MANAGEMENT OF BREAST CANCER IN SUB-SAHARAN AFRICA

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DISCLOSURES

Honorarium, Travel grants, Advisory boards:

Amgen
Astra Zeneca
BMS
MSD
Pfizer
Roche

- INCIDENCE
- MANAGEMENT
- SURGERY, CHEMOTHERAPY, RADIOTHERAPY
- TREATMENT RESOURCE ALLOCATIONS
- BREAST CANCER AND HIV
- TREATMENT GUIDELINES
- CONCLUSION

Global Burden of Cancer 2015

(JAMA Oncol, Dec 2016)

Breast Cancer Worldwide Incidence
2 400 000 cases

Mortality
523 000 cases

One in 14 women developed Breast Cancer between birth and 79 yrs

1 in 9 in High SDI Countries
1 in 20 in Middle SDI Countries

ASIR increased by 26% in Low SDI Countries


Rabat
MOROCCO
El Djazair (Algiers)
Tunis
TUNESIA
Tripoli
LIBYA
Cairo
EGYPT
ALGERIA
El-Aaiun
WESTERN SAHARA
MAURITANIA
Nouakchott
MALI
NIGER
CHAD
SUDAN
Asmara
ERITREA
Al-Khartum (Khartum)
Dakar
SENEGAL
Banjul
GAMBIA
Bissau
GUINEA
Bamako
BURKINA FASO
Ouagadougou
Niamey
N'Djamena
DJIBOUTI
Djibouti
SOMALIA
Conakry
SIERRA LEONE
Freetown
COTE D'IVOIRE
Yamoussoukro
BENIN
TOGO
Lome
Porto Novo
NIGERIA
Abuja
CENTRAL AFRICAN REP.
Bangui
SOUTH SUDAN
Juba
Addis Ababa
ETHIOPIA
Monrovia
LIBERIA
GHANA
Accra
CAMEROON
Jaunde
EQUATORIAL GUINEA
Labreville
SAO TOME & PRINCIPE
GABON
CONGO
Brazzaville
Kinshasa
DEMOCR. REP. OF THE CONGO
Kampala
KENYA
Nairobi
Muqdisho (Mogadishu)
RWANDA
Kigali
Bujumbura
BURUNDI
Dodama
TANZANIA
SEYCHELLES
Victoria
Luanda
ANGOLA
ZAMBIA
Lusaka
MALAWI
Lilongwe
COMOROS
Moroni
MADAGASCAR
Antananarivo
MAURITIUS
Port Louis
Harare
ZIMBABWE
MOZAMBIQUE
NAMIBIA
Windhuk
BOTSWANA
Gaborone
Pretoria
Johannesburg
Maputo
Mbabane
SWAZILAND
Lesothe
LESOTHO
SOUTH AFRICA
Cape Town
ATLANTIC
OCEAN
africaguide.com

GLOBOCAN data is regarded as the best estimate available.

Worldwide, Breast cancer is the most common cancer, including Africa, but with some caveats (East Africa)

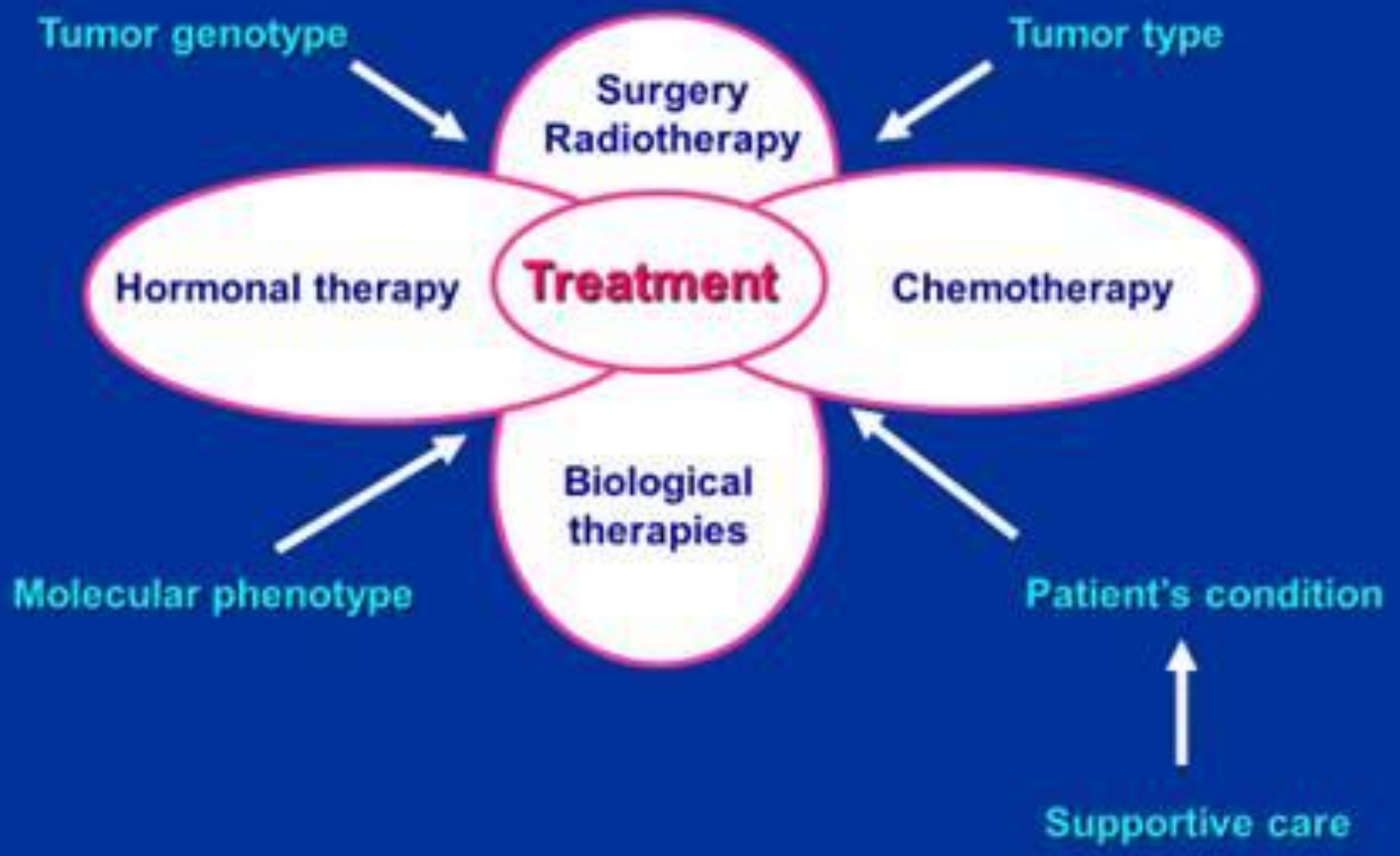
In Africa, overall estimated new cases of Breast Cancer in :

- 2008 - 92 600
- 2012 - 133 900

Breast Cancer Incidence in South African Women, 2010

Ethnicity	Number	ASR per 100 000
Asian	322	46.04
Black	2 997	18.33
Coloured	776	37.35
White	1 735	83.72
Unknown	295	N/A
Total	6 125	25.86

Individualized Adjuvant Treatment for Breast Cancer



Stage at Diagnosis of Breast Cancer in Sub-Saharan Africa : A Systematic Review and Meta-Analysis

(E. Jedy-Agba et al, The Lancet Global Health, Dec 2016)

83 Studies from 17 Sub-Saharan Countries

26 788 Women with Breast Cancer

(24 213 Patients with Staged Cancer)

FINDINGS (1)

1. Paucity of published data. None from Middle Africa.

   In Southern Africa, data only from South Africa.
2. No data from population based cancer registries.
3. Most patients (77%) in Sub-Saharan Africa were diagnosed as Stages III / IV. (% vary greatly between countries : 30% in South Africa, nearly 98% in a Nigerian study)
4. Marked heterogeneity between populations
5. Percentage of late stage diagnosed Breast cancer was higher in the black population, and lower in urban populations.

FINDINGS (2)

- Average age at diagnosis (35 – 49 years) due to high proportion of younger people.
- No strong association between age and late stage cancer diagnosis.
- Late stage disease was positively correlated with mean tumour size, consistent with delays in access to healthcare.
- Low levels of Breast cancer awareness in the general population, and limited healthcare professionals contribute to the high frequency of late stage cancer at diagnosis.
- Average duration of symptoms was 8 – 12 months, indicating a delay in diagnosis.

FINDINGS (3)

- Limitations of the study : Only 17 out of 49 Sub-Saharan countries were included representing 70% of the total population of the region.
- Large number of patients with Breast cancer never reach a healthcare facility, and distance to a tertiary facility is a major determinant of access to diagnosis.
- Staging is affected by neoadjuvant chemotherapy, but this treatment is mostly not available in the majority of Sub-Saharan countries.

Breast Cancer Incidence in South Africa

(Vorobiof DA et al, JCO Sept 2001)

Fear of Treatment Surpasses Demographic and Socioeconomic Factors …..

(S. Rayne et al, JGO, June 2016)

- Differences in the treatment of urban and rural patients with Breast cancer
- Rural patients tend to delay treatment with similar patterns to other African countries, and the diagnosis is usually delayed due to a variety of socioeconomic reasons
- In urban patients (Johannesburg) with Breast cancer, fear of the different treatment modalities (surgery, chemotherapy and radiotherapy) were far stronger than socioeconomic reasons

IN SUMMARY

Around 2010, the percentage of late stage Breast cancer at diagnosis in Sub-Saharan Africa black population was higher than in black and white USA populations --- 40 years previously !!

Cancer control strategies should target earlier detection and diagnosis of symptomatic disease as an essential component of the strategy to improve Breast cancer treatment and survival.

Earlier diagnosis coupled with timely and appropriate therapy can prevent deaths and improve survival.

Sub-Saharan Africa

Breast Cancer Incidence = LOW

MORTALITY RATES = HIGH

STAGE AT DIAGNOSIS !!

Pilot Survey of Breast Cancer Management In Sub-Saharan Africa

(V. Vanderpuye et al, JGO Dec 2016)

Physicians from 31 Sub-Saharan countries were requested to answer a survey :

- Availability of skilled manpower
- Availability and function of radiotherapy equipment
- Availability and cost of chemotherapy
- Diagnosis and management of Breast Cancer
- Suggestions to improve health care delivery

20 Physicians from 19 cancer facilities in 14 Sub-Saharan countries responded (1) :

- Advanced stage at presentation (40 – 90% of pts) was the most common cause for poor treatment outcome
- Pathology diagnosis is improving, core biopsies are mostly performed. IHC is not easily available
- Most facilities have adequate imaging services except for bone scintigraphy
- General surgeons who operate on breast cancer patients is the norm, and modified radical mastectomies are usually performed.

20 Physicians from 19 cancer facilities in 14 Sub-Saharan countries responded (2) :

- Most oncologists do administer radiotherapy and chemotherapy (where and when available)
- Only 5% of Breast cancer patients receive radiotherapy due to non-availability
- Most available chemotherapies are Cyclophosphamide,Doxorubicin,Methotrexate and 5-Fluorouracil. Trastuzumab is rarely affordable, and only available in few selected places
- Antiestrogen therapy with Tamoxifen is readily available, while AI's are not
- Most (+/- 80%), of the chemotherapy and endocrine treatments available are generics

Surgical Management of Breast Cancer in Africa :

A Continent-Wide Review of Intervention Practices, Barriers to Care, and Adjuvant Therapy

(SA Sutter et al, JGO, Oct 2016)

Review of the Surgical Literature from Published Studies from Ghana, Nigeria, South Africa, Cameroon, Rwanda, Eritrea, Tanzania and Uganda

- Surgical intervention is the primary focus of treatment. Treatment choices are guided by local availability of resources. Surgery (mastectomy) is most frequently performed as the available choice, while chemotherapy and radiotherapy are limited.

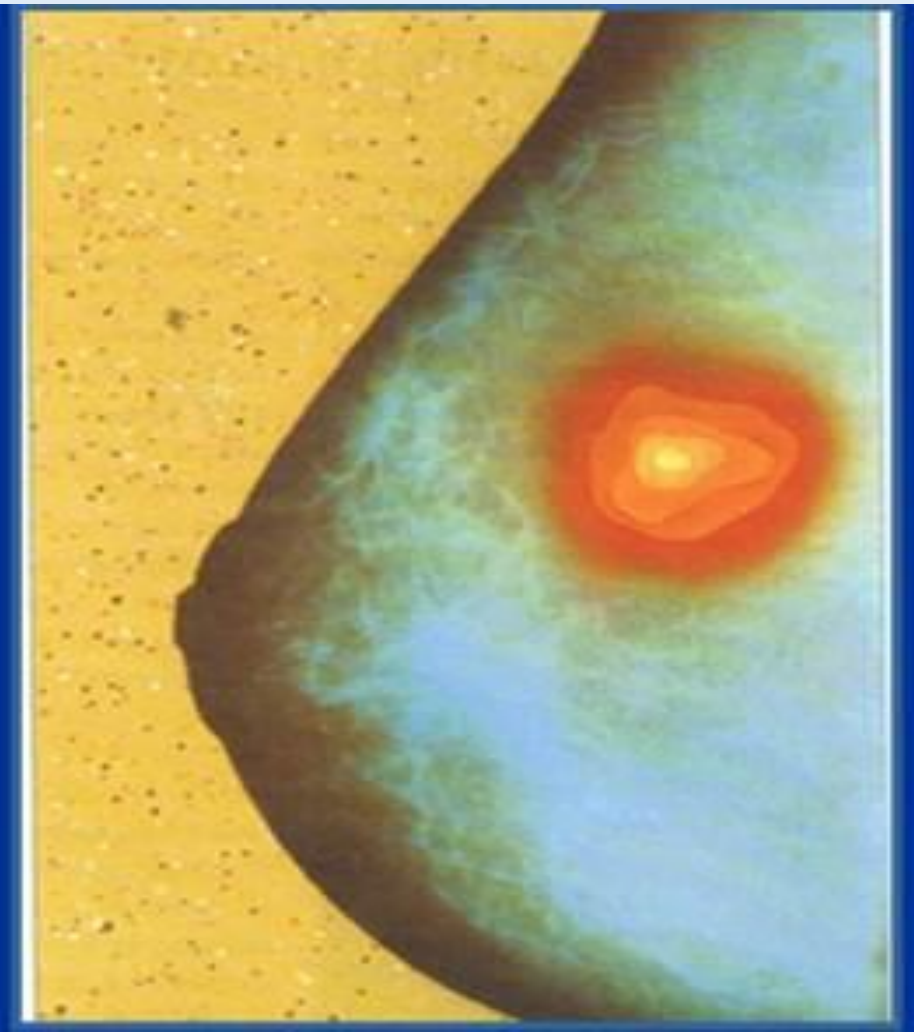
- Despite surgery availability, most women fear a mastectomy, which contributes to their delay in seeking appropriate therapy.

- Neoadjuvant and adjuvant chemotherapy are available in some countries, but not in the majority. Hormonal treatment is usually available with Tamoxifen, and mostly is prescribed blindly.

The rates of surgery, chemotherapy and radiotherapy across the countries of Africa vary substantially, and there are very few examples of standardized cancer treatment guidelines.

GUIDELINE IMPLEMENTATION FOR BREAST HEALTHCARE IN LOW AND MIDDLE INCOME COUNTRIES:TREATMENT RESOURCE ALLOCATION

A ENIU, R CARLSON, N EL SAGHIR, J BINES, N BESE, D VOROBIOF, R MASETTI, B ANDERSON. CANCER, OCT 2008



Locally Advanced Breast Cancer
Treatment Guideline Implementation with
Particular Attention to Low – and Middle – Income Countries

NS El Saghir, A Eniu, RW Carlson, Z Aziz, DA Vorobiof, GN Hortobagyi
on behalf of the Breast Health Global Initiative
Systemic Therapy Focus Group
Cancer 2008; 113(3 suppl):2315-24

Treatment Resource Allocation
Stage I Breast Cancer

Level of Resources	Local-Regional Treatment		Systemic Treatment (Adjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy			Oophorectomy in premenopausal women Tamoxifen	
Limited	Breast conserving surgery Sentinel lymph node (SLN) biopsy with blue dye	If available for high risk cases	Classical CMF AC, EC or FAC	As above	

Treatment Resource Allocation
Stage II Breast Cancer

Level of Resources	Local-Regional Treatment		Systemic Treatment (Adjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy		Classical CMF AC, EC, or FAC	Tam for all ?	
Limited	Breast conserving surgery Sentinel lymph node (SLN) biopsy with blue dye	Postmastectomy irradiation of chest wall and regional nodes for high-risk cases	As above	As above	

Treatment Resource Allocation
Locally Advanced Breast Cancer

Level of Resources	Local-Regional Treatment		Systemic Treatment (Palliative)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Supportive Therapy
Basic	Mastectomy			Oophorectomy in premenopausal women Tamoxifen*	Non-opioid and opioid analgesics and symptom management
Limited	As above (after chemotherapy)	Palliative radiation therapy	Neoadjuvant Classical CMF or Anthracycline Monotherapy or in combination	As above	As above

Treatment Resource Allocation
Metastatic (Stage IV) and Recurrent Breast Cancer

Level of Resources	Local-Regional Treatment		Systemic Treatment (Adjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy			Oophorectomy in premenopausal women Tamoxifen*	
Limited	Breast conserving surgery Sentinel lymph node (SLN) biopsy with blue dye	Radiotherapy to breast or sites of metastases	Classical CMF AC, EC or FAC		

Problem Solving for Breast Healthcare Delivery in Low and Middle Resource Countries (LMCs) : Consensus Statement from the Breast Health Global Initiative

JB Harford, IV Otero, BO Anderson, E Cazap, WJ Gradishar, JR Gralow, GM Kane, LM Niëns, PL Porter, AV Reeler, PT Rieger, LD Shockney, LN Shulman, T Soldak, DB Thomas,B Thompson, DP Winchester, SG Zelle, RA Badwe

The Breast, April 2011

Summary of Recommended Breast Cancer Program Human Resources for Low and Middle Resource Countries

JB Harford The Breast, April 2011

Resource Level	Patient and Family Education	Human Resource Capacity Building	Patient Navigation
Basic	General education regarding primary prevention of cancer, early detection and self-examination Development of culturally adapted patient and family education services	Primary care provider education regarding breast cancer detection, diagnosis and treatment Nursing education regarding cancer patient management and emotional support Pathology technician education regarding tissue handling and specimen preparation Trained community worker	Field nurse, midwife or healthcare provider triages patients to central facility for diagnosis and treatment
Limited	Group or one-on-one counseling involving family and peer support Education regarding nutrition and complementary therapies	Nursing education regarding breast cancer diagnosis, treatment and patient management Imaging technician education regarding imaging technique and quality control Volunteer recruitment group to support care	Onsite patient navigator (staff member or nurse) facilitates patient triage through diagnosis and treatment
Enhanced	Education regarding survivorship Lymphoedema education Education regarding Home Care	Organization of national volunteer network Specialized nursing oncology training Home care nursing Physiotherapist and lymphoedema therapist Onsite cytopathologist	Patient navigation team from each discipline supports patient “handoff” during key transition from specialist to specialist to ensure complete therapy

Summary of Recommended Support System Resources for Low and Middle Resource Countries

JB Harford The Breast, April 2011

Resource Level	Services	Record Keeping	Cancer Care Facility	Breast Care Centre
Basic	Diagnostic/Pathology services Nursing services Oncology services Palliative services Psychosocial services Primary care services Surgical services	Individual medical records and service-based patient registration	Health facility Operating facility Outpatient care facility Pharmacy External consultation pathology laboratory Home hospice support	Breast health care access integrated into existing health care infrastructure
Limited	Imaging services Peer support services Radiation oncology services	Facility-based medical records and centralized patient registration Hospital level cancer registry	Clinical information systems Health system network Imaging facility Internal pathology laboratory Radiation therapy	Breast Centre with clinician, staff and breast imaging access Breast prostheses for mastectomy patients
Enhanced	Cancer follow-up Group support Screening programs Rehabilitation services Survivorship services	Resource Room(s) for education/outreach Facility based follow-up Regional cancer registry	Centralized referral cancer centre(s) Radiation therapy : low energy linear accelerator, electrons, brachytherapy, treatment planning system	Multidisciplinary breast programs Oncology nurse specialists Physician assistants

Breast cancer control strategies must focus on early detection and diagnosis in addition to effective treatment.

Access to the full spectrum of care (surgical, medical, radiation, palliative) is imperative.

This week ,on World Cancer Day, the **Breast Cancer Initiative 2.5** (a global campaign aiming at reducing disparities in breast cancer outcomes) joined forces with the **Tanzania's Ministry of Health, Susan Komen, University of Washington** and a local **NGO** to implement necessary steps to address the need for standardized guidelines, streamline referral systems, and investment in human resources (especially pathology capacity and training of primary care providers) which will be performed in 4 Phases.

BREAST CANCER AND HIV (1)

South African Breast Cancer and HIV Outcomes

H. Cubash et al, JGO Oct 2016

National Study aiming at recruiting 3 000 newly diagnosed breast cancer patients in high HIV areas .

Demographic, behavioral, clinical and other data will be collected with the goal to develop evidence based guidelines for the management of breast cancer in HIV positive women.

BREAST CANCER AND HIV (2)

Breast Cancer and HIV in Sub-Saharan Africa : A Complex Relationship

(S. Grove et al, JGO Jan 2017)

- The association of HIV and Breast cancer is not well recorded and understood
- 54 Studies reviewed after literature search. Largest study (314 pts) done in USA
- Many hypothesis are mentioned, but no strong association between HIV infection and Breast cancer development is documented, and the data remains limited

BREAST CANCER AND HIV (3)

- The natural history of Breast cancer in HIV patients is poorly understood
- It is unknown whether viral infection is a protective factor for Breast cancer development or a risk factor for accelerated oncogenesis
- Breast cancer in HIV patients in Sub-Saharan Africa has an age and stage distribution as well as molecular subtype similar to those in high income countries

How Useful are International Treatment Guidelines in Low and Middle Income Countries?

Kerr, JGO, Jan 2017

International Guidelines provide timely, evidence based recommendations for the multidisciplinary management of cancer.

They provide an international gold standard, but what of silver, bronze or tin standards?!

Worldwide, how many people have access to gold standards of therapy?

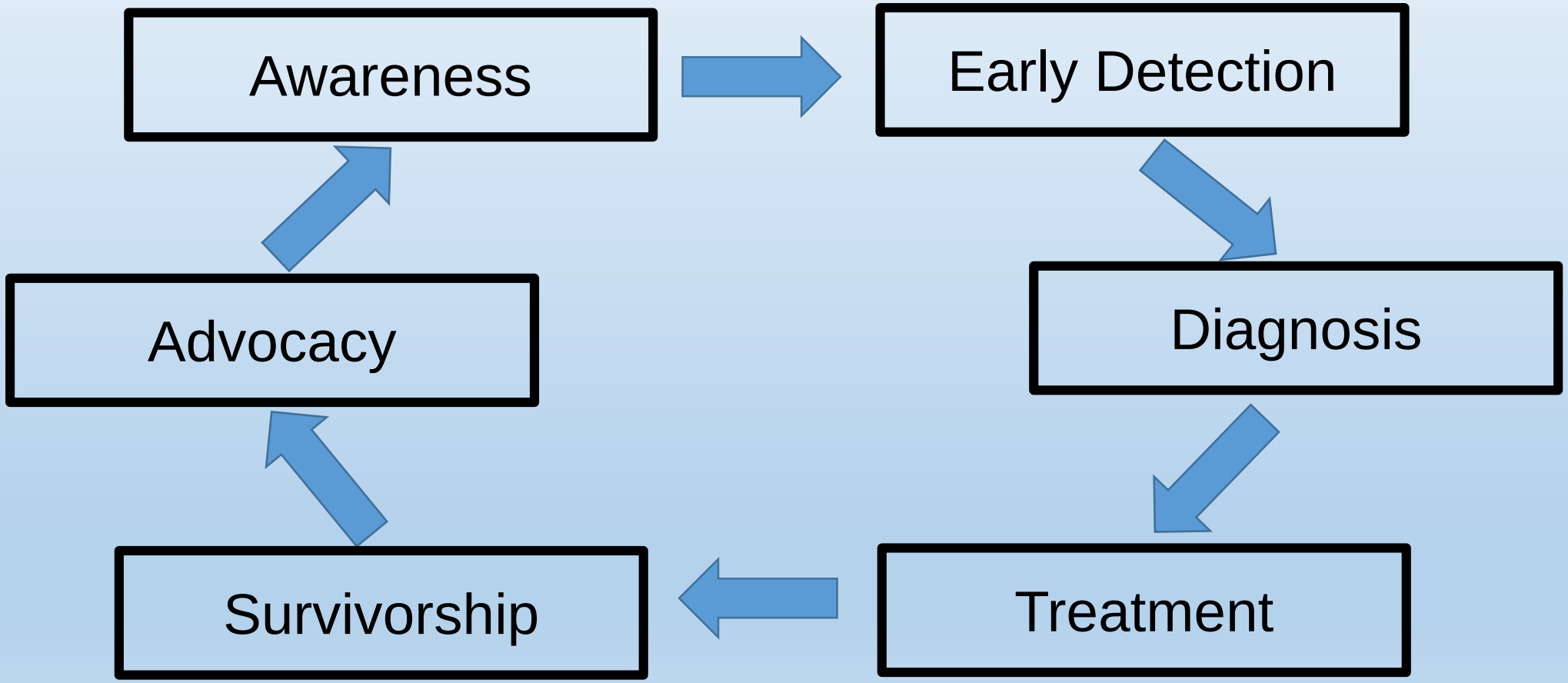
Online survey of 139 oncologic practices with respect to Lung and Breast cancer in Asian countries (India, Thailand, China and others) and South-Central America (Argentina, Mexico, Brazil, Chile)

58% always use guidelines
NCCN – 92%, ASCO and ESMO – 53%, National – 40%
But 75% modify the International Guidelines

Major professional societies and guideline groups must be adapted for local use by:

Engaging involved parties in different regions, defining minimal basic standards, understanding the meaning of value, and prioritizing resources

Public Participation **Health Care Delivery**



CONCLUSION (1)

- Outcomes vary greatly between countries, and are dependent on early diagnosis and access to therapy. (CONCORD Study)
- Is the advanced / late stage presentation due to a unique aggressive biology or a delay in presentation ?
- Could awareness campaigns improve healthcare seeking behaviors and referral in symptomatic women ?
- The long term effect of early diagnosis on outcome has not been assessed in Sub-Saharan Africa

CONCLUSION (2)

- Trained volunteers and healthcare workers could do early screening in rural areas
- Education of health workers on all levels will assist in guiding women with symptoms of Breast cancer to seek earlier care
- But these points will not succeed if local or regional pathology services and appropriate treatment are of limited availability
- Adequate cancer control policies need to be designed, implemented and monitored across Africa by all interested parties.

SERVICES and DRUGS

In high income countries the “problem” is : **full accessibility**

While in low/middle income countries the problem is: **none, or limited accessibility !!**

SPECIAL ANNOUNCEMENT

AN ASTROLOGER - HERBALIST - HEALER

PROFESSOR HAJJI MOHAMED ALI

FROM KENYA (EAST AFRICA)

He is here to pay attention and to heal whoever has problems using typical African and Arabic herbs. He can also tell you all your problems before you say anything to him. He heals (treats) 75 diseases for the consultation fee of R20.00.

Some of the diseases are :

(1) Insanity (2) Diarrhoea (3) Bewitched People (4) One with bad luck (5) Men's penis which cannot erect powerfully (6) Women with pregnancy problems (7) Vomitting all the time (8) Asthma (9) Women who cannot produce (10) Gonorrhea (11) Lack of strength in the body (12) To be liked at work (13) Prevent thieves from attacking homes, shops and cars (14) Education (15) Promotion (16) Pressure (17) Diabetes (18) Customers attraction (19) Court cases (20) Tuberculosis (21) Demand debts (22) Removal of misunderstandings with anybody (23) To bring back a lost lover (24) Cancer (25) Misfortunes (26) Swollen body etc.

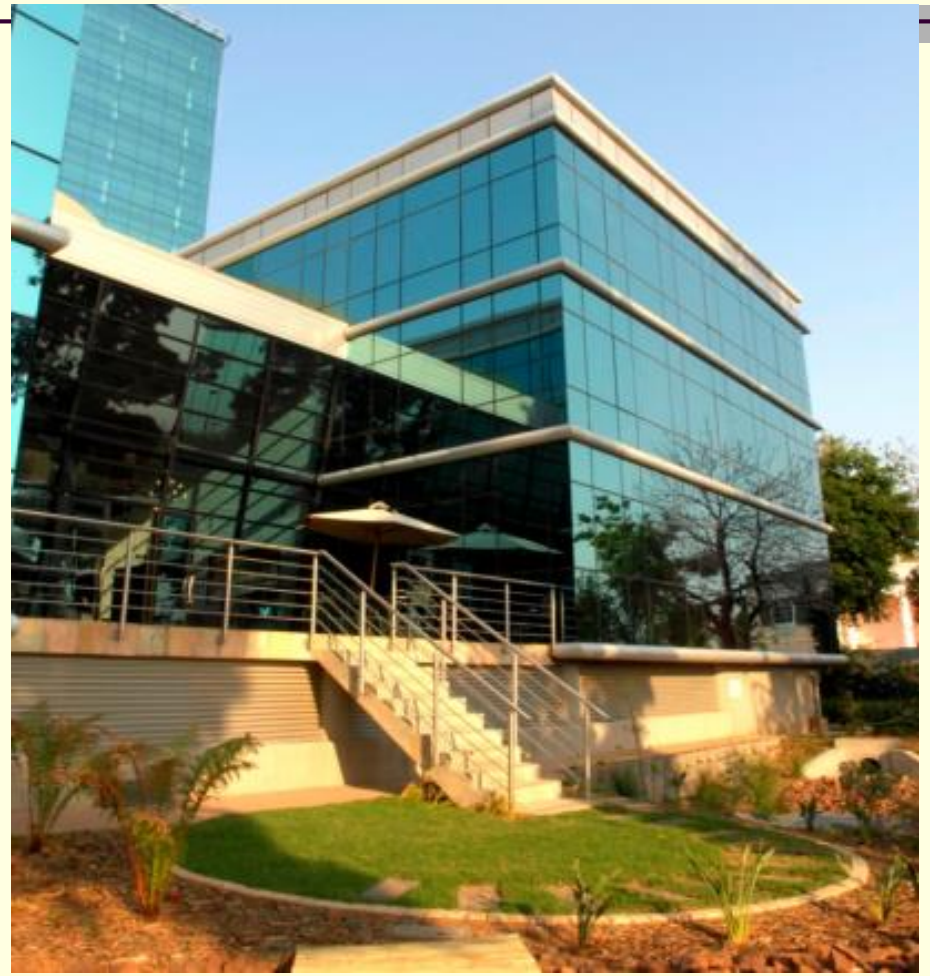
THIS IS THE TIME TO CHANGE YOUR DOCTOR FOR PROPER TREATMENT.

The Doctor is currently situated at:
Room 8, 2nd Floor, Penleigh Court
Plot Nr. 116, Central Avenue
Mayfair TEL : 837-1127

WE ARE OPEN FROM :
8.00am - 9.00pm EVERY DAY
WHY NOT TRY HIM BEFORE HE LEAVES

‘THANK YOU’

SANDTON ONCOLOGY CENTRE



Trends in Age-Standardized Incidence Rates for Breast Cancer, 1990 - 2015

Global
Low SDI
Low-Middle SDI
Middle SDI
High-Middle SDI
High SDI