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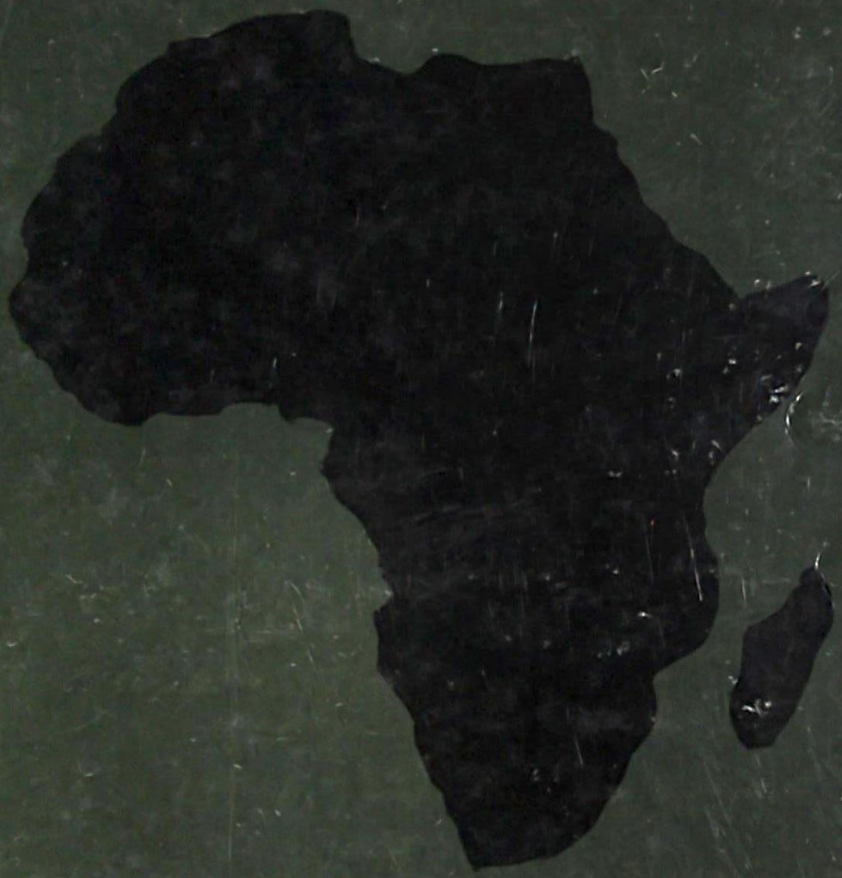

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Review Paper

Cancer control in Africa: a call for action

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Summary

Cancer is an emerging public health problem in Africa especially with increasing frequency of HIV-associated malignancies and exposure to environmental carcinogens. This review attempts to highlight steps that can be taken to achieve effective control programmes in low-resource areas of Africa. The author reviews the areas of importance in cancer control programmes based on local experience. To implement cancer control programmes, steps must be taken to improve the data collection on incidence and trends of common cancers with the establishment of local cancer registries. There is the necessity to increase the level of awareness of the population about common cancers, to dispel the cultural taboos and myths, and teach basic preventive health measures. These can be achieved by well-organized sustained educational programmes extended to the grass-roots with community participation. The training of personnel at community level to recognize the early signs and symptoms coupled with provision of primary health care facilities and basic sustained well-planned referral system will be necessary to accommodate the fall-out of educational programmes and anti-cancer campaign. The integration of cancer control activities into the existing health care structure would make it easier to sustain these programmes. The cost-effectiveness of prevention and early diagnosis of cancer cannot be over-emphasized in Africa. With government investment in national health and provision of facilities for early diagnosis and treatment, effective cancer control can be achieved.

Keywords: *Cancer, control Africa, programme oesophageal*

Résumé

Le cancer est un problem de santé public émergant en Afrique spéciallement avec des ménaces croissant associées au VIH et l'exposition aux carcinogéns environmentaux. Cette revue tente d'illuminer les étapes qui peuvent etre prise pour achever des programmes de controle effective du cancer en régions de pauvre resources en Afrique base sur l'experience locale. Pour l'implementation de programmes de controle du cancer , des etapes doivent etre prise pour améliorer les collections des données sur l'incidence et la progression des cancers commun avec l'établissement des régistres locaux. Il y a la nécessité d'augmenter le niveau d'éveil de la population a propos du cancer, elliminer les taboos culturels et mythes, et enseigner les mesures preventives de santé de base au population. Ceux-ci peuvent etre achevés par des programmes éducatif bien organisés et soutenus, etendus et structurés dans toutes les couches de la population. L'éducation des personels au niveau des communautés pour reconnaitre les signes précose et symptomes, acompagné a l'approvisionnement des facilités de controle du cancer dans les centres primaires. Aussi , le cout de prevention et du diagnostie précose du cancer nécessite une urgence en Afrique. Avec les investissements governementaux en santé nationale et des facilités de diagnostie précose, ainsi un traitement effectif peut etre achevé.

What is the extent of the problem?

Cancer is an emerging public health problem in Africa especially with increasing frequency of HIV/AIDS associated malignances [1] increasing control of communicable diseases, exposure to common environmental carcinogens and possibly changing life style including diet. The earlier concept that cancer was rare in tropical Africa can therefore no longer be sustained.

To attempt to control cancer, it is necessary to know the prevalent cancer types and to define the extent of the cancer problem in a community. No doubt there are significant differences in the pattern of cancers, the epidemiology, risk factors and related problems seen in Africa compared to those encountered in the industrialized world. Significant local variations also exist in the incidence and risk factors of some tumuours, related to the geographical, socio-economic and cultural differences between ethnic groups (e.g penile cancer was common in Zimbabwe and rare in Nigeria because of the practice of circumcision [2]. Oesophageal cancer rates are high in South Africa and Zimbabwe but the incidence is low in West Africa [3]).

The pattern and distribution of cancer types, in a particular population, would therefore dictate the control strategies. Unfortunately, reliable statistics are limited or unavailable for most parts of Africa. The establishment of cancer registration and cancer registries to provide local data for analytic epidemiologic studies and the definition of global extent of the cancer problem in Africa is therefore crucial. Unfortunately, various technical, logistic and financial limitations affect the setting up and management of registries in sub-Saharan Africa.

Determining factors of cancer control programmes in Africa

Africa provides an ideal background for putting medical science into practice, where all the current information on cancer can be utilized. Unfortunately cancer has received low advocacy in many African states. There are unique problems, political and otherwise which make it impossible to directly import programmes that have worked in the developed countries. These problems that need to be overcome include:

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Ignorance and Cultural attitudes
Statistics show that 80-85% cases of cancer cases present to hospitals in Africa in the late stages of their disease – stages III and IV, after trials of local remedies. A number of aetiological myths about causes of cancer and taboos about diseases are still prevalent in many communities. Data show that the level of awareness and knowledge about cancer are poor and this problem cuts across different literacy level [4,5,6] This lack of knowledge influences the attitude of people to treatment and the implementation of medical advice as the culture often conflicts with the information that is given. Acceptance of any screening or preventive program is also dependent on the perception and understanding of the target group about the causes of cancer and the need for screening [7,8]

Literacy level
Low literacy level has been shown to be an important predictor of increased cancer risk and poor participation in cancer control programmes. The majority of the population in Africa belong to the low socio-economic group with low literary level. Whatever health educational approaches to be used must be those targetted towards low-literacy group, that is, non-print information system, such as radio, video, and television based-education. Reports from studies have shown that the major sources of information on cancer are the media and peers [7] and that those who read educational booklets had no better understanding than those who had not [9].

Inadequate infrastructure and technical skill
The supporting infrastructure for effective health programs are often lacking or inadequately developed. Basic amenities like water and electricity cannot be taken for granted. Accessibility to medical facilities is difficult in terms of road and communication network. Cancer control programmes would have to be adapted to suit such low resource settings and with screening programmes requiring the use of minimal technology.

Organizational and co-ordination logistics
A significant proportion of the population resides in the rural areas and to target the majority, cancer control activities would need to be decentralized. Control programs are also not likely to be effective if addressed in isolation. It would be useful to incorporate these in any existing primary health core programme involving the community, local government, relevant professional groups and organizations.

African initiative and political will
There is the need for the different African states to recognize cancer as a problem and to take the initiatives in tackling the related issues on the continent. It would if cancer organizations with common interests on the continent can unite. A strong united body can galvanize governments of member countries to include cancer control programs in their various National Health Policies and provide the necessary support.

Targets of cancer control in Africa
Public health concepts must be used in the planning of cancer control programs and this is best addressed as the components of primary, secondary and tertiary prevention strategies.

Primary prevention
Training of personnel
Cancer control programmes in sub-Saharan Africa must be galvanized into action to undertake immediately the public health issues of prevention and diagnosis and the need to train personnel as educators at the community levels. Auxiliary health workers from the community trained to recognize early warning signs are found to be very effective. Direct communication between peers is an important source of information, which is likely to influence attitudes. Information is more likely to be accepted if coming from one of their kind. Primary care physicians must be well informed about the common cancers in their environment and be familiar with cancer prevention strategies to enhance their skills and attitudes. Training of community health workers and others involved in health care delivery must be continuous and regular.

The increasing incidence of cancer would necessitate the expansion of the preventive efforts and strategies. In the African setting, many people in the communities, irrespective of the levels of education, consult the traditional healers who provide some level of healthcare services and education to their clients. They are therefore ideally suited to augment the services of westernized health care workers. Procedures can be instituted for the training of traditional healers to enhance their level of education, facilitate their professionalism and improve their collaboration with other health workers in the prevention of cancer.

Public education
These primary prevention programmes would use public education to increase awareness and to sensitize the populace about the causes and early manifestations of cancer. Education will break some of the cultural barriers against utilization of cancer screening services. General education about cleanliness, healthy living, good nutrition and non-acquisition of risk habits, like tobacco use, would to a large extent reduce the environmental risk factors. Importantly, cancer education programmes must be culturally sensitive and community-based for acceptability.

Local field stations and primary health centres can also incorporate cancer education programs in addition to pre-existing family health, antenatal and immunization services. And serve as information dissemination center and organization of anti-cancer campaigns to reach people at the grass roots. It is important to ensure community involvement in selection of target population, the development and implementation of the intervention strategies. For the next decade in Africa, the most important control intervention should be public awareness and education programs coupled with the provision of diagnostic and treatment facilities.

Anti-cancer campaigns
In Nigeria, as I believe in most countries in Africa, there are only sporadic attempts at anti-cancer campaigns, which are

the results of interest of isolated individuals, groups and non-governmental organizations. Governments have a responsibility to protect the public by identifying risk behaviour, lifestyles and habit and advocating against these by health campaigns and education programme. These programmes should be sustained and should provide a high degree of sensitivity to community specific problems while providing appropriate solutions. This can be achieved by:

i. Using data from a population based cancer registry and other sources to identify the problem
ii. Ensuring community involvement in selecting the target population and developing the intervention strategy
iii. Implementing the intervention plan with active community participation
iv. Using the local cancer registry and other data to evaluate the impact of this intervention.

Examples: Anti-smoking campaign; Importance of immunization with Hepatitis B vaccine as prevention against hepatocellular cancer. Good sexual habit for HIV control and campaign against schistosomiasis as a predisposing factor for bladder cancer.

Specific programmes

Specific programmes targetting highly prevalent tumuors and those showing increasing trends should be implemented in affected communities .e.g the provision of early detection programmes for the common cancers such as cancers of the cervix, breast, oesophagus and liver. Unfortunately, most countries do not have well-developed screening programmes. For example, Nigeria has no established cervical national or state organized screening programme in spite of the high rate of cervical cancer.

Alternative techniques, such as visual inspection with acetic acid (VIA), which requires less technical skill and manpower than established Pap smear can be used for mass screening in these low resource settings [10]. Fortunately, extensive comparative studies of VIA and Pap are being carried out in different parts of Africa especially Zimbabwe and South Africa [11]. Whatever screening programme is set up must be accessible to the users and incorporated with educational programmes and follow- up facilities for effective utilization. It is sometimes necessary and more effective to take the services to the community rather than expect the people to come to the major secondary or tertiary centres. The cost effectiveness of prevention and early diagnosis cannot be over emphasized in low resources areas of Africa.

Environmental programmes

The establishment of institutions such as Federal Environmental Protection Agency, National Resources Conservation Council and National Agricultural Land Development Agency to provide the necessary framework, guidelines and legislation for environmental protection. Efforts of such establishments must be geared towards protection of the public by limiting the exposure to known carcinogens and controlling dietary carcinogens e.g aflatoxins in locally processed grains.

The reason for this is exemplified in the oil producing Delta area of Nigeria with large scale environmental pollution and destruction

Secondary/tertiary prevention

Cancer management facilities, including active, supportive and palliative care must be made available at secondary and tertiary levels to cater for the fall-out of the education and campaign programmes. These referral centres and resources would be needed to provide for early diagnosis, detection and treatment of cases. Facilities for research to continuously evaluate these intervention programmes must also be instituted. This can be done through the local cancer registries or the use of available data to evaluate the impact of programmes.

Diagnostic and treatment services

Unfortunately, most countries in Africa often lack the infrastructure and the technical expertise. Even when available these services are over-burdened, besieged by lack of personnel, limited resources and inaccessible to the people due to distance and financial constraint. Adequate laboratory and radiological services for early diagnosis and routine evaluation would have to be provided or improved and made accessible.

Adequate treatment of cancer cases is central to any cancer control program to reduce morbidity and mortality as well as enhance the people's belief and confidence in the concept of disease prevention. However, facilities are limited in most parts of Africa. Radiotherapy, chemotherapeutic agents, rehabilitation and palliative services are often limited, expensive or unavailable and not within the reach of patients. As any cancer control program must cater for all aspects of cancer care, each country in Africa, may consider establishment of zonal/regional tertiary oncology centres with adequate facilities. This would be more appropriate in order to maximize limited resources rather than have many under-funded centers in the country. Financial constraint is a major problem in the secondary and tertiary medical institution as considerably less than the 5% of the national budgets is spent on health in many African nation .

Training of specialists

Africa must also invest in the training of specialists involved in cancer care management i.e Oncologists, Radiotherapist, Pathologists, Oncology nurses and those involved in palliative care, to man the facilities. Assistance from international agencies for fellowships and sponsorship would be necessary in this regard. However suitable working environment would have to be provided to encourage trained personnel to utilize their skills and training in their home countries.

Research

Funding must be made available for research into the aetiology, risk factors and treatment of cancers in Africa. Research is also essential for the evaluation of control measures and treatment modalities. In addition, the outcome of these studies may help dispel some of the mythical beliefs and attitudes to cancer. Cancer registry data are valuable for health research, the planning of relevant health services and the development

of government policy. Collaborative research with institutions in developed countries and funding agencies should be encouraged to assist capacity building.

Factors hindering implementation of control programmes
Sub-Saharan Africa is plagued with numerous determinants and factors that fuel the spread of epidemics and hinder the implementation and sustenance of control programmes. Incessant armed conflicts and wars, natural disasters, floods and drought result in social disruption, population displacement and breakdown of the health infrastructure. These factors consume the limited resources and retard economic development. In such circumstances extreme poverty abounds and lack of basic amenities are extreme. Coupled with these are the rampaging epidemics including malaria, gastroenteritis and the HIV/AIDS, which decimate the population and worsen the poverty level. Unfortunately, most national health policies give little priority to health with poor resource allocation and poor health infrastructure development.

Conclusions
Cancer control programmess should involve:

1. Establishment of cancer statistics services for cancer registration and evaluation system for cancer programmes.
2. Well-organized, sustained educational programmes extended to the grass root with community participation.
3. Combining cancer control programme with existing health programme e.g. family and school health programme, immunization and family planning programmes, anti-HIV campaigns.
4. Establishment of a well-planned referral system for cancer cases to the secondary/tertiary health centres from primary health centres.
5. Commitment on the part of the government backed by financial support.

Given the political and social will, application of public health principles and utilization of primary health care infrastructure, most cancer control program can have tremendous impact, even with Africa's limited resources.

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