techniques for better diagnosis, primarily of the most common cancers of the Region, should be elaborated. RRCs have to outline standard diagnostic procedures recommended to all cancer units as well as diagnostic procedures in a simplified form which could be applied by various hospitals and out-patient clinics within the Region

b) the place of morbid pathology in cancer diagnosis within the Region has to be stressed, and a better cooperation of pathological laboratories which have to become also referral centres for pathological samples coming from areas with less experience have to be identified.

3. Treatment

a) better and more adequate treatment procedures (surgical, radiotherapeutic, chemotherapeutic and other) should be promoted by RRC in the field of most common cancers of the Region. Such procedures, after proper testing by RRC should be recommended and even promoted in other EM countries by exchange of scientists, practitioners, meetings and eventually short courses. A collaboration with treatment groups in Europe and other continents could also be envisaged.

b) standardized forms for treatment protocols and follow-up of treated patients in order to produce data comparable within the Region. Adoption of forms and protocols already used by other international therapeutic groups could be considered for some particular cancer sites.

c) identification of centres in the Region where patients could be referred for treatment from EM countries where no or not enough facilities, or qualified personnel exists. Bilateral and multilateral agreements for using such centres could be realized in the framework of international cooperation.

4. Data on cancer:

a) establishment of new hospital-based cancer registries in areas where cancer data do not exist (Damascus, Riyadh, Jeddah, Aden, Sanaa, Manama, Bahrain, Kabul, Nicosia, a.s.o.). The experience gained in Baghdad and Kuwait could be used in these areas for new cancer registries;

b) improvement of the activity of existing cancer Registries in: Alexandria, Beirut, Baghdad, Cairo, Khartoum, Kuwait, Tripoli, Tunis, etc. in order to register all new cancer cases from a well-defined population and produce incidence data (at least minimal incidence).

5. Rehabilitation of cancer patients - Lymphoma, and lymphatic leukaemia are quite common malignancies in this Region. The long-term survival is now achievable in a high percentage of such cases but no concern for the reintegration of cancer patient in his environment has been manifested in this Region. A start has to be made in order to assess all aspects of the problem. It is suggested that Taj Pahlavi Cancer Institute in Teheran starts such activity and identifies all areas where special needs for training, organizational measures, participation of the community, etc. are required. Similar suggestions could be made for Cairo Cancer Institute in respect with the bladder cancer patients.

6. Education of the public - has not been systematically approached in this Region. Some measures taken as banning advertisements of tobacco or using the mass media for health education against cancer did not have great impact because of no follow-up. It is suggested to start a cooperative activity in the Region in view of:

a) identifying methods for public education which are effective in producing an impact on a critical group of population. As example to give up smoking or to prevent starting smoking in school children, university students, young workers, etc. Such methods may have a specificity for a country or an area or may be valid for the whole Region, an attempt has to be made in assessing this in an objective way;

b) methods able to persuade critical groups (members of high risk groups for various cancer sites) to seek medical advice at very early signs of specific cancers (e.g. skin, breast, cervix, bladder, esophagus, lymphoma). Such methods need research regarding the connotation cancer has for the individuals in a given population, the ways to overcome the fatalistic approach toward this disease, a.s.o;

c) finding appropriate ways to convince persons requested to attend early detection programmes to participate actively.

7. Education of medical personnel

a) training of cancer specialists need to be improved in the Region and cooperation could be arranged in order to start such training identifying places where: medical oncology, cancer surgery, radiotherapy, morbid pathology, cancer epidemiology, medical physics, etc. could be properly taught. The same applies to the training of medium personnel, radiotherapy technicians, nurses for medical oncology departments, cytotechnicians, histotechnicians, etc;

b) training of other medical specialists and of general practitioners for better and earlier detection of cancer. The efforts should concentrate on

- i. the ways cancer is taught at undergraduate level
- ii. the ways to obtain cancer awareness of all medical specialists who are attending the patients presenting the most common cancers in the Region (dermatologists, urologists, gynaecologists, internal medicine specialists, ENT specialists, etc.);

- iii. the methods for improving the recognition of early cancer signs among general practitioners and all kind of front-line medical workers.

III. Where in this Region could be started some of the activities mentioned above - the following suggestions are only examples aiming to stress the fact that some possibilities exist in this Region, which need to be encouraged in order to be better used for the benefit of the whole Region.

1. Detection

- a) cervical screening programme - is already going on in Teheran on a limited scale. An epidemiological orientation of such programme and an objective system for evaluation have to be introduced, together with health education of the population in order to obtain a better impact. When such activity has reached an adequate level of efficiency and efficacy, demonstrations could be arranged for specialists from other EM countries where CCU poses problems (Lebanon, Sudan, Tunisia, etc.);
- b) detection of breast cancer is an important issue for most of EM countries. Salah Azaiz Cancer Institute in Tunis is today paying particular attention to this problem because of high frequency of the very malignant form called PEV (inflammatory type of breast cancer). All modern methods for diagnosis are used in Tunis (mammography, thermography, a.s.o.) but only on patients with some breast pathology seeking medical care and on a very limited scale in high risk groups. The suggestions presented above for CCU in Teheran could be extended to Salah Azaiz Institute's activity in the field of early detection of breast cancer. It is particularly important in this field to envisage larger use of simple methods - palpation - easily applicable in the whole Region;
- c) detection of bladder cancer - different approaches are to-day used in Cancer Institute, Cairo, and Medical Research Institute, Alexandria, for the detection of urinary bladder cancer, cytology and biochemistry of urine samples. An objective evaluation of the results obtained with these methods will make it possible to see which has the chance to become the "screening test" to be recommended. Iraq, Sudan, Saudi Arabia, a.s.o. are areas where such test is very much required;
- d) detection of esophageal cancer by cytology - is under evaluation in Taj Pahlavi Cancer Institute in Teheran and results are expected for application in other areas where this cancer is frequent (Pakistan, Afghanistan, Saudi Arabia, Yemen, etc.);
- e) detection of oropharyngeal cancer has been a great concern at Jinnah Post-graduate Medical Centre in Karachi; the experience of this centre could be of great help for other areas where a similar problem is seen in the Eastern Mediterranean Region.

Such examples could be multiplied quoting other institutions where ongoing activities for cancer detection, with some improvement, could become interesting

for other EM countries. At the same time it should be stressed that such international cooperation is not restricted to the Region, this paper has confined the activity to the Region because of better information available from this defined area.

2. Diagnosis and Treatment

a) Lymphoma - constitutes an important area for cancer diagnosis and treatment in this Region. Taj Pahlavi Cancer Institute as WHO Regional Reference Centre for Lymphoma and Cancer of the Esophagus has developed special clinics for these two malignancies. A clinic for lymphoma is active at the University Hospital of Alexandria, others are at Medical City, Baghdad, Salah Azaiz Cancer Institute and Department of Medical Oncology - American University Hospital, Beirut, etc. In all places mentioned an important number of Hodgkin's and Non-Hodgkin's lymphoma are diagnosed and treated every year. If the WHO RRC will succeed in obtaining the cooperation at least of the clinics enumerated here, a coordinated protocol for diagnosis and treatment of various lymphoma could be put into practice and recommended after optimization to the whole Region;

b) Cancer of the bladder - Cairo Cancer Institute is diagnosing and treating every year three to four hundred new cases of bladder cancer. An important number of such cancers are seen in urological departments of Medical City, Baghdad, Alexandria University Hospital, Kasr El Aini Hospital, Cairo. In Cairo, fractionated radiotherapy is now under testing as presurgical treatment and also a chemotherapy protocol is under investigation for bladder cancer. Coordinated effort of interest to other clinics could speed-up the improvement of diagnosis and treatment of bladder cancer which represent such a prevalent malignancy in this Region.

c) Cancer of the breast - this is a very difficult problem for obtaining cooperation in improving the diagnosis and therapy of cancer of the breast in this Region as elsewhere in the world. Salah Azaiz Cancer Institute, the WHO Regional Reference Centre for Breast and Uterus cancer is still concentrating its activity intramurally trying to find objective diagnostic patterns for PEV (inflammatory type breast cancer) and a better therapeutic procedure. It is evident that an effort should be made to assess the situation of diagnosis and treatment of breast cancer in this Region and find solutions for improvement.

d) Oesophageal cancer - the clinic at Taj Pahlavi Cancer Institute has been mentioned.

e) Nasopharyngeal cancer - Salah Azaiz Cancer Institute has manifested interest in this field and one radiotherapist has been on a study tour to the Far East for this particular aim. Further developments are expected.

Other cancers as: Larynx, nasopharynx, oral cavity, brain and CNS, thyroid, bone - need concerted efforts on a Regional basis. Places where a particular interest for these localizations exist have to be identified and the cooperation with other EM countries established.

3. Cancer epidemiology - in a special paper the needs for cooperation in cancer epidemiology within this Region were clearly demonstrated. As suggested such cooperation should be developed and all cancer institutions having cancer epidemiologists like: Cancer Institute, Cairo, Medical Research Institute, Alexandria, Taj Pahlavi Cancer Institute, Teheran, Salah Azaiz Cancer Institute, Tunis, Cancer Registries in Baghdad, Kuwait, and Khartoum, Jinnah Postgraduate Medical Centre, Karachi, American University of Beirut, a.s.o. are attracted towards such cooperative studies which are of essential importance in guiding the development of cancer prevention toward the major causal factors in particular areas of the Region.

4. Rehabilitation - is an area where the activity in this Region is just starting and not very much has been going on in various cancer institutions. The aim for mentioning this type of activity here is to draw the attention of the members of the Panel that something has to be done. A suggestion has been already made in II. 5. The mould room at the Radiotherapy Department of Nicosia General Hospital also should be mentioned, where cosmetic prothesis are made for restoring the appearance of cancer patients with tumours in the area of head and neck mutilated after treatment.

5. Education and Training - is another very essential domain where this Region is still behind the real needs. Two areas have to be distinguished:

- a) Education of the public
- b) training of health personnel.

a) education of the public as mentioned in II. 6. is aiming at obtaining cooperation and active participation in early detection programmes, to change some of the hazardous personal habits (smoking chewing, etc.), to improve personal hygiene and early seeking medical attention for signs and symptoms related with cancer. Methods for real motivation of population have not been very effective even in countries where the cultural level is high, the impact of mass media is strong and the public health authorities have devoted to this activity manpower and other resources. This does not mean that this area has not to be seriously considered in our Region. An initiative has been taken at Salah Azaiz Cancer Institute when the connotation of the notion cancer has been studied in order to find the most efficient way to convince the female population to attend an early detection campaign. A similar study is done for the possibility to use public baths for detection of breast cancer. Such initiatives have to be multiplied and an international cooperation could help on avoiding repetition, in covering better the whole area which has to be investigated and in assessing a great variety of methods in order to select the most suitable one. All cancer institutions with an established experience in this Region have to be involved in such programme and to search for methods for public education as adequate for the sites of cancer which are the most common in the area covered. Suggestions for some of the cancer institutions and sites to be covered are:

- Cairo Cancer Institute: Cancer of the urinary bladder, Non-Hodgkin's lymphoma.
- Alexandria Medical Research Institute: Cancer of the urinary bladder, Hodgkin's lymphoma.
- Taj Pahlavi Cancer Institute, Teheran: Cancer of the oesophagus and lymphoma in general.

- Salah Azaiz Cancer Institute, Tunis: Cancer of the breast and cervix uteri;
- Jinnah Postgraduate Medical Centre, Karachi: Cancer of the oral cavity, oropharynx;
- Cancer Association in Iraq: Cancer of the Larynx and bronchus+lung;
- Radiotherapy and Radioisotope Centre, Khartoum: Cancer of the skin and liver;
- Radiotherapy Department, Al Sabah Hospital, Kuwait: Cancer of the thyroid a.s.o;

b) Training of medical personnel needs more concern in order to assure the self-reliability of this Region gradually. Improving the cancer activities means to have sufficient number of persons in medical institutions capable to detect, diagnose, treat cancer patients, participate in public health education, cancer epidemiology, etc. This cannot be done if all training at specialized (post-graduate) level is done in Europe, USA, etc. Another concern should be the way cancer is taught in medical schools, in schools for nurses, technicians in various fields of health and even at the level of primary health worker.

Institutions where training of: medical oncologists, radiotherapists, cancer surgeons, pathologists, cancer epidemiologists, medical physicists and all categories of medium personnel involved in cancer detection, diagnosis, treatment, rehabilitation and prevention could be trained inside of the Region have to be identified. Suggestions for developing postgraduate training at: Cairo Cancer Institute, Radiation Oncology Department, Kasr El Aini University Hospital, Cairo; Salah Azaiz Cancer Institute; Taj Pahlavi Cancer Institute; Jinnah Postgraduate Medical Centre; American University, Beirut, a.s.o. - have been already made. Active interest and persuasion in this direction has to be continued in order to develop adequate curricula and programmes, adapted to the needs of this Region and the background of trainees. A very important aspect is the practical training which is always neglected in most of the Universities and technical schools of the Region and which should be given priority in drafting curricula for such courses.

All suggestions presented here need a careful consideration by the members of the Regional Advisory Panel on Cancer in order to define which ones are acceptable as priorities, what kind of measures have to be taken for the implementation of those suggestions accepted. A system for monitoring the implementation and the results obtained need also to be carefully considered.

D - HOW TO DEVELOP A COMMUNITY APPROACH FOR CANCER PROGRAMMES
IN EASTERN MEDITERRANEAN COUNTRIES

I. Community approach in a cancer programme means to obtain community collaboration in respect with all cancer activities, using all facilities which are able to:

1. Raise the awareness of the collectivity in regard with all aspects of cancer control mostly by:

a) mobilize all collectivity resources for the health education of the population of: early signs of cancer, main etiologic factors of common cancers seen in the area, self-detection of cancer in sites where this is applicable, etc.;

b) obtain collectivity cooperation and support for cancer patients treatment, rehabilitation and social reintegration.

2. Make better use of all the medical network and especially the frontline medical workers in cancer prevention and early detection. The frontline medical workers have to be specially trained and motivated for proper health education in the field of cancer causation and the methods of primary and secondary prevention, to be able to suspect early cancer cases based on simple symptomatology easy to be recognized by all type of health personnel in direct contact with the population.

3. Improve the contribution of all medical specialists in cancer diagnosis, adequate patient referral and better cancer treatment.

The above enumeration represents aims which cannot be easily attained on the whole field of malignant diseases and on the complete area of a country. For this reason it seems advisable to start such activity gradually in terms of cancer sites and areas covered.

II. A suggestion which eventually could be considered is:

i. to define a number of cancer sites and types which are the most common for the population of the country (area);

ii. to outline an area where some persons working in the medical network and some leaders representing the local population are identified as being interested in stressing the cancer activity.

In the area established the community and the medical network have to be submitted to a specially prepared education programme.

1. Training of the health personnel - has to consider all levels existant in the area: primary health workers, medium personnel (nurses, midwives, medical assistants, all kind of health technicians, sanitarians, etc.) medical personnel (general practitioners, all types of specialists, pharmacists, etc.);

Organizing the training of health personnel is the first step in implementation of the above mentioned activity for the following reasons:

- a) trained health personnel will be able to carry out the health education of the public during their daily work as well as in specially organized activities;
- b) the health personnel in direct contact with the population is the most important chain link in cancer detection;
- c) this personnel is able to advise upon the most suitable methods to reach and influence the population;
- d) by training a large group of general practitioners and medical specialists in the field of cancer detection and prevention a number of them will be able to become later on teachers and therefore the educational process will be self-multiplicative.

As regards the content of this training process this should be defined in relationship with the type of personnel envisaged:

- a) frontline medical workers - have to be made aware of the main factors incriminated in cancer etiology in the area and ways to prevent cancer. Also clear notions on the early signs of the most common cancers seen in the area and how to refer patients for proper diagnosis and treatment. Bearing in mind the fact that these frontline medical workers are in immediate contact with the population and therefore are the best link for effective health education, special attention will have to be paid to methods which they will use during the daily work in order to influence the population;
- b) other medium personnel working in outpatient clinics, hospitals, etc. have also the opportunity to participate in health education by organizing sessions in waiting rooms, discussing systematically subjects during home visits, during nursing activity in hospital wards, etc.;
- c) general practitioners (who in some countries are to be included in the front-line workers) have an opportunity to participate in health education and early detection on a very large basis if some of the actual pressure of work is released. At least general practitioners could play an essential role in early referral of suspect cases and in strongly advising patients with hazardous habits (heavy smoking, chewing, drinking, etc.) to give up those habits;
- d) medical specialists have to be made aware of their key-role in diagnosing suspect lesions as early as possible. An approach recommended is to start with those specialists who are related with the commonest cancers seen in the area (dermatologists - for skin cancer; gynaecologists for female genital cancers, urologists - bladder cancer, etc.).

2. Education of the public - has to consider few relevant aspects:

- a) which are the critical groups which could be reached easier and with bigger impact on population behaviour. Consideration should be given to: school children, youth organizations (if any), patients attending various medical institutions (including inpatients in hospitals) factories and institutions, religious congregations, etc;
- b) what methods have to be used in order to reach the critical groups in order to create motivation but not fear;
- c) use of the mass media has to be adapted to the local conditions of the population cultural level, traditions which have to be modified. It is advisable to use the mass media only when other educational activities at the level of some critical groups (schools, factories, institutions, etc.) have reached a certain experience and the population receptivity and curiosity in the field of cancer prevention has been aroused.