



WEST AFRICAN JOURNAL OF MEDICINE

WORKSHOP REPORT



Regional Cancer Control in South-Eastern Nigeria: A Proposal Emanating from a UICC-sponsored Workshop

*Controle Regional Du Cancer Dans Le Sud-est Du Nigeria :Une Proposition Emanant De
L'atelier Sponsorise Par L'uicc*

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ABSTRACT

There is an impending cancer epidemic in Africa. In Nigeria, this disease is causing untold devastation, and control measures are desperately needed. Breast, cervical, prostate, and liver cancers are the most common types in Nigerian adults. In children, the predominant malignant diseases are Burkitt's lymphoma, acute lymphoblastic leukemia, neuroblastoma, and Wilm's tumor (nephroblastoma). The focus of efforts to control cancer in Nigeria should be directed at prevention with adequate attention to planning/policy making, early detection, accurate diagnosis, treatment and palliative care. National and regional allocation of sufficient resources is required, accompanied by measurable objectives and appropriate emphasis on accountability. *WAJM 2010; 29(6): 408–411.*

Keywords: Cancer, Prevention, Palliation, Nigeria, Proposal.

RÉSUMÉ

L'Afrique est menacée par une imminente épidémie de cancer. Au Nigeria, cette affection cause d'importants ravages et d'urgentes mesures de contrôle sont nécessaires. Les formes de cancer les plus fréquents chez les adultes nigériens sont celles du sein, du col de l'utérus, de la prostate et du foie. Chez les enfants, les affections malignes les plus fréquentes sont le lymphome de Burkitt, la leucémie aigue lymphoblastique, la neuroblastome, la tumeur de Wilm (néphroblastome).

*Les efforts pour contrôler le cancer au Nigeria doivent être concentrés sur la prévention avec une attention particulière sur la planification des décisions, le dépistage précoce, un diagnostic précis, une prise en charge, des soins palliatifs. Une allocation suffisante à la fois régionale et nationale est nécessaire, suivie d'actions évaluables et d'une gestion transparente. *WAJM 2010; 29(6): 408–411.**

Mots clés: Cancer, Prevention, Palliatif, Nigeria, Proposition.

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Abbreviations: FCTC, Framework Convention on Tobacco Control; HBV, Hepatitis B Virus; HPV, Human Papilloma Virus; PSA, UICC, HPV, HBV

INTRODUCTION

While cancer is a global health issue, the cancer burden is felt more acutely in developing countries, where resources available for prevention, diagnosis, and treatment of cancer are limited or nonexistent. This is certainly the case in Nigeria, where this disease is causing untold devastation, and control measures are desperately needed.

The World Health Organization, stated that cancer accounted for 7.9 million deaths (or ~13% of all deaths worldwide) in 2007.¹ About 72% of all cancer deaths in 2007 occurred in low- and middle-income countries. Deaths from cancer worldwide are projected to continue rising, with an estimated 12 million deaths in 2030.²

African countries account for over a million new cancer cases a year and they are the least able of all developing countries to cope, due to very limited cancer care services. Lack of resources and basic infrastructure mean that most Africans have no access to cancer screening, early diagnosis, treatment or palliative care. These are distressing statistics given the fact that over one third of cancer deaths result from potentially preventable causes i.e., viral infections, poor nutrition and widespread tobacco use. Cancer in the developing world knows no age limits, with an estimated 100,000 children dying from cancer in the developing world each year.³ Across Africa, just 5% of childhood cancers are cured, compared to a cure rate of nearly 80% in the developed world.³ In terms of cancer care, disparities between the standard of care in developed and developing countries couldn't be greater. Life-saving radiotherapy is available in only 21 of Africa's 53 countries, or to less than 20% of the population, and consequently cancer often leads to a painful and difficult death.³ Moreover, in many African countries the combined effects of cancer, poverty, deprivation and infectious diseases hinder the development of a sustainable population and consequently a sustainable future.⁴

As the most populous country in Africa, and the 8th most populous country in the world, Nigeria, accounts for one-quarter of West Africa's people. The United Nations estimates that the

population in 2005 was 140 million with projections to reach 289 million by 2050.⁵ These demographics highlight the prominence of Nigeria in any effort to address cancer prevention and control in Africa. There is rudimentary awareness of the cancer problem, in most communities, where cultural fears and stigma are still rampant. The medical community is ill-equipped to deal with cancer. There is a paucity of oncologists of any kind (medical, surgical or radiation oncologists) and there are extremely limited facilities for screening, diagnosis, curative treatment or palliation of cancer cases. Data on the actual magnitude of the problem is incomplete because of limited resources to run population based cancer registries.

In recognition of these facts, the Roswell Park Cancer Institute initiated a collaboration with the University of Nigeria Teaching Hospital and College of Medicine to enhance cancer diagnosis and treatment capacity at the teaching hospital. The first program was a workshop on 'Cancer Control in Resource Limited Environments' which took place in July 2009. This was partly funded by the International Union against Cancer (UICC). This is a summary of the presentations, discussions and recommendations from the workshop.

Cancer Control Components

Cancer control refers to systematic interventions directed at cancer to reduce its incidence, resultant morbidity/mortality, and to improve the quality of life of patients. The components of any effective cancer control program should include the following: Planning, Policy-making and Advocacy; Prevention; Early detection; Diagnosis and treatment; and Palliative care.

Planning, Policy-making and Advocacy

Planning involves a fairly accurate assessment of the magnitude of the cancer problem. This will facilitate the setting of appropriate priorities by consensus amongst all the involved stakeholders. This includes the national, state and local governments, representatives of primary, secondary and tertiary medical institutions, physicians and allied health professionals, non-

governmental organizations, and community representatives. Once priorities are chosen and agreed upon it becomes necessary to identify measurable objectives. These are critical in evaluating the effectiveness of strategies that are implemented for cancer prevention and control. The World Health Organization (WHO) in its published guidelines for cancer control planning highlight three important questions:⁶ Where are we now? Where do we want to be? How do we get there?

In 2002, it was reported that the most common causes of cancer mortality in Nigeria were breast (15.9%), cervical (15.1%), prostate (9.6%), and liver cancer (8.8%).⁷ In children, the commonest malignant diseases are Burkitt's lymphoma, acute lymphoblastic leukemia, neuroblastoma, and Wilm's tumor (nephroblastoma). Currently in southeastern Nigeria, there is no written regional cancer control plan. There is limited cancer knowledge amongst a broad spectrum of healthcare professionals. There is also limited awareness within the lay public about cancer. All this results in a late presentation of most cancer cases. There is virtually no screening, limited cancer treatment and no structured palliative care programs outside the teaching hospitals. Even at most teaching hospitals, these programs are not available.

It is clearly desirable to reverse this situation. This would probably result in earlier presentation of cancer cases with resultant improvement in their prognoses. Basic cancer screening would be available at the primary care level with diagnostic and treatment capabilities staggered at the secondary and tertiary levels. Palliative therapy programs would also be available at all levels of care, including in-home therapy.

At the workshop, there was extensive discussion about how to arrive at the desired destination. The recognition of the need to have a broad-based committee to draft a practical and affordable plan was unanimous. Individuals were nominated to lead various subcommittees and to recruit representatives from all the relevant constituencies. It was emphasized that such a plan should not be drafted by academicians

alone, but should involve various stakeholders including the government, community representatives, and advocacy groups. Such a plan would subsequently be presented to the government authorities and various funding agencies. As resources are made available, implementation would begin, results would be monitored, and improvements made as indicated.

For effective cancer control planning, improved cancer registration is an absolute necessity. Currently, cancer registration in Nigeria, as a whole, is mainly hospital-based.

The paper-based cancer registry at the University of Nigeria Teaching Hospital (UNTH), Enugu, started in 1988 with three staff members. Following a training workshop on cancer registration and epidemiology in Abuja, Nigeria in April 2009, the registry has been revitalized with a new director, who is a pathologist by training. The program became computerized based on training with the CanReg-4 software. This is a program developed by the International Association of Cancer Registries. The staff strength of the UNTH Cancer Registry was increased to 7 with office space within the Oncology Center and 3 laptop computers for data entry. All the data was backed up on a desktop computer. Ongoing developments via in-house training and trouble-shooting work sessions have been implemented and this unit is now in the process of training cancer registry staff from other facilities in the southeast region of Nigeria. There are plans also to begin a population based cancer registry once funding is available.

Prevention, Early Detection and Treatment

One of the most cost effective components of a cancer control program, especially in a resource limited setting, is prevention. Over 30% of all cancers are preventable.⁸ Established etiological agents include tobacco, alcohol, various dietary factors, physical inactivity, obesity and exposure to carcinogens (physical, chemical, biological). Tobacco is the main cause of cancer related deaths and it is estimated that it is responsible for up to 30% of cancer related deaths.⁸

1.5 million cancer deaths world wide were attributed to tobacco in 2005 and this is projected to double by 2030. Tobacco is associated with lung, esophageal, laryngeal, oral, bladder, kidney, stomach, pancreas, cervical and colorectal cancers. The tobacco industry has targeted developing countries as their main source of new business and this need to be combated aggressively. Tobacco use in Nigeria is currently low (8.6 per 1000 adults),^{9,10} but a great deal of effort is required to prevent an epidemic of tobacco related cancers, which the country is definitely ill-equipped to handle.

The tremendous cancer burden imposed by tobacco can be ameliorated by educating the public about the dangers of tobacco use, the provision of tobacco cessation programs, and governmental policies based on the WHO framework convention on tobacco control (FCTC). Nigeria is already a party to this international treaty. The practical applications of the provisions of this treaty in the region include:

1. Raising taxes on tobacco products resulting in cigarette price increases
2. Establishment of smoke free areas in public spaces and work places
3. Ban on tobacco advertising including posters and promotions in schools and university campuses
4. Explicit health warnings on tobacco packaging
5. Collection of surveillance data to track use, knowledge, and attitudes about tobacco products.

Other primary prevention initiatives include public education about the benefits of increased physical activity, weight control, and limiting alcohol consumption. Education about the relationship between human papilloma virus infection and cervical cancer can also be part of advice on safe sexual practices in schools. Vaccination against the Hepatitis B virus (HBV) and the Human Papilloma virus (HPV) would decrease the incidence of liver cancer and cervical cancer respectively, in the long term.

Secondary prevention programs should be directed at the most common cancers which include breast, cervical, and prostate cancer. Due to limited

resources, screening for breast cancer should include programs to teach and demonstrate self breast exam for all women after puberty. This would hopefully, decrease the marked frequency of late presentation of breast cancer in southeast Nigeria. A recommendation to perform annual breast examinations on all women from the age of thirty-five years would be feasible if community health professionals are trained to do this rather than relying only on physicians, since there is a paucity of physicians in rural areas. The choice of a lower age to begin screening is based on the earlier age of presentation that is typical in this region, similar to what has been reported in African-Americans.¹¹ Mammography is not widely available, but this could be provided more readily using mobile units for all women over thirty-five years. If there is the political will to do so, resources are available from state governments to provide this service.

Cervical cancer is one of the most preventable cancers.¹² Screening can be cost-effectively performed by a pap smear. Nurses based at UNTH have already been trained to do this and can be dispatched to train others in various primary health centers in a well organized manner. This would require a system to collect the slides to be interpreted centrally by designated pathologists.

Prostate cancer screening with digital rectal examination alone will be unable to consistently detect cases early.¹³ The judicious use of PSA testing merits further debate. It was noted at the workshop that the cost of PSA testing is about the same as mammography. Thus, if mammography is being advocated, then the availability of PSA testing deserves consideration, possibly as part of a mobile laboratory. However, the prevalence of prostatitis in Nigeria¹⁴ and the need for further work-up of elevated PSA levels may render the broad use of PSA testing quite challenging. The appropriate use of PSA testing remains controversial even in the most developed countries.

Tertiary prevention would be focused on improving the diagnostic and treatment capabilities available at the secondary and tertiary health

institutions. For instance, the imminent availability of radiotherapy services at UNTH, in addition to the current surgical and chemotherapy facilities would greatly reduce morbidity and improve quality of life for cancer patients. However, many more radiotherapy facilities are needed. Currently, there are only five functional radiotherapy centers in the entire country with one megavoltage machine per 20 million people. This is in sharp contrast to the ratio in the U.S. of 1 machine per 125,000 people and in the U.K. of 1 machine per 290,000 people.¹⁵

Efforts to improve therapeutic capacity should focus on curable cancers such as early breast and cervical cancers in adults, and acute lymphoblastic leukemia in children. This can be subsequently expanded to other cancers. Psychosocial and rehabilitation needs should be addressed with an appropriate transition to palliative programs. An effort is already underway to establish at least one national cancer center. Standard radiation therapy protocols are currently available under the auspices of the International Atomic Energy Agency (IAEA). Simplified chemotherapy regimens have been established and distributed regionally and nationally. Cancer surgery can be focused at secondary and tertiary hospitals. Surgical procedures such as cervical cryotherapy, mastectomies, and hysterectomies are currently offered at the secondary level. In addition to these procedures, breast conserving techniques, prostatectomies, colectomies, and other such procedures are available at the tertiary level. Administration of chemotherapy is currently limited to the tertiary institutions.

Palliative Care

Palliative care should be home-based when possible. It must be cost effective, affordable, and sustainable. It should be integrated into pre-existing health care delivery systems and requires

education of both healthcare providers and the public. This will enable most patients to have an improved quality of life, and terminal patients to die with dignity. A major component of this would be to improve the availability of oral narcotics, while also providing psychological, social, spiritual, and bereavement support. Other modalities that can be used for palliation as indicated include surgery, chemotherapy, radiotherapy and regional anesthesia such as nerve blocks.

Currently, there is a palliative care team at the University of Nigeria teaching hospital which is training teams from other centers in the southeast Nigerian region. This hospital based program is also expanding to provide homecare.

Conclusion

In summary, the components of a regional cancer control program for South East Nigeria were discussed at this workshop. The plan focuses on increasing public cancer awareness and improving the diagnostic and treatment capacity at the various healthcare levels. It is evidence-based, priority driven and resource appropriate.⁴ Training and education is critical and collaboration between multiple stakeholders is crucial for effective implementation. On going evaluation and refinement of the plan is essential.

ACKNOWLEDGEMENT

This work has been supported by a UICC International Cancer Technology Transfer Fellowship and with Federal funds from the National Cancer Institute, National Institutes of Health under Contract NO2-CO-4110.

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