

NETWORK

THE NEWSLETTER OF THE INTERNATIONAL NETWORK FOR CANCER TREATMENT AND RESEARCH



Volume 7, Number 2. Annual Meeting Special Issue (Replaces Winter and Spring Issues 2007) — Inside: ARTICLE: Oncology Nursing in Africa - **8** - ANNUAL MEETING PANELS: **A.** WHO Drug Essential Drug List - **B.** Traditional Medicine - **10** - ANNUAL MEETING REPORT - **12** - NEWS - **17** - PARTNER PROFILE: Kenyatta National Hospital, Nairobi, Kenya - **18** - PROFILES IN CANCER MEDICINE: Luis Augusto Casanova - **20**

THE PRESIDENT'S MESSAGE

INCTR'S EVOLVING STRATEGY

Part 1. Cancer in Developing Countries
by Ian Magrath

The World Health Organization (WHO) recently projected that by approximately 2010, cancer would overtake ischemic heart disease as the leading cause of death in the world. Between 2005 (when some 7.6 million people died from cancer, accounting for 13% of global deaths) and 2015, it is anticipated that 84 million people will die of cancer. In 2005, approximately 70% of cancer deaths occurred in low and middle income countries where, although cancer has a lower incidence, survival rates are much lower, largely because of delays in diagnosis leading to presentation with advanced disease. Many poor patients receive affordable (by their standards) or available treatment rather than optimal treatment, and those with little chance of benefiting from cancer treatment, or without financial support, are not infrequently sent home to die - without even the comfort of palliative care. Many patients (uncounted) never reach a



Public education in a subsistence farming region in Kenya accessible only on foot. See "Partner Profile" for more information.

center capable of providing treatment. This catastrophe will soon become a crisis, since the global cancer burden is increasing rapidly in the developing countries where populations continue to expand and communicable diseases are better controlled, resulting in longer life spans. Unfortunately, death from infection is all too often replaced by death from smoking, which, along

with an unhealthy diet (lacking in fruits and vegetables with a high overall calorie intake) coupled to a sedentary life style, predisposes to a number of non-communicable diseases. Tobacco and diet, together, account for up to 60% of cancer in high income countries. These risk factors, which are, in theory, avoidable, will take an increasing toll on the health of the emerging middle

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class, particularly in those countries which are rapidly developing, such as India and China. The increase in cancer deaths will not be small; the International Agency for Research on Cancer (IARC) predicts that by 2030 there will be 27 million new cases and 17 million cancer deaths per year - an extra 10 million deaths compared to 2005.

The lower incidence of cancer in developing countries (Figure 1), even using age-adjusted rates, is largely due to the much smaller impact in these countries, to date, of tobacco and diet/exercise. The tobacco epidemic is not yet at its height and fruits and vegetables generally comprise a higher fraction of the overall lower caloric intake in low income populations - who lead anything but sedentary lifestyles. But even in developing countries, the frac-

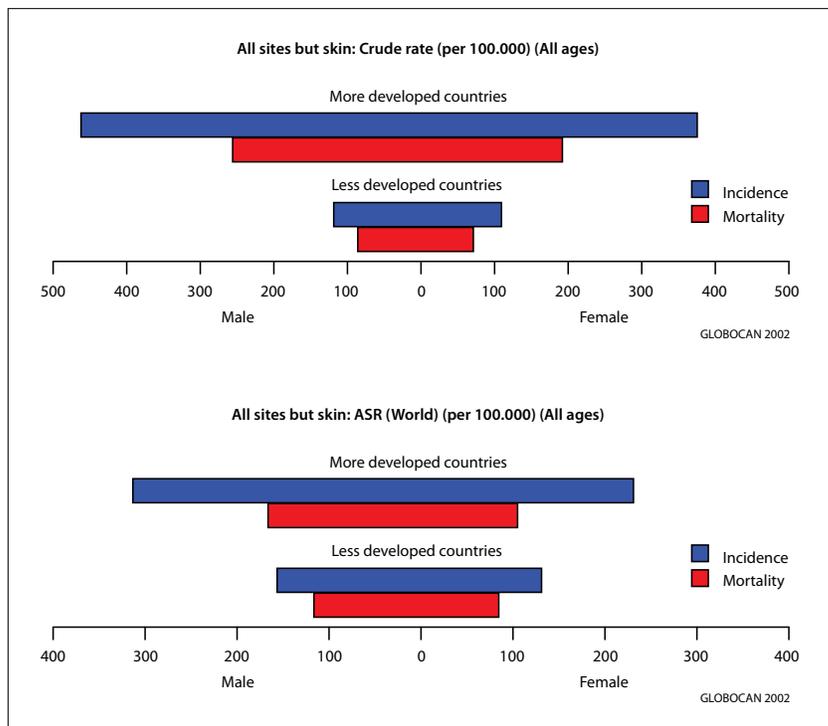


Figure 1. Incidence of cancer in more and less developed countries - Globocan estimates of crude (actual) rates and rates adjusted to the age structure of the world population. The difference in crude and age-specific rates will narrow as populations age. The differences in incidence and mortality rates provide an indication of the efficacy of therapy.

INCTR

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tion of overweight people is steadily increasing (although malnutrition also remains a problem). The increased risk of cancer with age is, to a large degree, a function of prolonged exposure to risk factors. Unfortunately, any reduction in cancer incidence resulting from better control of chronic infections will almost certainly be overwhelmed by the consequences of failure to preempt the effects of smoking and dietary factors.

In less developed countries, the fact that a higher fraction of patients die from cancer demonstrates that their attempts to control cancer are much less effective - which is hardly surprising, given the remarkable disparities in resources between the lowest and highest income countries. The poor-

est populations, particularly those in African find themselves trapped in a series of vicious cycles (Figure 2) from which escape is difficult, but essential if their socioeconomic status and health care is to improve.

RESOURCE LIMITATIONS IN DEVELOPING COUNTRIES

According to the World Bank, approximately 1.3 billion people live on less than a dollar a day, and almost half the world's population lives on less than 2 billion dollars a day. While these numbers are somewhat arbitrary, as is the definition of "poverty," they clearly indicate that the bulk of humanity is extremely poor. Poverty at the level of individuals is reflected in the poverty of governments, result-

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ing in major negative impacts upon education and health care. At the turn of the millennium, for example, a billion people were unable to read or sign their name. According to UNICEF, some 11 million children die each year as a direct consequence of poverty, and the United Nations Development Program (Human Development Report, 2006) states that a million children a year die for want of clean water and adequate sanitation. Poor health (malnutrition, anemia and common infectious diseases) also causes frequent interruptions in education, and reduce the ability to learn. Many children never go to school (which is rarely free), and the lack of even a basic education (Figure 3) condemns most to a life of perpetual poverty and potential catastrophe; in this setting, natural disasters or inter-ethnic violence precipitate serious added health problems.

Difficult decisions must be made by governments regarding priorities for their limited budgets. Health expenditure is usually just a few percent of total government spending - in absolute terms, sometimes hundreds

of times less than is spent per capita in high income countries (Figure 4). Health workforces are correspondingly small and unable to cope with the burden of disease. The WHO reports that sub-Saharan Africa, with 11% of the world's population and 25% of the global burden of disease, accounts for less than 1% of the global health expenditure. In contrast, the Americas, with 14% of the world's population and 10% of the global burden of disease, account for more than 50% of the global health expenditure. Comparisons of the numbers of doctors and nurses per capita in selected countries are shown in Figure 5. Some populations in low income countries are considerably worse off than even these figures would suggest since the inadequate workforces are also mal-distributed (rural regions are particularly poorly provided for) and health services poorly structured and managed. Some countries have fewer nurses than doctors such that nursing tasks, to the extent possible, must be performed by family members, or not at all - an unthinkable situation in high income countries.

Too many patients for the available health providers results in no, or limited time for continuing education, and



Figure 2. Vicious cycles that feed off each other - poverty, education, knowledge, evidence, access to care, prevention, early detection and treatment outcome.

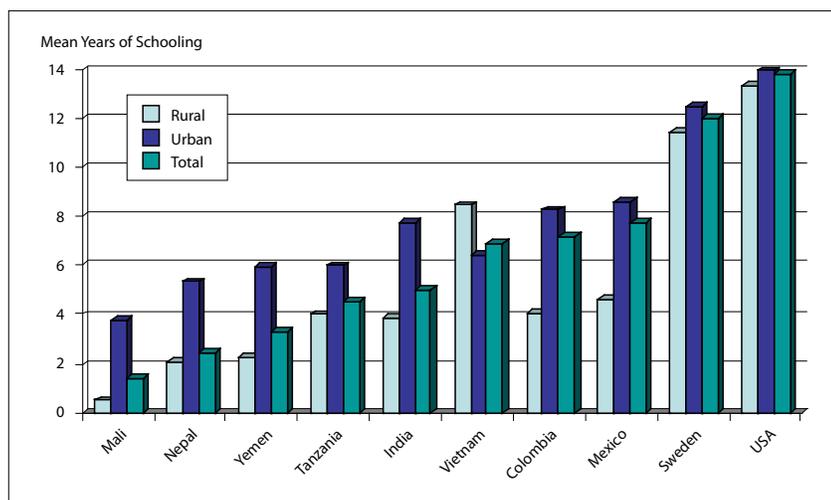


Figure 3. Mean years of schooling in selected countries between 1991 and 2001. Source, World Development Indicators, 2005.

minimal infrastructure for the collection of data relevant to developing an effective strategy for cancer control and measuring the effects of interventions. Although there are cancer registries in developing countries, much of the available data is institutional rather than population based and of variable quality. Poorly organized health services and inadequate training of health workers often lead to delays in diagnosis, mis-diagnosis, loss of clinical samples, inadequate investigations, poor recordkeeping and transfer of relevant information to referral centers, poor supportive care and limited or no patient follow up. Clinicians often lack the information needed to determine appropriate therapy, which may, in any case, be unavailable, and treatment is not infrequently abandoned prior to completion. Poor communication among specialists hinders effective combination of therapeutic modalities and

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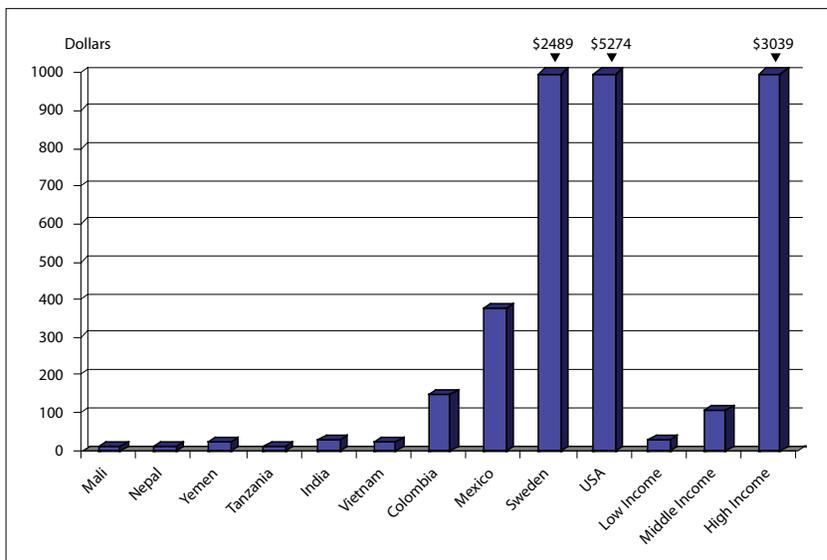


Figure 4. Health Expenditure per capita (international dollars) in selected countries.
Source, World Development Indicators, 2005.

lost opportunities for sharing experiences or discussing difficult cases. Professional education often leaves much to be desired. This gloomy picture varies markedly from country to country and institution to institution. Some centers provide the best quality services possible to their patients with the basic resources available. Some countries in the upper middle income category provide patient care and professional education that, at least in the best centers, can be equal to or close to the level of high income countries.

Resources for each of the three major modalities of cancer therapy are severely limited in low and lower middle income countries. Surgeons skilled in cancer surgery are in short supply and, like all other resources, more likely to be available in urban rather than rural regions. Radiation therapy, which evolved early in the 20th century in Europe, has still not spread to all countries in the world, in part because of the capital cost of equipment, but also because of

the lack of radiation oncologists and medical physicists. According to the International Atomic Energy Agency, half of the world's countries have 85% of all radiation therapy machines in the world - leaving 15% for the other half. Although the lower incidence of cancer leads to a lower requirement of radiotherapy machines per capita, there is still clearly an insufficient number to provide for the needs of many countries; Barton et al., (*Lancet Oncology*, 2006;7;584) have estimated that at the end of the 1990s there was a need for 842 megavoltage machines in Africa, 4936 in 12 low and middle income countries in the Asian Pacific region and 1530 in 23 selected Latin-American countries. Limited maintenance and outdated cobalt sources compound the problem.

Chemotherapy and hormonal therapy is available practically everywhere, although many countries purchase only "essential" cytotoxic drugs based on the WHO Essential Drugs list, and deficiencies in procurement procedures often lead to intermittent sup-

plies. Cost is also a major issue since much or all of the care, particularly drug costs, must frequently be paid for "out-of-pocket." Even generic drugs manufactured in developing countries, such as India, and available at much lower cost, may be beyond the means of many families, particularly when import duties and other taxes are added to the drug costs. In some developing countries there are no medical oncologists and/or pediatric oncologists, and few have adequate numbers of specialists.

These multiple deficiencies are compounded by the temptation to emigrate in search of improved professional and financial rewards. Training fellowships given by high income countries that may have been established with the intent of improving the workforces of low income countries can significantly exacerbate this problem, but professionals are also actively recruited. Similarly, an increasing number of trained persons move partly or entirely into the for-profit health sector - leaving the poorer elements of the population with even less access to care. Some would argue that countries should simply train more doctors, nurses or other health professionals than they themselves require, but this apparently simple solution presupposes a sufficient number of institutions of higher education, of teachers, and of young people qualified to receive higher education - i.e., a higher level of socioeconomic development than currently exists. Although emigration rates vary markedly from one country to another, and statistics can be difficult to compile for various reasons, it would appear, according to the Center for Global Development, that at least 40% of African born physicians work outside their country of birth. The

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migrants are more likely to come from countries with better health systems, such that as development proceeds, the situation will get worse before it gets better.

CANCER CONTROL STRATEGIES

Treatment has always been the primary approach to cancer control - in developing countries and in the world. This is hardly surprising since the most immediate need is to care for sick patients. In developing countries particularly, the imbalance between the cancer burden and the health workforce leaves little time for therapists to think about epidemiology or public health, nor are most trained to do so. Even late presentation is generally not seen as something they have a responsibility to address. At the same time, those who deal with population health in the poorest countries continue to be concerned almost exclusively with infectious diseases and nutrition, rather than non-communicable diseases. Where cancer control is contemplated, the lack of resources leads many to suggest that palliative care and primary prevention of cancer, i.e., the avoidance or reduction of exposure to environmental risk factors, should be the highest priorities, rather than treatment, which already demands more resources than are available. But palliative care, however necessary, will not reduce mortality and thus provides no hope for the future, while prevention, although more appealing and potentially less expensive than treatment, is dependent upon sufficient knowledge of causal, or at least, predisposing factors (which is not available for many cancers), and the political will to initiate necessary actions. It also requires decades for its effects to be felt.

Not only are all aspects of cancer

control important, but they need to be much more closely linked than has hitherto been the case.

PREVENTION

The first reports of cancers associated with exposure to environmental agents were published by Sir John Hill (snuff-taking and cancer of the nose) and Sir Percival Pott (scrotal cancer in chimney sweeps) in 1761 and 1775, respectively. Pott recommended baths to prevent the latter, but this advice, although heeded by Scandinavians with great success, was largely ignored in Britain until 1892! Progress in identifying additional causal factors was slow, and predominantly recognized in the context of occupational exposures. In the course of the latter half of the 20th century, a great deal of information has been collected regarding chemical carcinogens and infectious agents that predispose to cancer. Definitive evidence of the causal association of smoking with lung cancer was published in 1950, by which time the incidence of lung cancer in men in more developed countries

had increased markedly as a result of the dramatic rise in smoking rates throughout the first half of the century (see www.deathsfromsmoking.net), although the peak incidence, in the UK, for example, was not reached until about 1990. Prevention is not, unfortunately, always as easy as taking a bath. Even the administration of vaccines is associated with cost, logistic issues, and may be opposed, for various reasons, by some sectors of the community. Much more difficult to deal with than occupational exposures, or cancers associated with chronic infectious diseases, are those for which preventive measures may entail a significant change in lifestyle; or even, in the case of smoking, the single most important cause of cancer, overcoming a powerful addiction or the psychological pressure to smoke exerted on targeted segments of the population by the transnational tobacco companies (these days, often covert). Prevention, no less than treatment, is closely linked with business and politics and is rendered more difficult to achieve because one sector's gain is another sector's loss.

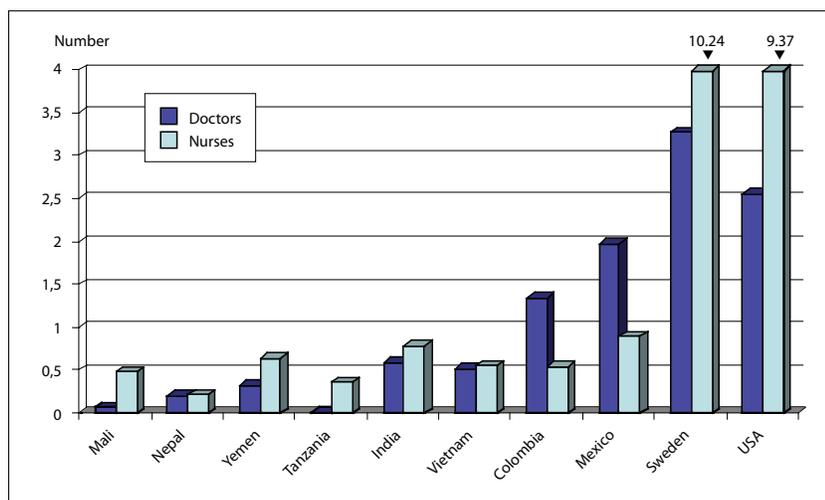


Figure 5. Doctors and Nurses per 1000 people in selected countries. Source, World Health Report, 2006.

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Preventive interventions are largely carried out, or advocated for, by a different set of persons or organizations than those involved in treatment. Yet primary health providers have a critically important role to play. Unfortunately, basic medical and nursing training in most countries includes a minimum of information (or none) on the importance of promoting a more healthy lifestyle in their patients. Public educational campaigns via the media can also be immensely valuable, and ideally, information about cancer and its prevention should be incorporated into primary and secondary education and addressed by a variety of associations at the community level.

TREATMENT

The fact that primary prevention is not possible for all cancers should not detract from the high priority it deserves since, to the degree to which it is effective, the outcome is an eventual reduction in incidence, and a reduced need for the resources required for treatment and palliative care. Prevention, however, can never be the sole approach to cancer control, and should not be the sole focus of national cancer control committees, no matter how limited resources may be, since such a policy would be tantamount to turning one's back on the cancer deaths anticipated in the next several decades. At the very least, consideration should be given to improving the efficiency of existing treatment programs particularly with regard to potentially curable cancers. Estimating the potential benefits of treatment and, particularly, cure rates, is difficult, but the most recent 5-year relative survival rates reported in the Eurocare-4 study and by the US SEER program indicate that

on average, some 50-64% of all cancer patients, in Europe and the USA, are alive at 5 years (Verdecchia et al., *Lancet Oncology*, 2007;8;784). A high fraction of patients can be cured when the cancer remains localized and a similarly high fraction of pediatric cancers, testicular cancer and a number of lymphoid neoplasms are curable - sometimes even when advanced. Unfortunately, the fraction of cancers that are curable is significantly lower in developing countries because of late diagnosis and limited resources for investigations and treatment, but the paucity of data coupled to the enormous variations in disease patterns and access to care in different populations or in different regions, even within the same country, make estimates hazardous. Some idea, at least, is provided by a comparison of mortality and incidence rates (Figure 1).

Like risk factors which can be relevant to several cancers, treatment approaches, at least in terms of general principles and the treatment modalities used (loco-regional therapy, including surgery and radiation therapy and systemic therapy - i.e., chemotherapy agents, hormones or novel agents such as monoclonal antibodies) also overlap, in that they are applied to many different cancers. There are, however, over 100 types of cancer, and each stage of cancer (a shorthand notation of the size, degree of loco-regional invasion and the presence of distant spread) needs an appropriately tailored treatment approach, often requiring the combined expertise of a number of specialists, as well as skilled nursing, pharmaceutical and technical support. Therapeutic decisions are dependent upon expert pathological examination and radiological or other types of "imaging" studies, or, in some

cases, the detection of a serum marker (such as carcinoembryonic antigen). In developing countries, many of the investigations used in high income countries to determine the stage of disease are either not available, or must be restricted to particular uses because of limited availability, or high cost. Such tests, however, are probably overused in high income countries and careful consideration should be given as to how much each contributes to therapeutic decisions in various cancer types such that their use is kept to a minimum.

**Effective cancer control
requires effective
collaboration.**

In some cases the biological characteristics of a cancer may be a critical factor in treatment decisions (e.g., the expression of hormone or growth factor receptors in breast cancer) and will become increasingly important in an age of targeted therapy. However, the benefits of new treatment approaches vary markedly, and may sometimes be very small, although their cost is invariably high such that most are completely beyond the ability of poorer patients or governments to pay. Even in resource-rich countries, there is considerable debate about the high cost of new systemic therapies.

EARLY DETECTION

The role of the primary care provider in cancer treatment is, in some respects, as important as that of the cancer specialist, since the best chance for cure is when the possibility of cancer is considered soon after symptoms arise, such that the diagnosis is established and treatment

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initiated at an early point in the evolution of the disease. Approaches to early diagnosis include education of the public, in order that care is sought at the earliest time, and of the primary care providers, to ensure that cancer is considered when warranted and appropriate diagnostic steps are taken.

In some cases, cancer can be detected in asymptomatic patients by screening - when, for example, the primary anatomical location of the cancer is readily accessible (e.g., skin, breast, mouth, cervix). Techniques include direct vision, sometimes aided by vital stains (e.g., acetic acid or iodine in cervical cancer), or special tests such as cytology. Early cancers at less readily accessible sites may be detected endoscopically, or by radiology or other imaging procedures. Tests for minor bleeding not recognized by the patient, or for a chemical marker in the blood, are also used to detect asymptomatic cancers. Such tests vary markedly in terms of the skill and time spent in their performance by the individual or team of health professionals involved, the equipment required, the sensitivity and specificity of the test and, of course, the cost. All of these, in conjunction with logistical issues such as whether the test is offered "opportunistically" or by recruitment, are relevant to coverage of the target population and hence, to the impact on mortality rates.

The digital era could change the standard equations for early detection, since any visual technique can be digitalized - both at the level of the procedure and any subsequently required histopathological or cytological examination. Images can then be transmitted electronically for reading by off-site experts. Digitalization can save time, improve data management

and compensate for local deficiencies in human resources. It also permits distance training and allows the introduction of efficient quality control. Cost benefit ratios may depend upon many factors, including the cost of equipment, image transmission, salaries and fees for technicians and readers as well as the beneficial impact on treatment costs and outcome that is achieved by earlier diagnosis.

A potentially negative aspect of screening is that lesions may be detected that are not yet invasive cancer, and may or may not ever become so. Such lesions, however, cannot be ignored. When treatment is simple, inexpensive and with few or no side effects (such as cryotherapy for cervical cancer), this may be of minimal concern, but when surgery and/or radiation therapy are necessary (e.g., in non-invasive breast or prostate lesions), the added cost, unnecessary, worrisome and potentially harmful interventions must also be taken into consideration in calculating the cost-benefit ratio.

DISCIPLINARY AND CULTURAL DIVIDES

Cancer control is often thought of as referring to prevention and early diagnosis and primarily involving epidemiologists and public health specialists. However, effective public education requires the active participation of care givers, who also play a critical role in early detection. Moreover, early detection is pointless unless treatment can be immediately instituted. Treatment (including palliative care) is an essential element of cancer control in its own right - and the only way of controlling some cancers. Effective cancer control will entail collaboration among institutions and organizations at both national and international

levels that have quite different cultures and often different goals, rendering effective communication and concerted action more difficult. Such divides must be overcome, since each element of the community has an important role to play. Supranational organizations provide information, guidance and support to national governments which are responsible for the creation of relevant legislation, determining and regulating the structure of the health care system, and promoting (or endorsing) and supporting the creation and implementation of a national cancer control strategy. Academic institutions and cancer centers offer education and training for health professionals, while simultaneously providing health care and conducting the research needed to create and expand the evidence on which effective action depends. Industry is ultimately responsible for the manufacture of all the equipment and drugs needed for cancer control, and has an important role in the development of novel approaches and new technologies for diagnosis and treatment. Finally, civil society provides advocacy, funding, and information and may play an active role in professional and public education as well as participating directly in cancer control activities. As such, it plays an important role in helping to provide a connecting matrix among the range of involved institutions, and in bringing distant disasters into the purview of those who are able to help - striving to create, in the process, a political climate of collective solidarity.

In part two of this message, some of the ways in which INCTR works, or plans to work, in creating the networks necessary for an integrated approach to cancer control will be discussed. ■

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ONCOLOGY NURSING IN AFRICA ¹

The importance of oncology nursing in developing countries depends to a large degree on the priority given to cancer control. Although oncology nurses are often thought of as practicing exclusively in cancer centers, professional nurses with specialized knowledge of cancer and able to practice in a variety of settings, in general hospitals and in the community, should be an important element in the cancer control strategy. General nurses must be able to provide simple information and advice to patients and families about cancer and its treatment, provide nursing care for cancer patients, and work closely with other team members, especially the medical staff.

Unfortunately, African health systems suffer from both a lack of human resources and organizational weaknesses, the latter, to a degree, resulting from the former. Sub-Saharan and North Africa for example are facing a huge shortage of qualified nurses and midwives (Figure 1). The limited numbers of medical staff that can be trained is compounded by the exodus of nurses (and doctors) to more developed countries. This affects the entire health systems of such countries, but is felt even more in disciplines that require highly trained specialists, such as chronic diseases in general and cancer in particular.

Unsatisfactory working conditions, nurses rotating between specialty and general units and unsuitable or non-existent medical oncology infrastructures, as in Niger, are the most important factors severely limiting the provision of necessary

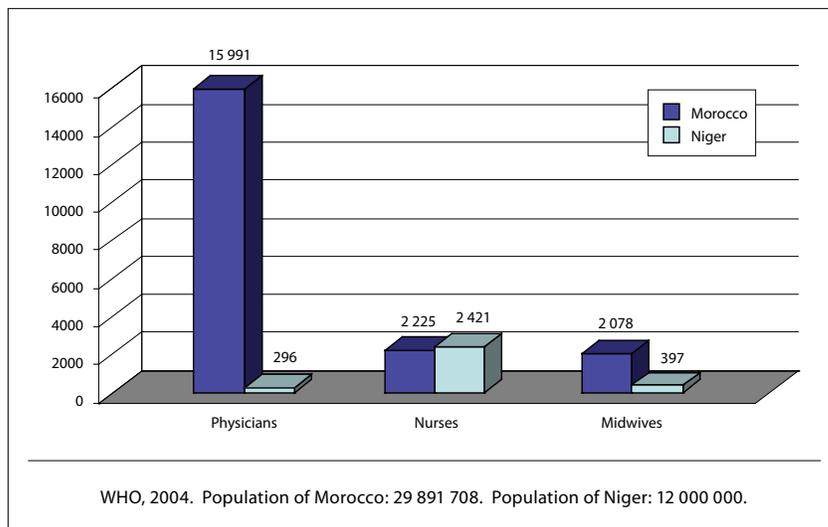


Figure 1. Numbers of health workers in Morocco and Niger.

treatment. Until these problems are solved, there will continue to be serious repercussions on the quality and availability of oncology care.

It must be noted that in most of sub-Saharan Africa, poor working conditions, low pay and status for nurses, and the paucity of specialist nursing training lead to a frequent lack of knowledge and professional-

ism. There is no oncology training in nursing schools. In many cases, the only possibility for training is provided by doctors working in the hospitals and they are not necessarily familiar with up-to-date oncology nursing care. These doctors are often responsible for teaching the entire multidisciplinary team. The lack of physicians (for example, there are

South Africa	933	Kenya	99
Nigeria	466	Botswana	91
West Indies	352	Nepal	73
Zimbabwe	311	Swaziland	69
Ghana	272	Malawi	52
Pakistan	205	Sri Lanka	47
Zambia	162	Lesotho	43
Mauritius	102	Sierra Leone	24
Total: 3301			
Initial Registrants: 33,257; Overseas (non-EU): 11,477; India: 3,690; Philippines: 2,521; Nigeria: 466			

Table 1. Nurses who joined the UK register from countries from which recruitment is banned. Figures from the 2005 Annual Report of the Nursing and Midwifery Council of the UK. In 2004/5, approximately one third of nurses who joined the register were from outside the European Union, and over three thousand were from countries from which recruitment is banned.

0.02 physicians per 1000 people in Niger according to WHO 2004) also handicaps training and the maintenance of standards in caring for patients. Once qualified, nurses, who are also in short supply (although there are 10 nurses for every physician), receive no further training. They are routinely excluded from seminars and workshops where new knowledge about cancer care and treatment is transmitted.

In North Africa, the situation is a little better. In Morocco, for example, there are five public cancer centers and more physicians per 1000 people, based on WHO data from 2004 for the country (0.51 per 1000 people). There are, however, only slightly more nurses than doctors (0.71 per 1000). No specific oncology training for nurses was offered, however, until 2006 when cooperation between local and European associations for nursing education in the field of cancer was initiated.

AMCC'S TRAINING PROGRAM IN CANCER NURSING

Nursing oncology training courses organized by the French branch of INCTR (AMCC) were held in Morocco in 2006 and Niger in 2005 and 2006. These objectives were to offer nurses and midwives both general oncology training, linking theory to practice (e.g. in chemotherapy) and specific cancer care training (e.g. cancer prevention, risk factors and palliative care). The courses in Morocco were supported with funds provided by the Moroccan non-governmental cancer organization "Lalla Salma", and those in Niger by the UICC, the French League against Cancer and "Tous unis contre le cancer".

AMCC, supported financially by the NCI (USA), UICC Technology

Transfer fellowships (ICRETT reverse fellowship) and the French League against Cancer, has in the past, held specialist training for nurses and oncology physicians in over nine African countries, consisting of courses and workshops lasting three to five days. As the demand for nursing training continues to grow, AMCC is now working, in conjunction with cancer units and nursing schools, on curriculum development for oncology nursing training. This is important because of the differences among the various countries in the general levels of nursing, in health systems structure, in resources devoted to cancer control and in the priorities of policy makers. Once specific guidelines for curricula are developed, they will provide a uniform reference source for education in cancer nursing, and will help to promote higher and more uniform standards of care.

CONCLUSION

Nurses have an important role to play in cancer control. Specialist training of cancer nurses will not only benefit patients, but help to elevate the status of nurses, such that the temptation to emigrate is reduced and more young women will wish to take up nursing as a career. More attention should be paid to the role of nurses in the several areas of cancer control, and training course appropriate both to these roles and to the existing health care system should be developed. In regions or countries where cancer units exist, training hospitals should develop nursing curricula adapted to the needs of the national health



Casablanca, Morocco, Nov. 2006: a Moroccan nurse next to the 1st International Onco-nursing training course poster.

services, and providing a variety of types of training based on the nursing role anticipated – e.g., oncology nurse versus general hospital nurse with special knowledge of cancer, or community nurse, more involved in the provision of advice on prevention and palliative care. Ideally, a small number of institutions in a country – those already providing cancer services – should take responsibility for nursing education.

AMCC will continue to work with nurses and doctors in developing countries, particularly in Africa, to provide necessary training and education for nurses, and to advocate for nurses in the broader context of national cancer control. ■

Sabine Perrier-Bonnet, AMCC²

¹ The present article is based on observations made by the author during training missions carried out in Morocco and Niger

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NETWORK

WHO DRUG ESSENTIAL DRUG LIST

A consensus panel discussion on the value of an Essential Drugs List (EDL) for cytotoxic drugs in developing countries (Co-Chairs: Dr. Cecilia Sepulveda, WHO and Dr. Hussein Khaled, Cairo NCI) was held during the 7th INCTR annual meeting in Sao Paulo, Brazil (March 1st - 4th, 2007). Panel members were from Argentina, (Fundaleu), UK (Cochrane Cancer Network), Mexico and India. The presentations from the panel focused on the cost, quality, and availability of cytotoxic drugs in developing countries in the current context of rising cancer incidence, continued late presentation (with its attendant increased management costs) and lack of reliable cancer registry data. The urgency of this dilemma is emphasized by the facts that, already, 70% of cancer deaths occur in developing countries and the global burden of cancer is progressively increasing, particularly in the developing countries (see President's message).

While the cost of surgery or radiotherapy can be controlled in most developing nations, the cost of systemic therapy using pharmacologic agents often cannot. Developing countries need to be able to distinguish between those agents that are essential and those that can be used on a limited scale at high cost, because they contribute to a small or minimal degree to overall cancer treatment; in some cases the cost may be sufficiently high and the benefit sufficiently small as to make the use of particular drugs inappropriate.

WHO defines essential drugs as *"Those drugs that satisfy the health care needs of the majority of the population*

at all times, in adequate amounts and in appropriate dosage forms, at a price the community can afford". WHO publishes EDLs that serves as a model for the selection of drugs on the basis of comparative efficacy and safety, quality and cost effectiveness. EDLs are generally updated every two years and represent influential contributions to clinical practice guidelines in developing countries. This is particularly relevant in the field of oncology where the cost differences between various cytotoxic drugs (and the same drug from different suppliers) may be substantial. Multiplied by an increasing number of patients, the cost of some individual drugs, particularly those still under patent, which may have minor benefits in particular patient subsets, could exceed the present total budget for cytotoxic agents.

The example was given of a health authority in a developing country where approximately 200 cancer patients treatable by cytotoxic drugs are diagnosed every year. The health authority has an available drug budget of 1000 currency units (cu). There are two possible drug combinations: combination A, that costs 50 cu per course and has a response rate of 60%, and combination B, costing five cu per course with a response rate of 50%. The question that faces the health authority is clear: should it treat 20 patients with regimen A and leave the remaining 180 patients untreated, or should it treat the 200 patients with regimen B with a response rate of 50% resulting in the cure of 50 patients rather than 12? It is this financial and ethical dilemma that faces health authorities and individual oncologists every day. Not surprisingly, the cytotoxic treatment regimens used

vary widely from country to country from institute to institute, and from patient to patient.

In order to inform the debate on how to prioritize health care, it is crucial to have as accurate as possible a knowledge base of the quality, quantity and distribution of resources for treatment. The EDL might be conceived of as being one component of an Essential List of Treatment Resources. Unfortunately, the lack of data from developing countries, including population-based cancer registries and information on disease stage at presentation and survival rates, hinders policy makers in the process of defining the magnitude of their cancer problem, determining priorities and drawing up realistic budget estimates.

The panel felt that deciding how much of public funds (if any) should be spent on systemic therapy can only be decided in the context of the overall strategy for controlling cancer, i.e., in a national cancer control plan (NCCP). For example, drug costs might be reduced by taking measures to ensure that a higher fraction of patients is diagnosed when their disease remains localized. Information regarding the value of individual drugs – and their use in standard drug combinations – might be useful, as well, perhaps, as a supplementary list of drugs that might be considered, in some circumstances for inclusion in the national EDL – for example, drugs that are highly effective in relatively uncommon diseases. ■

TRADITIONAL MEDICINE

A session on Traditional Medicine, entitled, "Traditional Medical Systems: Complementary or Detrimental"

ANNUAL MEETING PANELS

Co-Chairs: Dr. Michael Wargovich, Medical University of South Carolina, Charleston, SC, USA, and Dr. Baffour Awuah, Komfo Anokye Teaching Hospital at Kumasi, Ghana, – was held during the 2007 INCTR meeting on Saturday, March 3, 2007.

The session included five presentations commencing with an overview of the use of traditional medicine in the prevention of cancer; Dr. Wargovich reported that chronic, unresolved, asymptomatic inflammation is now considered to be a critical step in the development of common cancers. Botanical compounds that relieve inflammation are being found to have efficacy in inhibiting cellular proliferation of a number of human tumor cells in vitro. Dr. Wargovich illustrated his ongoing collaborative studies with examples, e.g., the use of traditional medicinal plants in the Republic of Guinea (West Africa) and semi-tropical fruits in Brazil.

Dr. Awuah then gave an overview of traditional medicine systems in West Africa. He observed that until recently there had been a conscious, or perhaps unconscious, ignorance of the impact of traditional medicine practitioners in the effort to manage cancer patients with curative intent. In medical practice the practitioner whom a patient first consults contributes immensely to the final outcome of the disease. In many developing countries the majority of the population still lives in rural communities where access to orthodox medical practitioners is nonexistent. For these populations the first point of consultation is usually the traditional healer who resides within the community. However, there is a huge difference between the orthodox and traditional medical concepts with respect to

perceptions of diseases, their causation and treatment. Orthodox or 'Western' medicine regards physical and infectious agents and genetic abnormalities to be the causes of many diseases, whereas in traditional medicine spiritual and supernatural powers, among other factors, are widely thought to be among the causes of disease. From the orthodox perspective the usual reasons given for the abysmal outcome of cancer patients from the developing world are ignorance, poverty, and the low level of cancer awareness due to lack of education. As a result cancer control strategies generally ignore the traditional healers, even though they play a major role in health service delivery in rural populations. There is therefore an urgent need to look at the role of traditional medicine practitioners in our effort to control cancers in the developing world.

Dr. Zeba Aziz (Hospital, Lahore, Pakistan) presented an overview of traditional medicine systems in Pakistan. The use of complementary and alternative medicine (CAM) prior to, during and after treatment with standard therapy for cancer is increasing in cancer patients both in developed and developing countries. In Pakistan the most commonly used CAM practices are: acupuncture, Aryurvedic medicine, homeopathy, and the use of faith healers. However, quite often the use of CAM results in delayed diagnosis and advanced disease. Dr. Aziz reported that there are no randomized trials to support the use of CAM.

Presenting a summary of traditional medicine and its use in East Africa Dr. Twalib Ngoma (Ocean Road Cancer Institute, Dar Es Salaam, Tanzania) explored the significance of the fact that many patients in the developing

world see a traditional healer first. He suggested that this has two possible outcomes. Firstly, if the patient finds relief of symptoms, or is cured of their ailment, verification is difficult since the patient has not entered an allopathic care system. Secondly, many patients spend too long in the care of a traditional healer, delaying diagnosis and treatment; a delay that otherwise might have allowed for a successful medical intervention.

Dr. Yaoping Wang, (Shanghai Children's Cancer Centre, Shanghai China). presented an overview of Asian Traditional Medicine and cited the long history of the use of such practices in China. Based on an understanding of energy flow throughout the body, traditional Chinese medicine (TCM) uses a combination of energy practices and herbal medicine to bring the body into a state of harmony, and is often at variance with the more disease-focused practices of Western Medicine.

After these presentations there was a lively discussion on the role of INCTR in furthering research on Traditional Medicine Systems. The panel of speakers agreed that the integration of traditional medicine practices with allopathic practices might be a worthy goal. Dr. Magrath suggested that the concept of a "polyclinic" be developed where both types of approaches could be available to the patient, under the same roof. The panel concluded that the topic of Traditional Medicine be expanded and made a permanent part of the scientific sessions of future INCTR annual meetings. Further, it was suggested that a formal working group of interested individuals in the area of traditional medicine be formed within INCTR for future planning of research strategies. ■

NETWORK

ANNUAL MEETING 2007 REPORT

INCTR's Annual Meeting 2007 was held from 1st-4th, March in Sao Paulo, Brazil. The Annual Meeting is unique in having, as its entire focus, cancer in developing countries. It is held in a developing country, and a high proportion of its speakers come from developing countries. The purpose of the Annual Meeting is to bring together INCTR members from all over the world to be updated on INCTR programs and projects, to comment and exchange views relating to INCTR activities, to have the opportunity to participate in educational sessions devoted to various aspects of cancer control in developing countries and to consolidate the spirit of friendship and collaboration on equal terms that is central to INCTR's mission and ethos. Some 165 participants from 35 countries attended the 2007 meeting. Many of the presentations are available on INCTR's portal (in the Education section).

INCTR REPORTS

Reports were given by the President, and by members of INCTR's Special Panel and Clinical Research, Education and Palliative Care programs relating to the ongoing projects and new projects undertaken in 2006. These reports are available on INCTR's portal in the main document library.

PROFFERED PAPERS

Each annual meeting provides opportunities for participants to present their own work. As an added incentive, a prize is given for the best posters in adult and pediatric oncology. There were eight oral presentations of participants' own work

KEY NOTE LECTURES

The Global Cancer Problem.

Ian Magrath, INCTR

The Cancer Problem in Latin America; from Knowledge to Practice.

Eduardo Cazap, Sociedad Latinoamericana y del Caribe de Oncologia Médica, Argentina

Tobacco Control in Brazil.

Gilberto Schwartzman, Academic Hospital, Federal University Rio Grande do Sul, Brazil

Data and Ethics.

Francis Crawley, INCTR and GCP Alliance – Europe, Belgium

Role of Information Technology in Education, Patient Care and Research in Low Resource Settings.

Frans Dhaenens, Agfa-Gevaert Group, Belgium

MEET THE EXPERT SESSIONS

Early morning "Meet the Expert Sessions" were attended by a large number of early-birds. Topics included:

Investigator Responsibilities in Clinical Research, Population Based Cancer Registration and the Example of the Middle-East Cancer Consortium

A Practical Approach to the Diagnosis of Lymphoma

Nursing Oncology

Management Strategy for Chronic Myeloid Leukemia in Developing Countries

Understanding Reasons for Late Diagnosis

Collaboration in Retinoblastoma

Use of Breast Cancer Treatment Guidelines in Developing Countries

Improving Pathology Services in the Developing World

Ethics in Pediatric Research

The Data Base for Cancer Control in Developing Countries

The St Jude Hospital Outreach Program

Psychological Support of Cancer Patients

Establishing Palliative Care Programs in Developing Countries

The Role of Ethics Committees in Pediatric Research

ANNUAL MEETING REPORT

and over 88 posters, which were displayed throughout the course of the meeting. These provided focal points for much lively discussion.

CONFERENCE THEMES AND WORKSHOPS

The main conference themes for 2007 were *Global Cancer Control, Pediatric Oncology in Developing Countries* (the My Child Matters program) and *Cervical and Breast Cancers*. Two workshops were held; a joint workshop with the European School of Oncology on *The Non-Hodgkin Lymphomas*, and a second, organized by INCTR's retinoblastoma strategy group, on *Retinoblastoma*. On the final morning, a workshop was held on palliative care organized by INCTR's PAX program with the support of the American Cancer Society.

CONSENSUS PANELS

Consensus discussions are held in order to develop specific recommendations or draw conclusions on the selected topic. Two consensus panel discussions were held in 2007: one on *Essential Cytotoxic Drugs: Cost, Quality, Availability* and a second on *Traditional Medical Systems: Complementary or Detrimental* (see pages 10 and 11).

COMMITTEES, STRATEGY GROUPS, BOARDS AND FORUMS

A number of committee and board meetings took place in the course of the meetings including an *Office and Branch Meeting*, in which ongoing activities, accounts, fund raising and communications throughout the network were discussed. These included an informal meeting of the *Special Panel of the Advisory Board*, which selects the future

venues for the Annual Meeting, selects INCTR Awardees and provides advice on INCTR programs and a *Members Forum*, in which INCTR members have an opportunity to comment on any aspect of INCTR's work, and to suggest new areas of endeavor.

CONFERENCE EVALUATION

Between 90% and 97% of attendees who completed the evaluation form rated the meeting very good or excellent with regard to fulfillment of expectations re: learning outcomes, satisfaction with the content and quality of the education sessions and enhancement of the sense of an INCTR community. Similarly high ratings were given for the overall organization of the meeting, the time allowed for discussions and a number of other evaluation criteria.

INCTR AWARDS

At each of its Annual Meetings, INCTR gives two awards to individuals who have made outstanding contribution to cancer treatment or research in one or more developing countries. These awards are given in part to recognize the achievements of the recipients, and, since each awardee gives a presentation on his or her work, in part to inspire others to greater efforts by demonstrating that much can be achieved even when resources are limited.

The Nazli Gad-El-Mawla award is given for outstanding contributions to cancer control by an individual from a resource-poor country. The 2007 award was made to Dr. Ayan Cavdar From Ankara, Turkey, a pediatric oncologist. Dr. Cavdar is a founding member of the Turkish Academy of Sciences (TÜBA) and for-

mer President of the Mediterranean Blood Club. She received the award for her major contributions to the development and evolution of pediatric oncology in Turkey. She is particularly known for her work in leukemias and lymphomas, including the demonstration of the high frequency and poor prognostic significance of orbital granulocytic sarcoma in children with acute myeloid leukemia, the predominance of the MC subtype of Hodgkin's disease and its association with zinc deficiency and Epstein-Barr virus in young children, and the strong EBV association and mixed sporadic and endemic features of Burkitt's lymphoma in Turkey.

The Paul P. Carbone award is given for outstanding contributions to oncology or cancer research by an individual from a resource-rich country. The 2007 award was made to Dr. Rengaswamy Sankaranarayanan, a radiotherapist and epidemiologist, who is Head of the Screening Group at IARC, where he is responsible for IARC programs in the early detection of cancer in low-resource settings. Dr. Sankaranarayanan is particularly known for his work on the development of inexpensive but highly sensitive screening and treatment techniques of pre-malignant cervical cancer and has recently demonstrated, with colleagues, that screening for oral cancer is highly effective and can save lives. His work extends to health service delivery and various other aspects of cancer control. ■

**The next INCTR meeting
will be held in March 2009
in Turkey.**

NETWORK

ACUTE MYELOCYTIC LEUKEMIA (AML) ASSOCIATED WITH ORBITAL GRANULOCYTIC SARCOMA (OGS) IN TURKISH CHILDREN

PROF. DR. AYHAN O. ÇAVDAR



This presentation covers our 40 years of experience and studies (1963-2003) on acute myelocytic leukemia (AML) in Turkish Children in the Pediatric Oncology-Hematology department and Research Center of Ankara University (Turkey). Extramedullary leukemia (EML) in the form of orbital granulocytic sarcoma (OGS), historically called "chloroma", is rare in the Western World. However, the frequency of OGS in Turkish children is very high, ranging from 35% (1971) to 26% (2003). Interestingly, OGS in Turkish Children is usually a presenting feature of AML and is manifested as exophthalmos (proptosis) caused by orbital masses, which may sometimes be clinically apparent. EML in other parts of the body is sometimes found, although much less often.

The factors governing the occurrence of OGS in AML are not well known and there was little information, even of a descriptive nature, in the literature when we first became aware of it. Therefore, in the hope of identifying patient or disease characteristics associated with its occurrence, we have conducted a number of studies in AML patients with and without OGS over the course of many years, using methods and techniques available in our center. Analyses performed and techniques used are listed below:

- *Hematological tests*: Complete blood counts and bone marrow (BM) examinations including morphologic and cytochemical evaluation, FAB classification, and electron microscopic (EM) evaluation.
- *Orbital biopsies* were obtained before treatment in several cases and examined by light and EM
- *Cellular immunity* was evaluated by delayed hypersensitivity tests (PPD and DNCB) and

T-cell subsets (T_3 , T_4 , T_8) quantification by monoclonal antibodies prior to therapy.

- *Cytogenetic* analysis was carried out with available techniques at the time, but has including G-banding and, more recently, high resolution banding.
- *Immunophenotypic* analysis of BM cells, including assessment of "stem cell markers" (CD34, HLA-DR) by flow cytometry.
- *Multidrug resistance* (MDR) as p-glycoprotein (pGp) expression was determined by immunocytochemistry.
- *Adhesion molecules* (CD56, CD44, CD11a) on blast cells were also evaluated by immunocytochemistry.
- *Viral studies* for Epstein-Barr virus and C-type RNA viruses were carried out using various tests.

RESULTS

The majority of AML patients with OGS were from "low socio-economic status" (SES). Patient and leukemia characteristics were as follows:

- *Age* ranged from 8 months to 16 years in patients with OGs and, initially, a predominance of males was noted.
- *Hematological findings* did not differ significantly in AML cases with and without OGS. AMML (FAB-M4), was the most common subtype of AML and equally frequent in both groups.
- *T cell immunodeficiency* was demonstrated prior to treatment.
- *Cytogenetic analysis* revealed more heterogeneity in AML patients with OGS compared to those without OGS. The most common abnormality was t(8:21), (q22; q22) in both groups of AML. However, t(1;11), (p36;q23), double Philadelphia chromosome and hyperdiploidy were observed only in AML group with OGS.
- *Orbital biopsies* revealed leukemic infiltration with cells similar to those found in bone marrow (by light and electron microscopy).
- *EBV antibodies* to the viral capsid antigen were significantly elevated.

- *C-type RNA virus*: Electron microscopic examination of leukemic cells revealed "virus like particles" and nucleocapsid-budding. In addition, C-type RNA virus reverse transcriptase was detected in orbital tumor tissue of AML patients with OGS.

- *Multidrug resistance*: p-Gp expression was positive in nearly 50% of the AML patients with OGS studied.

- *Adhesion molecules*: CD56 and CD44 expression were positive in 50% and 90% of the patients with OGS respectively, but not in other AML patients.

- *Serum and particularly urinary muramidase* levels were higher in the OGS group.

TREATMENT

Chemotherapy of these patients varied from "monotherapy" (1963) to intensive combination chemotherapy regimens over the course of the study period. Response to treatment and the survival of the 33 patients with AML and OGS were first analyzed in 1988 and despite the use of similar chemotherapy regimens, a retrospective analysis of survival suggested a significantly worse survival in patients with OGS (median 8.7 months) compared to AML patients without OGS (median 28.6 months; $p < 0.01$). Although there were some improvements in CR rate with more intensive chemotherapy regimens (e.g., the Denver Protocol: CCSG-213, and more recently, CCSG-2961), the patients with OGS continue to have a poorer prognosis. However, most such patients were classified as falling into the high-risk subgroup of AML, which could account for their worse outcome.

In conclusion, these findings suggest that there are biological differences between AML with and without OGS in Turkish children. OGS is not associated with a single FAB subtype, but is more frequently of FAB-M4 type. Although associated with poor SES and advanced disease, the latter does not appear to be a sufficient explanation for OGS. ■

ANNUAL MEETING REPORT

PROSPECTS ON PREVENTION AND EARLY DETECTION OF CERVICAL CANCER IN DEVELOPING COUNTRIES

R. SANKARANARAYANAN MD, HEAD, SCREENING GROUP, INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, LYON, FRANCE



Low- and medium-resource countries in Latin America, Sub-Saharan Africa and South and South-East Asia account for more than 80% of the world burden

of cervical cancer. Cervical cancer remains largely uncontrolled in these countries due to lack of or inefficient screening programmes and high prevalence of oncogenic HPV infections. While early detection of occult, asymptomatic precancerous lesions by screening and their effective treatment lead to the prevention of invasive cervical cancer and premature death, the fact that cervical cancer is caused by persistent oncogenic HPV infection provides the exciting opportunity for prevention through vaccination.

Primary prevention through HPV vaccination offers a new tool to improve cervical cancer control. Currently available HPV vaccines target HPV 16 and 18. Monovalent (HPV 16), bivalent (HPV 16 and 18) and quadrivalent (HPV 6,11,16 and 18) virus-like particle (VLP) vaccines have been evaluated in randomized Phase II and III trials. The results from these trials indicate, with remarkable consistency, that a regimen of three intramuscular injections of HPV L1 (VLP) vaccine offers HPV-naïve women a very high-level of protection from infections and cervical intraepithelial neoplasia (CIN) associated with the HPV types included in the vaccine, and are well tolerated and safe, indicating their vast potential to reduce HPV related morbidity and mortality, if offered

to girls before onset of sexual activity. However, widespread implementation of HPV vaccines is fraught with several challenges and uncertainties that include the current prohibitively high costs, socio-cultural barriers, logistical difficulties in vaccinating early adolescent or preadolescent girls, vaccine delivery costs, cold chain capacity (refrigeration during distribution) and information needs. Additional information is urgently required on issues such as cross-protection against other HPV genotypes, safety of administration with other vaccines, cost of vaccine over time, innovative dosage delivery schemes (e.g., the use of two doses or even a single dose) in order to realize the actual implementation of this new method in a public health settings.

Currently, precancerous lesions are rarely diagnosed and treated in developing countries and invasive cancers present at advanced stages, resulting in low cure rates. Cytology screening has been mainly responsible for the significant decrease in the burden of cervical cancer in developed countries. However, cytology requires complex inputs in sample collection, processing, and the reading and reporting of smears. Although Pap smear screening has been introduced over the last three decades in some developing countries, particularly in Latin America, this has had little or no impact on the burden of cervical cancer. The findings from studies addressing the accuracy of Pap smear and its potential alternatives, such as visual inspection with acetic acid (VIA) or Lugol's iodine (VILI) and HPV DNA testing in detecting CIN, indicate that they are useful early detection tests. The accu-

racy of VIA and VILI seems to be similar to that of good quality cytology in the most recent studies in low-resource countries. The efficacy of VIA- or HPV testing followed by immediate treatment with cryotherapy has been evaluated in single-visit "screen-and-treat" programs for reduction in the prevalence CIN in South Africa. The results from this study indicate that both screen-and-treat approaches are safe and result in a lower prevalence of CIN compared with delayed evaluation at both 6 and 12 months.

The efficacy and cost-effectiveness of new paradigms in cervical screening such as a single life-time screening with VIA, cytology or HPV testing in preventing invasive cervical cancer are being evaluated in randomised controlled trials. In a randomized trial in India, a 25% reduction in cervical cancer incidence and 35% reduction in mortality has been reported following a single round of VIA screening. In another trial in India evaluating the comparative efficacy of a single round of VIA screening, cytology or HPV testing, the detection rate of high-grade lesions was similar: 0.7% for VIA, 1.0% for cytology and 0.9% for HPV testing. The large body of research findings and managerial guidelines, as well as emerging data from on-going studies on the cost-effectiveness of different screening approaches in preventing cervical cancer, need to be taken into account when reorganizing existing inefficient screening programmes and when considering new programmes in low- and medium-resource countries. While HPV vaccination provides the hope for the future, screening provides the current means of cervical cancer prevention. ■

NETWORK

INCTR AWARDS

Best Pediatric Oncology Poster

Dinand V., Arya L.S., Dawar R., Cancer Institute (WIA), Indrapastha Apollo Hospital, New Delhi, India
Role of CD 15 Expression and Proliferation Index in Relation to Treatment Response and Survival in Childhood Classical Hodgkin lymphoma

Best Adult/Clinical Oncology Poster

Priya R., Rajkumar T., Selvaluxmi G., Rajalekshmi K. and Singh S., Cancer Institute (WIA), Chennai, India
Phase I Trial of Dendritic Cell Vaccines for HPV Induced Cervical Cancer

Special Achievements in Data Management

Dr. Lukman Bashir, Obafemi Awolowo University Teaching Hospital Complex, Nigeria
 for contributions to INCTR's project on *The Treatment and Characterisation of Burkitt Lymphoma in Africa*

Selected (Based on Poster) to Attend a Workshop on Scientific Writing¹

- R. Priya, Cancer Institute (WIA), India
- P. Vaidya, Tribhuvan University Teaching Hospital, Nepal
- A. Madani, Hôpital du 20 Août 1953, Morocco
- B. Devi, Sarawak General Hospital, Malaysia
- R. Pasricha, Sanjay Gandhi Postgraduate Institute of Medical Sciences, India

¹ Supported by the Office of International Affairs of the National Cancer Institute

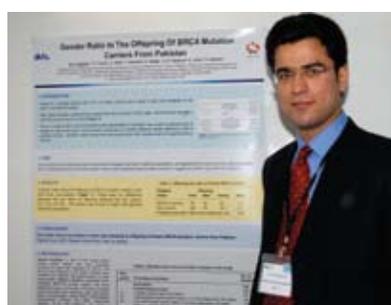
ANNUAL MEETING SPONSORS



AGM AND GC MEETING

INCTR's Annual General Meeting and Governing Council meeting took place on 3rd February. Several changes were made to the statutes to enable the organization to function more efficiently in the digital age. ■

INCTR POSTER SESSION



Dr. Usman's abstract, entitled *Gender Ratio in the Offspring of BRCA Mutation Carriers from Pakistan* and presented at the Annual Meeting Poster session has been subsequently published in the Breast Cancer Research & Treatment journal.

ASCO/SEMCO COURSE

INCTR and INCTR Egypt participated in an American Society of Clinical Oncology course on multidisciplinary cancer management organized by the South and East Mediterranean College of Oncology and held in Cairo from April 5th-6th. INCTR (Melissa Adde and Ian Magrath) assisted with the organization and conduct of a session on clinical trials management. ■

IAEA NOBEL PEACE PRIZE EVENT

INCTR participated in the International

Atomic Energy Agency's Nobel Peace Prize Event, which took place in Buenos Aires in April 23-27th, focused on human resources development in the context of cancer control in Latin America. INCTR was represented by Drs Sidnei Epelman (Brazil), Santiago Pavlovsky (Argentina) and Carlos Santos (Peru), all of whom made presentations at the meeting. ■

PALLIATIVE CARE (PAX) VISITS

Stuart Brown, director of INCTR's palliative care program, visited Hyderabad from 3-5th May to participate in educational and training activities as part of INCTR's ongoing palliative care program at the MNJ Institute in Hyderabad and to assess at first hand, the progress made to date. ■

MONITORING VISIT TO PERU

Julia Challinor undertook a monitoring visit from 9-13th May at the Instituto Nacional de Enfermedades Neoplásicas in Lima relating to INCTR's ongoing study of the presentation and treatment of breast cancer. Peru has contributed 75% of the more than 4000 case report forms that have been submitted to date. ■

AFROX MEETING

INCTR was represented at a meeting of some 130 delegates, including health ministers or their representatives from 19 African countries, that took place from May 10-11th in London to discuss the problem of

cancer in Africa. The meeting was chaired by the Rt Hon Alan Milburn, former UK Secretary of State for Health and Sir John Arbuthnott, Chairman, NHS Greater Glasgow and Clyde. In the course of the meeting, a "London Declaration" outlining the problems and necessary solutions was prepared. Information about the meeting and a copy of the declaration are available from <http://www.afrox.org/> ■

PACT MISSION TO TANZANIA

Stuart Brown participated in follow up visit in Tanzania pertaining to IAEA's ongoing Program of Action for Cancer Therapy to meet with the representatives from the Tanzanian Health Ministry and other local stakeholders in the national cancer control program in order to assess progress and identify problems. ■

BREAST CANCER STRATEGY GROUP MEETING

A meeting of INCTR's Breast Cancer Strategy Group took place in Brussels on 6th and 7th June. The results of the retrospective survey of presentation features of breast cancer and risk factors for treatment outcome that is presently on-going in 4 institutions were discussed. Two new activities – a prospective survey of presentation features of breast cancer and treatment practices and a questionnaire for newly diagnosed patients in order to learn about factors contributing to delays in diagnosis and obtaining treatment – were proposed and will be further considered at the next meeting. ■

NETWORK

KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA

Kenya is located in East Africa. It borders Lake Victoria and Uganda to the west, Tanzania to the south, the Indian Ocean and Somalia to the east, and Ethiopia and Sudan to the north. It is divided roughly into two equal parts by the equator. About 42 ethnic groups comprise the population, with English and Kiswahili being the official languages.



Kenyatta National Hospital – Tower Block.

Kenya has a population of about 35 million. It is divided into eight administrative provinces. The capital city of Nairobi has a population of about three million. Due to the limited resources available to the Ministry of Health for the provision of health care services, there is plenty of room for improvement in bringing high-quality health care to the people of Kenya. Like other African nations, Kenya is facing an AIDS pandemic, which severely strains healthcare resources.

Kenyatta National Hospital (KNH) in Nairobi is the oldest hospital in Kenya, having been founded in 1901 as the Native Civil Hospital and renamed the King George VI Hospital in 1952. Until 1987, KNH operated as a department of the Ministry of Health, dependent on MOH for much of its day-to-day man-

agement. For the past two decades, the hospital has achieved greater efficiency as a state corporation, managed by a board with responsibility for administration management and program development. Today, KNH is the country's chief referral, teaching and research institution. The 1,800-bed, government-supported facility provides medical education in association with the University of Nairobi. Nursing and paramedical training are provided by the Medical Training Center.

Kenyatta National Hospital offers the following specialized services relevant to cancer: radiotherapy, medical oncology and hematology, surgical oncology, pathology and palliative care.

In Kenya, cancer ranks third as a cause of death after infections (including HIV) and cardiovascular diseases. Efforts are underway to put in place a registration and surveillance system which will provide data on the incidence of cancer in the country. This will eventually help with projections for the future.

In 1994 the Ministry Of Health responded to a call by the World Health Organization to set up a national cancer control program. Although a lot of effort was put into this initiative, a change of leadership at the Ministry Of Health in 1997 resulted in the work being abandoned.

The Ministry Of Health is now in the process of reviving the national cancer control initiative. Unfortunately, due to various reasons, including lack of funds available for the provision of health care, cancer is not on the MOH list of priorities. Topping the public health agenda are HIV/AIDS, reproductive health, maternal & child health, malaria control, envi-

ronmental health, sexually transmitted infections (STI), TB control, and an expanded program for immunization, among others.

While the fight against cancer is secondary to other important public health priorities, we are making some small strides. Training in cancer management and care is conducted at the University of Nairobi at the post-graduate level in medicine, surgery, hematology and pathology. Training in radiotherapy, medical oncology and surgical oncology are carried out abroad.

Kenyan physicians are joining hands with non-Governmental organizations (NGOs) to help raise awareness of cancer, and are working toward prevention, early detection, diagnosis and treatment. Some of the relevant NGOs are the Kenya Cancer Association, Kenya Breast health, Kenyas Society for Haematology and Oncology. We are also building a community of health professionals dedicated to advance the fight against childhood cancers. When in 2005 the International Union Against Cancer (UICC) launched its world cancer campaign, with a particular focus on childhood cancer, six institutions in Kenya agreed to participate. Kenya's "My Child Matters" project team includes medical oncologists/hematologists, pathologists, surgeons, radiotherapists, a public health practitioner and a cancer registrar — are drawn from the following institutions: Kenyatta National Hospital, University Of Nairobi, Kenya Medical Research Institute (KEMRI), Aga Khan University Hospital, The Nairobi Hospital and Hurlingham Oncology Clinic. The "My Child Matters" project in Kenya is focused specifically on raising awareness of the

PARTNER PROFILE

	Male	Female
1.	Head & Neck	Breast
2.	Esophagus	Cervix Uteri
3.	Prostate	Head & Neck
4.	Stomach	Esophagus
5.	Kaposi Sarcoma	Stomach
6.	Liver	Ovary
7.	Non-Hodgkin Lymphoma	Skin
8.	Skin	Kaposi Sarcoma
9.	Colon	Non-Hodgkin Lymphoma
10.	Eye (Retinoblastoma)	Eye (Retinoblastoma)

The most Common Cancers in Kenya. Data from Nairobi Cancer Registry at the Kenya Medical Research Institute (KEMRI).

Province	# of Hospitals	Hospitals Providing Cancer Care
Rift Valley	88	1
Nyanza	87	2
Western	59	
Eastern	58	
Nairobi	54	3
Central	51	
Coast	46	1
North Eastern	6	
Total	449	7

The distribution of hospitals by provinces as of 1999/2000. There are two types of health care delivery systems in Kenya—public and private services. Private health care services are provided by faith-based organizations, non-governmental organizations (NGOs), wholly commercial and non-commercial institutions.

prevalence of Burkitt's lymphoma to increase early detection, ensure prompt treatment and attempt to identify associated environmental and familial factors. Through both our study/project with UICC and an existing INCTR treatment study, presently ongoing at the Kenyatta National Hospital, we will be working jointly for the benefit of Burkitt's lymphoma patients in the Nyanza and Western Provinces of Kenya.

The team members working on these projects share a common purpose: the creation of cancer awareness through publications and the development of educational materials; research in various aspects of

cancer; and sharing of cancer information and local networking. Our challenges include the lack of resources to establish an institution that would coordinate and direct efforts made by various groups towards reducing the burden of cancer in Kenya. ■

N.A. Othieno Abinya, School of Medicine, University of Nairobi, Medical Research Institute and Hurlingham Oncology Clinic, Nairobi, Kenya

J. Githanga, School of Medicine, University of Nairobi and Kenyatta National Hospital, Nairobi, Kenya



Dr. Ian Magrath, Dr. G. Kiarie and Ms. Anne Korir in New Nyanza Provincial General Hospital.



University of Nairobi, School of Medicine.

Some of the notable risk factors for various cancers in Kenya include:

Habitation of malaria areas of the lake Victoria region and coastal lowlands (Burkitt Lymphoma)

•

EBV infection (nasopharyngeal carcinoma and Burkitt lymphoma)

•

Poor hygiene and low socio-economic status (cancer of the cervix)

•

HIV/AIDS (Kaposi sarcoma and lymphoma)

NETWORK

PROFILES IN CANCER MEDICINE

EXPERIENCED ONCOLOGIST SHARES PRAGMATIC APPROACH

As a young boy in Callao, Peru, Luis Augusto Casanova broke his femur in a serious car accident. He lay in bed for one year, endured three surgical procedures, and had to learn to walk again. From that experience, he says, "I always thought I would have to be a doctor." He imagined how he might treat his patients differently, and how medical advances might transform the practice of medicine in his country.

He trained in Medical Oncology at Universidad Peruana Cayetano Heredia and at Peru's premier cancer center, Instituto Nacional de Enfermedades Neoplásicas (INEN) and earned a three-year fellowship in cancer immunology at Memorial Sloan Kettering Cancer Center in the United States.

Today, Dr. Casanova is a clinical oncologist specializing in lymphomas and a professor at INEN "Eduardo Cáceres Graziani" in Lima, where he has been working since 1976. He encourages his students to deal realistically with the diagnosis of cancer, while doing what is best for the patient.

"Many doctors try to protect patients by withholding information about their condition, but I believe the patients deserve to know what is happening to them." Cancer is the second or third most prevalent cause of death in Peru, a country with limited resources for cancer treatment.

His hospital provides patients with a high quality of care. However, there is more to cancer control than treatment. "The challenges we face are in relation to education and prevention," he says. "Public Education is not



Dr. Luis Augusto Casanova.

adequate. Prevention and screening are too expensive to be widely available. And living conditions for many people are poor."

A high fraction of cancers in Peru are associated with chronic infectious diseases and Dr. Casanova is concerned about the role of polluted drinking water and spoiled food. "Everyone has a television, but not a refrigerator," he says wryly. "Some don't have running water. We are trying to use small radio and television spots to reach the citizens of Peru about food safety and hygiene."

Without a national cancer registry in Peru, Dr. Casanova says the trends in cancer incidence are imprecise, but the pattern of cancer appears to be moving towards that seen in more developed countries. "In Lima, cervical cancer has decreased, but breast cancer and prostate cancer have increased. We don't have good epidemiological studies, except in Lima and Trujillo."

Still, the prognoses are improving. Since Dr. Casanova first began to prac-

tice cancer medicine more than 30 years, he says, more patients are living longer with cancer. "It used to be that those patients who were not surgically treated for lung cancer would die within six to ten months. Now they are living for two or three years. The same with advanced breast and ovarian cancer. We can offer a good quality of life for many patients. We can now treat tumors that were once considered terminal, and palliative care has improved significantly."

Dr. Casanova emphasizes to his students the importance of treating patients with terminal conditions, and to share their knowledge as they embark on their own medical careers. "I tell them they have to know how to give palliative care. If they go to work in a place that doesn't have a special ward as our hospital does, they have to know how to do chemotherapy. If they go to a small facility, they have to teach the nurses and other young doctors. It's not just theoretical knowledge that they bring, but practical knowledge of treating the disease."

Dr. Casanova has published extensively and has been recognized with the Hipolito Unanue Awards for his work in hepatocarcinoma. He and his team have received several honors, including the Roussell Award for their work in trophoblastic disease, Trifarma Laboratory's Scientific Award for their work with patients with solid tumors and short-term neutropenia, and Lemery Laboratories' Cancerology Award for their treatment of elderly patients with aggressive non-Hodgkin's lymphoma. ■

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