

THE LANCET ONCOLOGY'S CANCER CONTROL IN AFRICA

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SUMMARY

In April 2013 the Lancet Oncology published a series on cancer control in Africa comprising 7 papers (Lancet Oncology vol 14 number 4). The significance of these papers to Africa's attempts at tackling the rapidly rising prevalence of cancer cannot be over-emphasized. Potentially, these papers will form the basis of National policies aimed at controlling or managing cancer in Africa for decades to come. University of Ibadan and her teaching hospital (University College Hospital, Ibadan) scores another plus as three of her staff made notable contributions to the series. African nations and researchers are strongly encouraged to implement evidence based global control guidelines, especially those of the WHO, in the fight against the growing burden of cancer.

INTRODUCTION

Cancer, to a large extent, is an incurable disease that afflicts many organisms and systems. In humans the disease causes significant morbidity and mortality. The precise cause of cancer is still largely unknown. Increased life expectancy and the continued presence of infectious diseases that are associated with risks of malignancies make cancer an increasing problem in sub-Saharan Africa¹.



Figure 1: Map of Africa

The Lancet Group of Journals and Lancet Oncology

The Lancet group of Journals have very high impact factors and very significant reputations globally. With the New England Journal of Medicine, these journals determine the global direction of evidence based medical care. The lancet first appeared in Oct 5, 1823 as an independent journal and has published some really significant studies in medicine.

Some of the landmark papers published in the Lancet include first reports of Lister's antiseptic principle (1867), Rivers' insights into shell shock therapy that led to a better understanding of what is now known as Post-Traumatic Stress Disorder (1918), Florey's announcement on the value of penicillin (1940), the first published signal that thalidomide was linked to birth defects (1961), description of new-variant Creutzfeldt-Jakob disease (1996), and identification of coronavirus as a possible cause of SARS (2003).

In September 2000 the Lancet oncology was launched with a focus on publishing interesting, informative, and practice-changing articles on any topic connected with clinical oncology. Currently Lancet Oncology has an impact factor of 22.59. The journal ranks fourth out of 194 oncology journals worldwide and is the leading clinical research journal in oncology. The journal is in the top 0.5% of all scientific journals, of any discipline, globally (2011 Journal Citation Reports®, ©Thomson Reuters 2012).

Excellence is what the Lancet group of journals have come to be known for. Studies have to be rigorous and exact to stand a chance of being published in any of the Lancet group of Journals. Thus, the series on cancer control in Africa comprising seven papers (table 1) is a significant contribution to the fight against cancer in the continent. Potentially these papers will form the foundations of Africa's assault on cancer, a group of diseases whose prevalence is rapidly rising, in Africa.

Cancer control in Africa 1

The first paper of the series gives a perspective on the epidemiology of cancer in the African Region and an overview of challenges and opportunities in Cancer Control². Although cancer currently accounts for only

about 5% of deaths in the African region (table 2), the cancer burden might be an underestimation due to lack of appropriate diagnosis, poor access to care, and low quality of cancer data systems. Prostate cancer in men and cervical cancer in women are the most common cancers in the region. This paper highlights the challenges facing cancer control in the region and most of these surround the absence of cancer prevention and control policy, strategies, and programmes.

Cancer control in Africa 2

It has been predicted that in a few decades from now cancer would become a major clinical and public health issue in sub-Saharan Africa. Pathology and pathologists are central to cancer control anywhere in the world. The state of pathology services in Africa needs to be rapidly scaled up qualitatively and quantitatively. This second paper in the series gives a comprehensive review of the central importance of pathology in clinical care, research, and public health necessary for effective cancer control³. Adequate pathology can benefit cancer control in sub-Saharan Africa in several ways: improving clinical services, informing cancer control efforts, aiding the development and implementation of national cancer control plans, supporting cancer registration, and supporting various types of research, including epidemiology, basic science, clinical trials, and translational research. *Education of relevant governmental agency staff, policy makers, and the clinical community about the central role and importance of pathology is crucial to increase support for improved pathology services in the region.*

Cancer control in Africa 3

The treatment of cancer in sub-Saharan Africa is the theme of the third paper in the series⁴. The challenges of treatment of different cancers in the sub-region are discussed and recommendations for improvement are highlighted. The paper concludes that issues of cost, infrastructure, inadequate workforce, cultural barriers, and scarcity of data all limit cancer care in sub-Saharan Africa. Oncologists and surgeons must also intervene to influence the curricula of medical schools and training for other health-care professionals, to improve cancer care. More specialist centres for oncology care need to be created on the continent to help in the training of needed health-care workers and collaborate with international training institutions to meet the needs of the rapidly growing numbers of patients with cancer.

Cancer control in Africa 4

With the reduction in the morbidity and mortality due to communicable diseases in the continent over the past centuries, the true burden of non-communicable

diseases like cancer is being uncovered. The fourth paper in the series discusses radiotherapy as an important component of cancer control⁵. Progress has been made in the establishment of radiation oncology services in some African countries. Nevertheless, a large shortfall still exists for basic radiation services and much work is needed to keep pace with the burgeoning populations of many African countries.

Cancer control in Africa 5

The cancer burden in developing countries is growing rapidly. Pain is a common component of cancer in all categories of patients with the diseases. The management of pain is a significant aspect of cancer control. WHO recommends opioid analgesics for the treatment of moderate to severe pain such as that of patients with advanced cancer, and regards morphine as an essential drug. Concrete evidence exists that opioids are safe and effective for the treatment of moderate or severe pain in people with cancer. However, clinicians, patients, and policy makers regularly over estimate the risks of opioids, believing them to be more addictive, prone to misuse, and likely to cause side effects than is suggested by the evidence. This paper discusses the state of palliative care and use of morphine in Uganda, Kenya, and Nigeria and describes a stepwise process map for access to opioid analgesics⁶. To ensure improved access can be sustained longterm; efforts should be made to introduce pain relief into the curriculum of nursing and medical schools, with emphasis on procurement, storage, distribution, and administration of opioids.

Cancer control in Africa 6

Research aimed at improving palliative care for patients with cancer is needed to address the problem of inadequate access to pain control measures⁷. Much has been achieved in palliative care in Africa during the past few years. Innovative forms of palliative care, such as roadside care delivered by Hospice Africa Uganda are practised in the continent, together with consultancy to other care settings such as hospital wards and (more rarely) hospital-based palliative care. These innovations have remained largely unreported in scientific literature. Research into the needs, care, and outcomes of patients with advanced cancer in sub-Saharan Africa is urgently needed for effective cancer control. *Policy makers need evidence for the needs of patients and the effectiveness of care.* The four pillars of policy, education, drug availability, and implementation cannot achieve integration of palliative care into the public health system without the generation of high-quality, locally relevant evidence for how to achieve each pillar. A fifth pillar of research activity will ensure that practice is evidence-based and replicable, that public health responses reflect the needs and priorities of the

Table 1: Summary of papers in the lancet series on cancer control in Africa

Paper	Authors	Focus
<i>Cancer control in Africa 1;</i> Challenges and opportunities in cancer control in Africa: a perspective from the African Organisation for Research and Training in Cancer	Imran O Morhason-Bello (M.Sc), MPH Folakemi Odedina (PhD), Timothy R Rebbeck (PhD), Joe Harford (PhD), Jean-Marie Dangou (MD), Lynette Denny (MD), Isaac F Adewole (FAS)	This paper discusses the present situation in sub-Saharan Africa and proposes ideas to advance cancer control in the region, including the areas of cancer awareness, advocacy, research, workforce, care, training, and funding.
<i>Cancer control in Africa 2;</i> Improvement of pathology in sub-Saharan Africa	Adekunle Adesina (MD), David Chumba (MD), Ann M Nelson (MD), Jackson Orem (MD), Drucilla J Roberts (MD), Henry Wabinga (MD), Michael Wilson (MD), Timothy R Rebbeck (PhD)	This paper proposes approaches to improving the status of pathology in Sub-Saharan Africa and to address the needs of patients with cancer and other diseases.
<i>Cancer control in Africa 3;</i> Treatment of cancer in sub-Saharan Africa	T Peter Kingham (MD), Olusegun I Alarise (MD), Verna Vanderpuye (MD), Corey Casper (MD), Francis A Abantanga (MD), Thaim B Kamara (MD), Olufunmilayo I Olopade (MD), Muhammad Habeebu (MBBS), Fatimah B Abdulkareem (MBBCh), Lynette Denny (MD)	This paper describes treatment options for patients with cancer in sub-Saharan Africa, with a focus on the role of surgery in relation to medical and radiation oncology, and argues that surgery must be included in public health efforts to improve cancer care in the region.
<i>Cancer control in Africa 4;</i> Status of radiotherapy resources in Africa: an International Atomic Energy Agency analysis	May Abdel-Wahab (MD), Jean-Marc Bourque (MD), Yaroslav Pynda (M.Sc.), Joanna Izewska (PhD), Debbie Van der Merwe (PhD), Eduardo Zubizarreta (MD), Eduardo Rosenblatt (MD)	A longitudinal assessment of the status of radiation oncology resources in Africa to measure the extent of the problem and the effects of programmes designed to enhance radiation services in the continent.
<i>Cancer control in Africa 5;</i> Improving access to analgesic drugs for patients with cancer in sub-Saharan Africa	Megan O'Brien (PhD), Faith Mwangi-Powell (PhD), Isaac F Adewole (FAS), Olaitan Soyannwo (FWACS), Jacinto Amandua (MMed), Elizabeth Ogaja (MSc), Mary Okpeseyi (BPharm), Zipporah Ali (MPH), Rose Kiwanuka (BScN), Anne Merriman (FRCP)	Data suggest that at least 88% of cancer deaths with moderate to severe pain are untreated in the region. Efforts underway in Uganda, Kenya, and Nigeria provide examples of challenges faced and innovative approaches adopted and form the basis of a proposed framework to improve access to pain relief for patients with cancer across the region.
<i>Cancer control in Africa 6;</i> Research into palliative care in sub-Saharan Africa	Richard Harding (PhD), Lucy Selman (PhD), Richard A Powell (MSc), Eve Namisango (MSc), Julia Downing (PhD), Anne Merriman (FRSC), Zipporah Ali (MPH), Nancy Gikaara (BSc), Liz Gwyther (MSc), Irene Higginson (PhD)	Palliative care for patients with cancer in Africa currently receives far less research attention than does palliative care for patients with HIV/AIDS, but in view of projected increasing cancer incidence in the region, generation of local evidence to inform and allow assessment of palliative care for patients with cancer is urgently needed.
<i>Cancer control in Africa 7;</i> Developing cancer control plans in Africa: examples from five countries	Daniela Cristina Stefan (PhD), Ahmed M Elzawawy (MD), Hussein M Khaled (MD), Fabien Ntaganda (MMed), Anita Asimwe (MPH), Beatrice Wiafe Addai (PhD), Seth Wiafe (MPH), Isaac F Adewole (FAS)	Examples from South Africa, Egypt, Nigeria, Ghana, and Rwanda describe the state of national cancer control plans and their implementation.

Table 2: Death (x1000) by cause worldwide and in Africa in 2004

	Worldwide (population size 6,437,000,000)		Africa (population size 738,000,000)	
	Deaths, n	% total deaths	Deaths, n	% total deaths
Total deaths	58,772	100	11,248	100
Deaths from communicable, maternal, perinatal, and nutritional diseases	17,971	30.6	7,682	68.3
Infectious or parasitic diseases	9,579	16.3	4,849	43.1
Deaths from non-communicable Disorders	35,017	59.6	2,797	24.9
Cancers	7,424	12.6	480	4.3
Deaths from other causes	5,784	9.8	769	6.8

populations they serve, and that feasible, acceptable, and effective care is provided.

Cancer control in Africa 7

The final paper of the series describes developing cancer controls plans in Africa using examples from five countries; South Africa, Egypt, Nigeria, Ghana, and Rwanda⁸. Cancer treatment is resource-intensive and costly, and because most patients present late, their survival is short. People affected by cancer rarely develop political influence (e.g., as politically active survivor groups) because most patients do not live long enough. Improved awareness of the increasing burden of cancer and increased advocacy are needed to put pressure on governments to develop, fund, and implement national cancer control plans across the continent.

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Prof I.F. Adewole: A Consultant Obstetrician and Gynaecologist at the University College Hospital (UCH) in Ibadan; a Professor at the College of Medicine of the University of Ibadan, Nigeria since 1997. He is also an adjunct Professor at Northwestern University,



Chicago, Illinois, USA, and currently the Vice Chancellor (11th) of the University of Ibadan, Nigeria. His current research interests include evaluating novel ideas for promoting cervical cancer screening in developing countries, a multi-country study on HPV in cervical cancer among African women and evaluating attitudes of HIV positive pregnant women to contraception and couple counselling. He has published numerous articles in peer-reviewed journals and books on gynaecological oncology, abortion, HIV/AIDS and perinatal medicine. He has delivered many guest lectures, numerous communications at

scientific conferences, abstracts and poster presentations and has published over 140 articles in peer-reviewed journals and books on gynaecological oncology, abortion, HIV/AIDS and perinatal medicine.

Prof Olaitan Soyawo: Professor of Anesthesia and Consultant in Anesthesia and Pain and Palliative Care at University College Hospital in Ibadan, Nigeria, is



known for her impressive work in pain and palliative care in Africa and around the world. She has been an active member of the International Association for Study of Pain (IASP) since 1981, serving on numerous IASP committees and working groups and on the IASP Council.

She has also served as President of the Society for the Study of Pain, Nigeria (IASP chapter), and as a board member of the African Palliative Care Association, the Nigeria Hospice and Palliative Care Association, and the Nigerian Academy of Science. In 2009, she jointly organized the 9th IASP Research Symposium, "A Global Problem: Cancer Pain from the Laboratory to the Bedside," and co-edited the IASP Press book, *Cancer Pain: From Molecules to Suffering*. Referred to as the "grandmother of pain and palliative care" in Nigeria, she is described as "tirelessly and courageously" moving the field of pain forward.

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CONCLUSIONS

Cancer rates in African countries are rapidly rising. These publications in the *Lancet Oncology* are good baselines for co-ordinated, evidence based approach, to cancer control in the continent. We must do all that is required to halt the rising rates and prevent the epidemic of cancer in Africa. Reversing the trend will require mass public enlightenment campaigns, lifestyle modifications, and increased funding from public and private agencies. Africa must join the global efforts aimed at conquering cancer by developing required infrastructure and training adequate manpower.

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REFERENCES

1. **Vento S.** Cancer control in Africa: which priorities? *Lancet Oncol* 2013, 14(4):277-279.
2. **Morhason-Bello IO,** Odedina F, Rebbeck TR, Harford J, Dangou JM, Denny L, Adewole IF: Challenges and opportunities in cancer control in Africa: a perspective from the African Organisation for Research and Training in Cancer. *Lancet Oncol* 2013, 14(4):e142-151.
3. **Adesina A,** Chumba D, Nelson AM, Orem J, Roberts DJ, Wabinga H, Wilson M, Rebbeck TR: Improvement of pathology in sub-Saharan Africa. *Lancet Oncol* 2013, 14(4):e152-157.
4. **Kingham TP,** Alatise OI, Vanderpuye V, Casper C, Abantanga FA, Kamara TB, Olopade OI, Habeebu M, Abdulkareem FB, Denny L: Treatment of cancer in sub-Saharan Africa. *Lancet Oncol* 2013, 14(4):e158-167.
5. **Abdel-Wahab M,** Bourque JM, Pynda Y, Izewska J, Van der Merwe D, Zubizarreta E, Rosenblatt E: Status of radiotherapy resources in Africa: an International Atomic Energy Agency analysis. *Lancet Oncol* 2013, 14(4):e168-175.
6. **O'Brien M,** Mwangi-Powell F, Adewole IF, Soyannwo O, Amandua J, Ogaja E, Okpeseyi M, Ali Z, Kiwanuka R, Merriman A: Improving access to analgesic drugs for patients with cancer in sub-Saharan Africa. *Lancet Oncol* 2013, 14(4):e176-182.
7. **Harding R,** Selman L, Powell RA, Namisango E, Downing J, Merriman A, Ali Z, Gikaara N, Gwyther L, Higginson I: Research into palliative care in sub-Saharan Africa. *Lancet Oncol* 2013, 14(4):e183-188.
8. **Stefan DC,** Elzawawy AM, Khaled HM, Ntaganda F, Asimwe A, Addai BW, Wiafe S, Adewole IF: Developing cancer control plans in Africa: examples from five countries. *Lancet Oncol* 2013, 14(4):e189-195