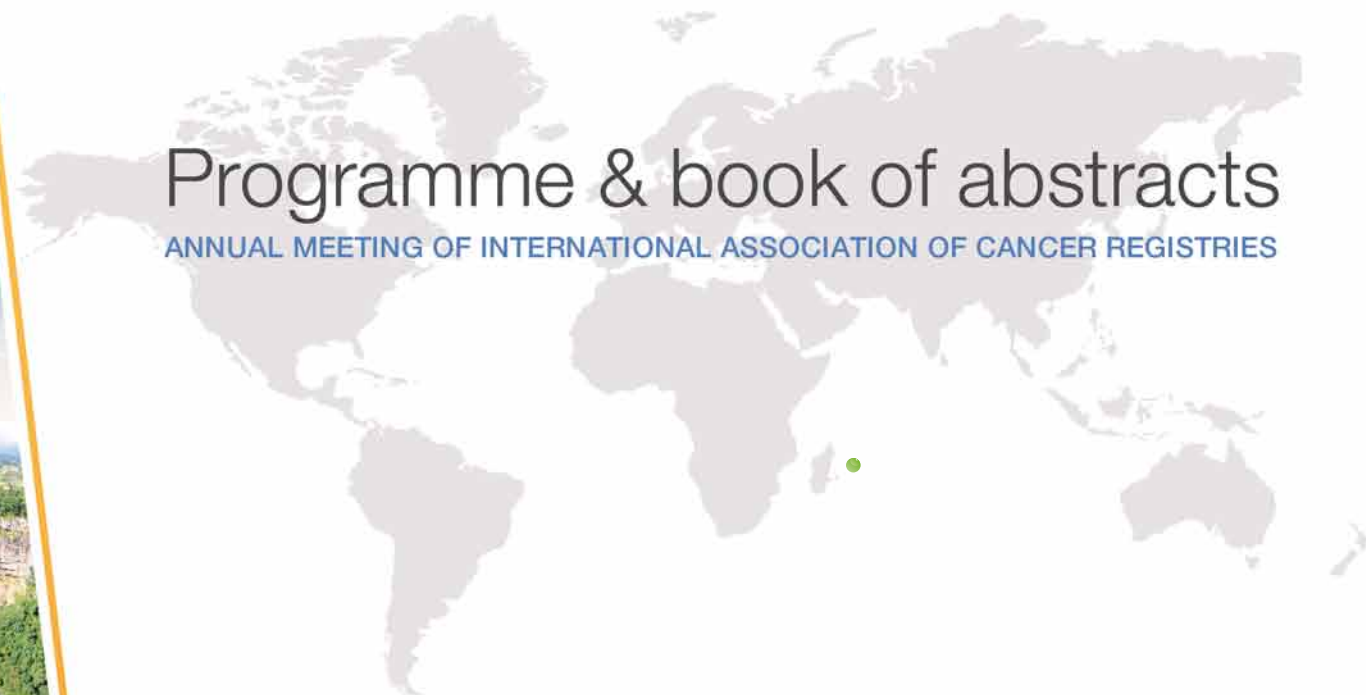




33rd Annual Meeting of International Association of Cancer Registries



Programme & book of abstracts

ANNUAL MEETING OF INTERNATIONAL ASSOCIATION OF CANCER REGISTRIES



MOH Mauritius

Elekta Logo



IACR
International Association of Cancer Registries



IACR
International Association of Cancer Registries

Intercontinental Hotel
Tue 11 - Thu 13, Oct 2011

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WELCOME TO THE 33rd ANNUAL MEETING OF THE IACR

Dear Colleagues and Friends,

On behalf of the organizing committee I have the pleasure to welcome you to the 33rd Annual Meeting of the IACR in the paradise island of Mauritius.

Our small island developing nation has taken on the challenge of organizing this important event and we are sure we will meet the expectations of one and all.

Mauritius is known to the outside world as a tourist destination but has however a significant burden of non-communicable diseases. Cancer in Mauritius is emerging as a major public health problem which can be attributed to rapid lifestyle and environmental changes rightly reflecting the theme of this congress which is “Cancer: Countries in Transition”.

It is our hope that the chosen themes and subthemes will aptly highlight the cancer burden prevailing around the globe and give opportunity to all participants to brainstorm on various aspects related to cancer registration and cancer control.



Dr S. S. Manraj
National Cancer Registry Coordinator
Republic of Mauritius

LOCAL ORGANISING COMMITTEE

President: Dr S.S Manraj, National Cancer Registry Coordinator

Members:

Mr P. Jhugroo, Supervising Officer, Ministry of Health and Quality of Life

Dr N. Gopee, Director General Health Services, Ministry of Health and Quality of Life

Dr K. Pauvaday, Director Health Services, Ministry of Health and Quality of Life

Dr A. Mohith, National Cancer Control Programme Coordinator

Mrs L. Moussa, Mauritius Institute of Health

SCIENTIFIC COMMITTEE

Dr Freddie Bray, CIN Section, IARC, France

Dr Brenda K. Edwards, President of IACR, SEER, USA

Dr David Forman, Executive Secretary, IARC, France

Prof Charles Gombe, IACR Regional Representative for Africa, Brazzaville, Congo

Dr Shyam Manraj, National Cancer Registry Co-ordinator, Mauritius

Dr Sabine Siesling, CCNL, The Netherlands

IARC EXECUTIVE BOARD

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Regional Representative - Africa

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Regional Representative - America (Nth)

Regional Representative - America (Sth)

Regional Representative - Asia

Regional Representative - Asia

Regional Representative - Europe

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Dr Sabine Siesling - CCNL, The Netherlands

Dr David Forman - IARC, France

Ms Lynn Ann Gloeckler Ries - USA

Prof Charles Gombe - Brazzaville, Congo

Ms Betsy Kohler - NAACCR, USA

Dr Tom T. Tucker - Kentucky, USA

Dr Patricia Cueva - Quito, Ecuador

Dr Rajaraman Swaminathan - Chennai, India

Dr Hideaki Tsukuma - Osaka, Japan

Dr Andrea Bordoni - Ticino, Switzerland

Dr Stefano Rosso - Torino, The Italy

Ms Helen Farrugia - Carlton, Australia

■ PROGRAMME AT A GLANCE

		Monday 10 October			Tuesday 11 October		Wednesday 12 October		Thursday 13 October		Friday 14 October
		Intercontinental			Intercontinental		Intercontinental		Intercontinental		
Early Morning	9:30 - 10:00	Registration			<div>Poster Setting-up</div>	Registration	<div>Scientific Sessions (poster)</div>	Registration	<div>Scientific Sessions (poster)</div>	Registration	African Association of Cancer Registries
Morning	10:00–10:30	Introductions; Overview of course...	Graphical analysis of rates			Opening Ceremony Coffee Break		Scientific Sessions (4)		Scientific Sessions (8)	
	11:30–12:00	Coffee Break				Cancer in Mauritius		Coffee Break <i>Poster Viewing</i>		Coffee Break <i>Poster Viewing</i>	
	12:00–13:00	Statistical models for analysing trends; Introduction to Age-Period-Cohort models (FB)				Scientific Sessions (1)		Scientific Sessions (5)		IACR Business Meeting Closing Ceremony	
Lunch time	13:00–14:00	Lunch – <i>Making trends-based predictions</i>			Lunch – <i>Poster viewing</i>		Lunch – <i>Poster viewing</i>		Lunch		Lunch
Afternoon	14:00–16:00	IACR Executive Board Meeting	CanReg5 Workshop	Trends Course	<div>Scientific Sessions (poster)</div>	Scientific Sessions (2)	<div>Scientific Sessions (poster)</div>	Scientific Sessions (6)	Excursion (Optional)	African Association of Cancer Registries	
	15:30–16:00	Coffee Break				Coffee Break <i>Poster Viewing</i>		Coffee Break <i>Poster Viewing</i>			
	16:00–18:00	IACR Executive Board Meeting	CanReg5 Workshop	Trends Course (end: 16:00)		Scientific Sessions (3)		Scientific Sessions (7)			
Evening	18:00-20:00	Welcome standing cocktail Fountain Lawn Intercontinental Hotel			Free Evening						
	19:00–22:00						Gala Dinner				

1. EXAMINING EXISTING TIME TRENDS AND MAKING PREDICTIONS ON TIME TRENDS

Date: Monday 10 October, 10:00 – 16:00

Place: Intercontinental Hotel

Registration will start at 9:30 am

SYNOPSIS

The course will provide an overview of some of the methods available to display and quantify cancer trends and predict the future burden on their basis.

FACULTY

Freddie Bray (FB), IARC, Lyon, France

Henrik Moller (HM), King's College London, U.K.

COURSE OUTLINE

Examining trends

10:00 - Introductions; Overview of course; Overview of supporting materials (FB)

10:30 - Graphical analysis of rates; Group work (HM)

11:30 - Coffee Break

12:00 - Statistical models for analysing trends; Introduction to Age-Period-Cohort models (FB)

13:00 - Lunch

Making trends-based predictions

14:00 - Predicting cancer burden – use of NORDPRED (FB)

15:00 - Fifty-year trends in cancer incidence in South East England (HM)

15:30 - Recap and Q&A session

16:00 - Close

2. CANREG5 TRAINING WORKSHOP

Date: Monday 10 October, 9:00 – 17:00

Place: Intercontinental Hotel

Registration will start at 8:30 am

SYNOPSIS

This whole-day course will contain modules on data entry, quality control, analysis, data migration and management. The target audience is cancer registry personnel (and associated data managers) interested in migrating to CanReg5 from, for example, previous versions of CanReg. There are a limited number of places available and participants are expected to bring their own laptops to use for practical exercises during the course

FACULTY: Morten Ervik (IARC)

09:00 - Introduction to CanReg5

10:00 - Installing CanReg5

10:30 - Data entry and quality control

11:30 - Coffee Break

12:00 - Analysis

13:00 - Lunch

14:00 - Analysis

15:00 - Management and migration

16:30 - Q&A session

17:00 - Close

FREDDIE BRAY

Section of Cancer Information, International Agency for Research on Cancer, Lyon (France)

Freddie completed a PhD in Epidemiology at the London School of Hygiene and Tropical Medicine in 2005, having previously studied statistics as undergraduate level (Aberdeen) and a Masters in Medical Statistics (Leicester). His research specialty includes descriptive epidemiology of cancer, time trends and predictions. He has worked for the Cancer Registry of Norway and is currently Deputy Head of the Cancer Information Section at the International Agency for Research on Cancer, in Lyon.



HENRIK MOLLER

King's College, London (UK)

Henrik Møller is Professor of Cancer Epidemiology in King's College London School of Medicine and the national lead for analysis research in the National Cancer Intelligence Network.

He is the Director of the Thames Cancer Registry, which covers the 12 million population in London, Kent, Surrey and Sussex and which forms part of the overall network of cancer registries in England and in the UK.

Prior to his work in the Thames Cancer Registry and in King's College London, Henrik Møller was the Director of a research unit in the Danish National Research Foundation 1995-1999, Scientist and Acting Unit Chief in the International Agency for Research on Cancer 1992-1995 and Cancer Epidemiologist at the Danish Cancer Registry 1986-1992.

He has published more than 250 research articles in cancer epidemiology and health services research. Further information on the work of the Thames Cancer Registry can be found on www.tcr.org.uk.



MORTEN ERVIK

Section of Cancer Information, International Agency for Research on Cancer, Lyon (France)

Morten completed an MSc in Computer Science at the University of Bergen, Norway, in 2004. He is currently working in the Section of Cancer Information at the International Agency for Research on Cancer, in Lyon, where he is responsible for the CanReg project. He has designed and implemented the latest version - the open sourced CanReg5 (For more information, please see the IACR web page www.iacr.com.fr). Morten has given courses on CanReg and cancer registration in many countries on most continents around the world as well as been a member of the faculty of the IARC summer school since 2006. He has been working on open source software since 1998.



TUESDAY 11 OCTOBER

9:30 – 10:15	Opening ceremony, welcome address: Address by Dr S. Manraj , President, IACR 2011 Local Organising Committee Address by Dr. Brenda Edwards , President, IACR Cultural show: A glimpse of Mauritian multicultural music Address by Dr. The Hon. N. Ramgoolam GCSK, FRCP - Prime Minister		
10:15 – 10:45	Coffee		
Chairpersons	N. Gopee / D. Forman		
10:45 – 11:30	MAIN THEME: CANCER IN MAURITIUS		
10:15 – 11:15	KN1	SHYAM MANRAJ	Cancer registration in Mauritius
11:15 – 11:30	01	Anil Mohith	NCCP Action Plan 2011-15
Chairpersons	J-C. Mohith / B. Kohler		
11:00 – 13:00	MAIN THEME: INFECTION AND CANCER		
11:30 – 12:00	KN2	ROBERT NEWTON	Infections and cancer - the contribution of Africa
12:00 – 12:15	02	Maria-Isabel Izarzugaza	Characteristics and survival of HPV- related tumours in the Basque Country (Spain)
12:15 – 12:30	03	Danuta Kielkowski	Prevention of genital cancers in South Africa – a case of cervical cancer
12:30 – 12:45	04	Charles Gombe Mbalawa	Identification and treatment of cervix pre-cancerous state
12:45 – 13:00	05	Eduardo Laura	Multidisciplinary group to improve cancer information quality in Bahia Blanca, Argentina
13:00 – 14:30	Lunch – Poster viewing		
Chairpersons	C. Gombe / T. Hakulinen		
14:30 – 16:15	MAIN THEME: CANCER IN AFRICA		
14:30 – 14:45	06	Donald M. Parkin	The East African Registry Network project
14:45 – 15:00	07	Charles Dзамalala	Cancer incidence in Malawi: Time trends in Blantyre 1996-2005 and predictions up to 2015
15:00 – 15:15	08	Barry Kistnasamy	The National Cancer Registry in South Africa – from Pathology to population based registration
15:15 – 15:30	09	Nontuthuzelo Somdyala	Common cancers among women in the rural population of South Africa
15:30 – 15:45	010	James Abdulazeez	Cancer Incidence in Maiduguri, Nigeria
15:45 – 16:00	011	Katherine Van Loon	Building a Cancer Registry in Dar es Salaam: A Pilot Project to Evaluate Completeness and Validity of Pathologic Data
16:00 – 16:30	Coffee – Poster viewing		
Chairpersons:	K. Pauvaday / S. Siesling		
16:30 – 18:00	MAIN THEME: TOBACCO & CANCER		
16:30 – 17:00	KN3	PRABHAT JHA	Tobacco deaths (avoidable) and taxes (unavoidable)
17:00 – 17:15	012	Joo Lee Young	Time trends in the distribution of the histologic types of lung cancer in Korea
17:15 – 17:30	013	Rajesh Dikshit	Cancer mortality in India: An estimate from nationally representative survey of 1.1 million deaths
17:30 – 17:45	014	Kota Katanoda	Trend analysis of cancer incidence in Japan using data from selected population-based cancer registries
17:45 – 18:00	015	Freddie Bray	Estimates of global cancer prevalence in 2008 for 25 sites in the adult population
	Free Evening		

WEDNESDAY 12 OCTOBER

Chairpersons	B. Kistanasamy / D.M. Parkin		
9:00 – 10:30	MAIN THEME: ROLE OF CANCER REGISTRIES IN CANCER CONTROL		
9:00 – 9:30	KN4	JOE HARFORD	Population-Based Cancer registries: Why Bother?
9:30 – 9:45	016	Mugi Wahidin	Methods of population-based cancer registry in Indonesia
9:45 – 10:00	017	Amal Ibrahim	Challenges of cancer control in Egypt during demographic and democratic transition based upon national registry results
10:00 – 10:15	018	Lenildo de Moura	Evolution of PBCRs - A necessary activity to implement cancer information: a Brazilian example
10:15 – 10:30	019	Cheamchit Tasanapitak	Future cancer burden in Songkhla, Thailand: Projection to the year 2022
10:30 – 11:00	Coffee – Poster viewing		
Chairpersons	A. Mohith / A. Bordoni		
11:00 – 12:30	MAIN THEME: ROLE OF CANCER REGISTRIES IN CANCER CONTROL (cont'd)		
11:00 – 11:15	020	Suraj Perera	Experience of commencing the process of establishing the first population-based cancer registry in Sri Lanka
11:15 – 11:30	021	Mariela Alvarez	The National Cancer Registry of Uruguay: a model for sustainable cancer registration in low and middle income countries
11:30 – 11:45	022	Sultan Eser	Downstaging in Breast, Cervix and Colorectal Cancers in Izmir, Turkey
11:45 – 12:00	023	Denis Kachanov	Survival of childhood hematological malignancies in Moscow Region, 2000-2005
12:00 – 12:15	024	Daniela Cristina Stefan	Incidence of childhood cancers in South Africa 1987-2007: changes over time and correlations with children's age
12:15 – 12:30	025	Hans Storm	Improved survival of Danish cancer patients 2007-2009 compared to patients from earlier periods
12:30 – 14:00	Lunch – Poster viewing		
Chairpersons	I. Thacoor / H. Tsukuma		
14:00 – 14:15	News from IARC		
14:15 – 15:45	MAIN THEME: CANCER SCREENING IN DEVELOPING COUNTRIES		
14:15 – 14:45	KN5	R SANKARANARAYANAN	Cancer Screening in Developing Countries
14:45 – 15:00	026	Nomfuneko Sithole	Making sense out of numbers: A pilot study on cervix cancer screening coverage in the rural setting in South Africa.
15:00 – 15:15	027	Willi Oberaigner	Mammography screening in Tyrol/Austria: From a spontaneous to an organised screening program
15:15 – 15:30	028	Nandkumar S. Panse	Cancer pattern in Barshi rural and urban town: An observation by rural and urban registry at Barshi, India
15:30 – 15:45	029	Astri Syse	Survival after colorectal cancer in a screened vs. an unscreened population
15:45 – 16:15	Coffee – Poster viewing		
Chairpersons	S.S. Manraj / F. Bray		
16:15 – 17:45	MAIN THEME: WOMEN'S CANCERS IN DEVELOPING COUNTRIES		
16:15 – 16:30	KN6	JEAN MARC NABHOLTZ	Development of cancer care in countries in transition : What are the fundamental factors applicable to breast cancer?
16:30 – 16:45	030	Khaled Al-Sakkaf	Breast cancer knowledge, perception and screening among Yemeni women: an application of the Health Belief Model
16:45 – 17:00	031	Ruth Jack	Triple negative breast cancer and ethnicity in women in North East London
17:00 – 17:15	032	Sushma Shrivastava	Time trend and pattern of cancers among women in population-based cancer registry Bhopal - India
17:15 – 17:30	033	Farhana Badar	Breast cancer registration in young females: Shaukat Khanum Memorial Cancer Hospital and Research center
19:00 – 22:00	Gala Dinner		

THURSDAY 13 OCTOBER

Chairpersons	D. Caussy / T. Tucker		
9:00 – 10:30	MAIN THEME: LIVER CANCER		
9:00 – 9:30	KN7	CHRISTOPHER WILD	Liver cancer: global burden, causes and prevention
9:30 – 9:45	O34	Julie Konfortion	Variation in incidence of primary liver cancer between ethnic groups in England, 2001-2007
9:45 – 10:00	O35	Chun-Jun Chiang	Prognosis factors and survival in liver cancer: A population-based study in Taiwan
10:00 – 10:15	O36	Tomotaka Sobue	Estimation of cancer incidence in Fukushima, Japan, before nuclear accidents
10:15 – 10 - 30	O37	Timo Hakulinen	Use of the Ederer II relative survival method for cancer survival estimation
10:30 - 11:00	Coffee		
11:00 – 12:30	IACR BUSINESS MEETING & CLOSING CEREMONY		
11:00 – 11:45	Business Meeting		Dr Brenda Edwards
11:45 – 12:00	Enrico Anglesio Prize		President of the Jury: Roberto Zanetti
12:00 – 12:15	Poster Evaluation		Evaluation Committee
12:15 – 12:30	IACR 2012 – Cork (Ireland)		Dr Harry Comber, Director of the Cancer Registry
12:30 – 12:45	Closing Ceremony		Dr Shyam Manraj, National Cancer Registry Co-ordinator
12:45 – 14:00	Lunch		

FRIDAY 14 OCTOBER (AFRICA REGISTRIES)

Regional Network Meeting of African Association of Cancer Registries (AACR)

VENUE: R. Burrenchobay Lecture Hall, Reduit, Mauritius

8:30 – 9:00	Registration	
9:00 – 9:30	Welcome Ceremony	
	Welcome from Brenda Edwards, IACR President	
	Election of Chairman	
	Presentation of resource persons and participants	
9:30 – 10:30	Country Experiences from Africa and Indian Ocean	
9:30 – 9:45	Eastern/Southern Africa	Speaker
9:45 – 10:00	Western/Central Africa	Speaker
10:00 – 10:15	Northern Africa	Speaker
10:15 – 10:30	Islands of Indian Ocean	Speaker
10:30 – 11:00	Coffee break	
11:00 – 11:45	Regional Network of Cancer Registries	
11:00 – 11:15	Global Initiative on Cancer Registration	Dr David Forman, IARC
11:15 – 11:30	Regional hub concept	Dr Freddie Bray, IARC
11:30 – 11:45	East African Registry Network (EARN)	Dr Max Parkin
11:45 – 12:30	Discussions and Recommendations	
	Panellists: Freddie Bray, David Forman, Charles Gombe, Joe Harford, Max Parkin, Chairman	
12:30 – 13:00	Lunch break	

DR SHYAM MANRAJ

National Cancer Registry Co-ordinator (Mauritius)



Dr Shyam Manraj graduated in medicine at University Aix-Marseille, France in 1982 and then pursued post-graduate studies in Pathology there. Back to Mauritius in 1986, he took employment at Ministry of Health & Quality of life as a pathologist. He followed WHO courses in Health Systems Research and then completed a Diploma in Public Health delivered by University of Bordeaux 2. In 1992, he benefited from a scholarship for a six month study tour at the latter university where, amongst other assignments, he presented a thesis on the setting up of a National Cancer Registry (NCR) in Mauritius with cancer incidence data for an initial period of two years, namely 1989 and 1990.

In 1993, he was appointed NCR coordinator, a responsibility which he is still holding. Over the past two decades, cancer registration activities reaching population-based level have been carried out on a continuous basis, and results presented by Dr Manraj at various IACR and AORTIC meetings.

In 2007, he chaired the last African Association of Cancer Registries (AACR) regional meeting in Cape Town. During past years the National Cancer Registry headed by Dr Manraj contributed significantly in the development of a National Cancer Action Plan 2010-2015 for the Republic of Mauritius.

He is presently in charge of Hospital Laboratory Services, a member of National Health Ethics committee and of other professional bodies, and is the current Chairman of WHO African Advisory Committee on Health Research and Development.

DR ROB NEWTON

Reader in Clinical Epidemiology at the University of York (UK)



Dr Rob Newton qualified at the Royal Free Hospital School of Medicine, in London in 1991. During his pre-registration year he was awarded a MRC Research Training Fellowship enabling him to begin a career in epidemiology. In 1992, he joined the Imperial Cancer Research Fund's Cancer Epidemiology Unit in Oxford (now Cancer Research UK Epidemiology Unit), where he worked with Valerie Beral on the epidemiology of HIV associated cancers. In 2005, he moved to the University of York. He is interested in the role of infectious agents and immune suppression in the aetiology of cancer and has a particular expertise in the conduct of epidemiological research in developing country settings.

PROF PRABHAT JHA, MD, DPHIL

Centre for Global Health Research, St Michael's Hospital, Toronto (Canada)

Professor Prabhat Jha has been a key figure in epidemiology and economics of global health for the past decade. He is the University of Toronto Endowed Professor in Disease Control and Canada Research Chair at the Dalla Lana School of Public Health, and the founding Director of the Centre for Global Health Research at St. Michael's Hospital in Toronto.



He is a lead investigator of the Million Death Study in India, which quantifies the causes of premature mortality in over 1 million homes from 1997-2014 and which examines the contribution of key risk factors such as tobacco, alcohol, diet and environmental exposures. He is co-investigator of the Disease Control Priorities Network and the author of several influential books on tobacco control, including two that helped enable a global treaty on tobacco control, now signed by over 160 countries. He has previously held senior positions at the World Bank and at the World Health Organization. His advisory work has included the Government of South Africa on its national health insurance plan, and the United States Institute of Medicine on global health.

His recognitions include the Globe and Mail - 25 Transformational Canadians (2010) (www.twentyfive.ca), Top 40 Canadians under Age 40 Award (2004), the Ontario Premier's Research Excellence Award (2004) and a Gold Medal from the Poland Health Promotion Foundation (2000). Prabhat holds an M.D. from the University of Manitoba and a D.Phil. from Oxford University, where he studied as a Canadian Rhodes Scholar.

DR JOE HARFORD, PHD

Director - Office of International Affairs (NCI, USA)

Dr. Joe Harford has a Ph.D. in Biochemistry and has conducted basic research in cell biology. He has published over 120 scientific publications. He is currently Director of the Office of International Affairs of the National Cancer Institute (NCI) where he has responsibility for interactions between the NCI and international entities. He serves as the Chair of the Strategic Advisory Group of the Ireland-Northern Ireland-NCI Cancer Consortium and as NCI liaison to the Middle East Cancer Consortium (MECC), the US-Japan Cooperative Cancer Research Program, the African Organization for Research and Training in Cancer (AORTIC), the American-Russian Cancer Alliance (ARCA), and the International Network for Cancer Treatment and Research (INCTR). He has represented the United States on the Governing Council of the WHO's International Agency for Research on Cancer (IARC) and served as a member of the Board of Trustees of the Human Frontier Science Program (HFSP). In 2007, he was recognized by the Arab Medical Association Against Cancer with an award reading "In recognition for his significant contribution to enhance the status of cancer care and cancer research in the region and for his unwavering efforts to support needed infrastructure and create opportunities in cancer education, training and capacity building to help cancer patients and their families throughout the Arab world."



DR RENGSWAMY SANKARANARAYANAN, MD

Head of the Early Detection & Prevention Section and the Screening Group at the International Agency for Research on Cancer (IARC)



The IARC is a cancer research organization within the framework of the World Health Organization. The Agency conducts a programme of epidemiological and prevention research concentrating on the causes of human cancer, mechanisms of carcinogenesis, the patterns of cancer occurrence and outcome across the world and the evaluation of different prevention and early detection strategies in reducing cancer burden globally. The Agency has a programme for the education and training of personnel for cancer research through publications, meetings, courses and fellowships.

Cancer prevention and early detection research supported by quality assurance are key elements in the Agency's work to provide scientific evidence on the validity of screening and early diagnosis tools and to develop international networks, ultimately aiming to contribute to cancer control and improved quality of life. Through the Screening Group and Early Detection and Prevention Section of the IARC, and through innovative partnerships with other international organizations, national institutions and investigators, Sankar is involved in conducting several studies world-wide with the aim of providing scientific evidence to support the development of appropriate public health policies of screening for common cancers in a range of health care settings, particularly low- and medium-resourced countries. These studies provide valuable data on the accuracy, reproducibility, efficacy, benefits, harmful effects and cost-effectiveness of different screening interventions for cervical, oral and breast cancers leading to rational utilization of health care resources in the design, implementation, monitoring and evaluation of screening programmes. Sankar has brought to the Agency vast international experience and know-how on evaluating and disseminating different early detection strategies and in providing broad technical assistance in education, training and organizational aspects of cancer early detection programmes in low- and medium-resourced countries. He has more than 160 publications in international peer-reviewed journals and his manuals on early detection of cervical cancer have been translated into several languages including Chinese, French, Hindi, Portuguese, Spanish and Turkish among others.

DR DAVID FORMAN, PHD

Head of the Cancer Information Section (CIN) at the International Agency for Research on Cancer (IARC) based in Lyon, France.

This CIN Section of IARC is responsible for the provision of information concerning worldwide cancer vital statistics and produces the definitive reference source “Cancer Incidence in Five Continents (CI5)”, published in nine successive volumes over the last 45 years. Part of this responsibility includes the provision of support to cancer registries worldwide especially in low- and medium- resource countries. The Section also maintains an active research program in the descriptive epidemiology of cancer.

Prior to taking up his appointment at IARC in April 2010, David was, from 1994, Professor of Cancer Epidemiology at the University of Leeds, UK and Director of the Northern and Yorkshire Cancer Registry. He was also Head of Analysis and Information for the UK National Cancer Intelligence Network. From 1982 to 1994, he was a Staff Scientist with the Imperial Cancer Research Fund Epidemiology Unit in Oxford, UK working initially with Sir Richard Doll. His PhD and postdoctoral research was in cancer biology.

David’s research profile includes studies in the epidemiology of cancer and he has also been involved in health services research in cancer and, in association with the Cochrane Collaboration, systematic reviews and meta-analyses in upper gastrointestinal disease. Much of his research has been focused on cancers of the gastrointestinal tract and he has been particularly identified with studies examining the association between stomach cancer and *Helicobacter pylori* infection. He has 200 publications in peer-reviewed journals.



DR JEAN-MARC NABHOLTZ

*Chairman, Department of Medicine; Director, Division of Clinical Research
Jean Perrin Comprehensive Cancer Center of Auvergne
Former Director, Cancer Therapy Development Program University of California
at Los Angeles (UCLA), CA, USA
Founder and Past Chairman, Breast Cancer International Research Group (BCIRG)*

Professor Nabholz has recently moved back to Europe from Los Angeles, California, USA where he was Professor of Medicine at the University of California at Los Angeles, and Director of the Cancer Therapy Development Program as well as Director of the Solid Tumor Program at the Jonsson Comprehensive Cancer Center at UCLA. At present, as Director of the Department of Medicine and Director of Clinical Research at Jean Perrin Comprehensive Cancer Centre in Clermont-Ferrand, France, he is focusing on cancer patient care and the development of new biologic therapies in oncology and the integration of global clinical research processes in oncology. He is also the Founder and past chairman of one of the largest global clinical research groups (Breast Cancer International Research Group / BCIRG). As a Breast Cancer medical oncology specialist, his main interests and achievements are related to several topics:



- (i) Chemotherapy, in particular taxanes: Beyond being the leading author of the first registration randomized trial of paclitaxel in advanced breast cancer, he designed the global strategy of development of docetaxel in breast cancer, being chairman of several pivotal registration randomized trials with this agent. He has also developed strategies and participated in the development of Caelyx, third generation taxanes, Epothilone B and Capecitabine.
- (ii) Hormone therapy, particularly in the development of third generation aromatase inhibitors. He is leading author of one of the two registration randomized trials of anastrozole and a member of the ATAC steering committee.
- (iii) New biologic modifiers in breast cancer, leading pivotal phase III trials for Herceptin mainly in adjuvant breast cancer and in the development of new biology-oriented combinations with Herceptin.
- (iv) Development of new translational as well as clinical research processes in oncology with global integration of means for streamlining the clinical development.

He is the author of more than 350 articles and abstracts as well as more than 900 presentations.

DR CHRISTOPHER WILD, PHD

Director, International Agency for Research on Cancer (Lyon, France)

Christopher Paul Wild obtained his PhD in 1984 from the University of Manchester, UK whilst working on the production of monoclonal antibodies to detect low levels of methylated DNA bases. He was awarded a post-doctoral fellowship from the International Agency for Research on Cancer (IARC) to work in Lyon, France and subsequently a UK Royal Society European Exchange Fellowship to spend a year at the Netherlands Cancer Institute in Amsterdam. In 1987 he rejoined IARC as a staff scientist and later became Chief of the Unit of Environmental Carcinogenesis. In 1996 he was appointed to the Chair of Molecular Epidemiology at the University of Leeds, was Head of the Centre for Epidemiology and Biostatistics and became Director of the Leeds Institute of Genetics, Health and Therapeutics in December 2005. He was elected Director of IARC from 1st January 2009. His main research interest is to understand the interplay between environmental and genetic risk factors in the causation of human cancer. He has particularly sought to apply biomarkers in population-based studies to this end.



SPEAKERS:

1. For each speaker, the allocated time to speak is 10 min, followed by a 5 min discussion. All speakers are asked to keep the allocated time.
2. Only computer presentations will be available in the oral sessions. We regret that no slides or overhead projector may be used.
3. Please bring your presentation in English, saved on either CD-R or USB memory device to the PC Center in the conference venues.
4. You will need to submit your presentation at the PC Center and carry out a test and check whether all the slides appear properly.
5. Speakers are requested to present their materials at least one hour prior to their presentation.

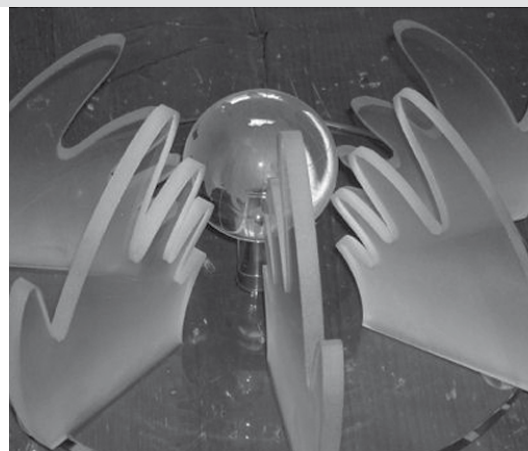
POSTER PRESENTATION:

1. All posters will be on display in the Hibiscus poster area in the Intercontinental Hotel, where the conference will be held. Your poster can remain up from when you arrive on Tuesday until Thursday afternoon when it must be removed.
2. Poster viewing sessions are planned for Tuesday 11 and Wednesday 12 of October 2011 after lunch time, and you should stand by your poster at the designated times.
3. Poster Panels are 90cm wide X 160cm high. Also you should have a 70cm wide X 20cm heading with your presentation title, authors' names and affiliations.
4. All posters remaining on panels after the removal time will be discarded by the secretariat.

ENRICO ANGLÉSIO

There will be again an opportunity for receiving the Fondo Anglesio Moroni foundation will provide an opportunity for a Second Edition of the IACR round of the Enrico Anglesio Prize, which is attributed to a young epidemiologist (under 35 years old) for his/her oral presentation.

The amount (500 euros) is tripled if (and when) the winner publishes his/her work in a peer-reviewed journal with impact factor, within a year.



CANDIDATES:

James Abdulazeez	Cancer incidence in Maiduguri, Nigeria (#12)
Mugi Wahidin	Methods of Population-Based Cancer Registry in Indonesia (#69)
Joo Young Lee	Time trends in the distribution of the histologic types of lung cancer in Korea (#142)

JURY:

Dr Sabine Siesling, The Netherlands(Chair)

Dr Andrea Bordoni, Switzerland

Dr Shyam Manraj, Mauritius

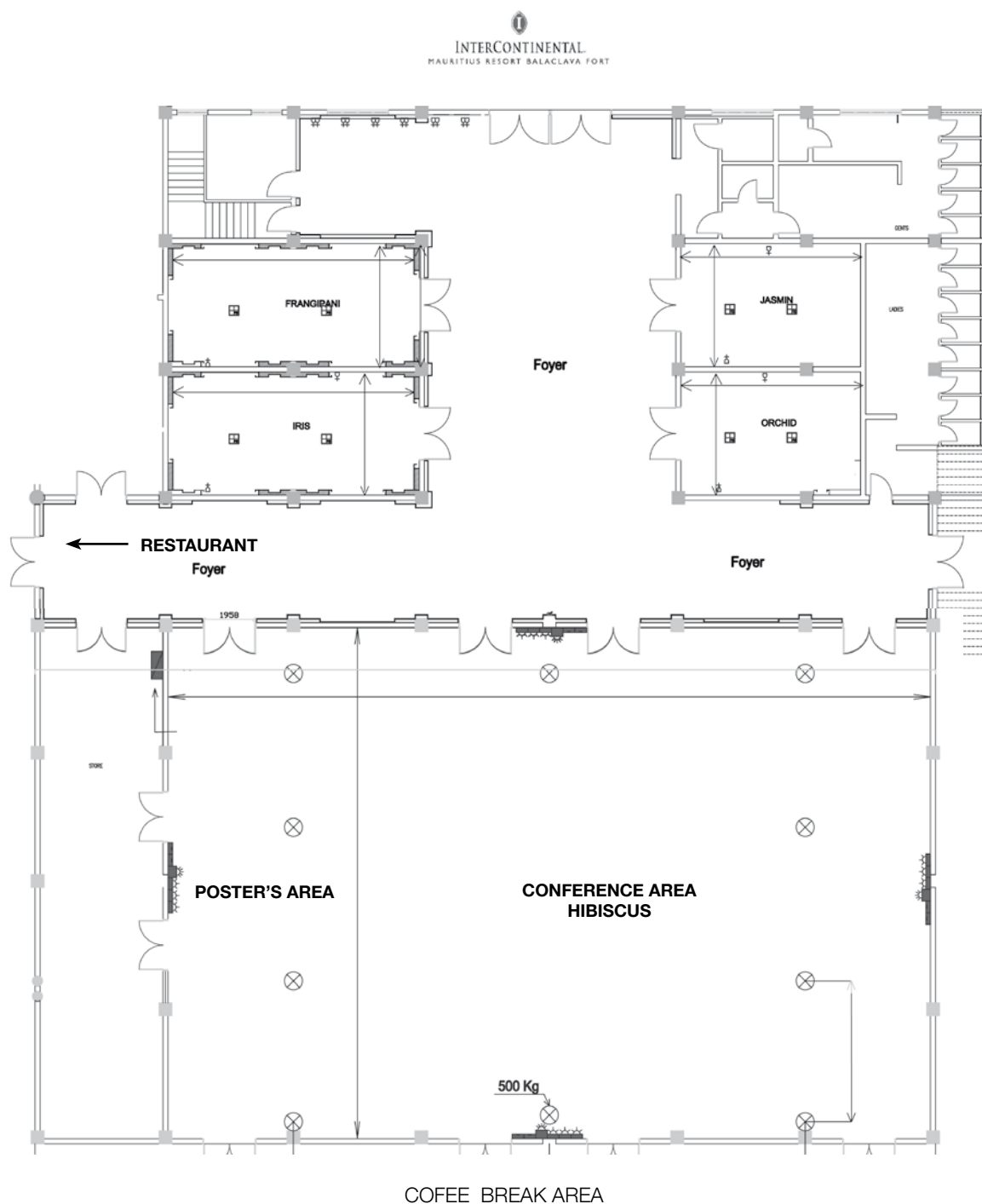
Dr Tomohiro Matsuda, Japan

IACR POSTER AWARD

Evaluation sessions will be taking place at allocated times during the conference. Scientific content as well as communication skills will be judged by the IACR board members. A prize will be given to the authors of the best three posters at the closing ceremony.



■ Floor Layout



WELCOME COCKTAIL

Monday 10 October, 18:00 - 20:00

Venue: Fountain Lawn - Intercontinental Hotel

Fee: included in the registration for participants and their guests

GALA DINNER

Wednesday 12 October, 19:00 - 22:00

Venue: Segala Beach - Intercontinental Hotel

Fee: included in the registration for participants and their guests

EXCURSION ON THE ISLAND

Date: Thursday 13 October - afternoon

Two excursions will be proposed to the participants :

1. *A short tour to the North of the island «Tropical Spices»*
2. *A slightly longer tour to the centre of the island «Colourful South»*

TROPICAL SPICES

The Botanical Gardens in Pamplemousses, created by French naturalist Pierre Poivre in 1767, is well-known for its 500 rare plant species – the giant Victoria Regina water lilies and 80 varieties of palm trees, including the talipot, which flowers once every 60 years before dying. The garden, which houses the “samadhi” (funeral shrine) of the Father of the Nation, Sir Seewoosagur Ramgoolam, has been renamed after him. You then move to the capital, Port-Louis, founded in 1735 by Mahé de Labourdonnais. A photo stop at La Citadelle, old fortress built in 1834, gives a panoramic view of Champ de Mars, second oldest race-course in the world, and the city’s skyline squeezed between the harbour and the mountain range. On the way to Place d’Armes, pass beside famous ones such as Saint Louis Cathedral, the Supreme Court, the Municipal Theatre (1822) and Government House (1735).



Visit Caudan Waterfront, a modern precinct facing the harbour. Its 170 boutiques display beautiful collections of local designers and famous brands. It’s Craft market is an open bazaar, impregnated by exotic scents of spices, souvenirs and basket work... Since 2007, an extension, Dias Pier, named after a famous Portuguese explorer, houses fifty shops, a Resto-café-wine bar and a Sushi-sandwich-wine bar. It is also possible to visit the colourful covered market of Port-Louis with its fascinating cross-section of Mauritian life.

US\$ 22 per person including entrance fees at the Pamplemousses Gardens*

COLOURFUL SOUTH

This excursion is an insight into a different taste of Mauritian scenery. From Curepipe, a road leads gently up around Trou-aux-Cerfs, an extinct volcanic crater full of dense vegetation. From there, enjoy a panoramic view over the island and its mountain ranges.

Proceed then to “Voiliers de l’Océan” to see expert craftsmen working to create models of genuine 18th century sailing vessels. You can choose from the miniature replicas on display for sale and have your purchases neatly packed for your journey home.

The drive South goes to Ganga Talao, the Ganges reincarnate and pilgrimage place for Hindus and through the forest reserve of Plaine-Champagne, with a photo stop at a viewpoint over spectacular Black River Gorges. Further on, amidst Chinese Guava groves and down the fertile valley, a road, lined with plantations of sugar cane, pineapples and other tropical fruits, leads to Rhumerie de Chamarel. The distillery, with its warmth and authenticity, has a guided visit, rum tasting and an exclusive souvenir shop.



Proceed then to the magnificent waterfall and the unique seven-coloured earths of Chamarel. The unusual mounds of undulating land stretching in contrasting rainbow coloured layers of earth are believed to be of volcanic origin.

US\$ 35 per person including entrance fees at La Rhumerie de Chamarel and at the 7 coloured earth*

*Depending on exchange rate.

Mauritius has a tropical climate throughout the year and is always ideal for tourists to visit. However, the best time to visit Mauritius is from the month of July to September. The season of winter starts from July and concludes in September. The winter is the best season to visit Mauritius as the temperature during the day is tolerable. The humidity and the soaring temperature of summer diminish gradually in winter. The tourists are advisable to avoid the summer season which is very hot and humid. The winter is also devoid of rainfall. Christmas season witness a huge rush of tourists to Mauritius because of the festive spirit and the tendency of tourists to splurge.



Mauritius, a sparkling crystal in the turquoise waters of the Indian Ocean, will fascinate you. The contrast of colors, cultures and tastes makes the island so charming that the scene is set for an unforgettable holiday. Here, you have the opportunity to experience unparalleled luxury: a level of refinement that is head and shoulders above that on offer in other tropical holiday destinations. Here, you will discover the true meaning of ‘beauty’ – a realisation that will compel you to return to Mauritius’ shores time and again...

Time: Local time is GMT +4.

Electricity: 230 volts, 50Hz. Square three-pin plugs and round two-pin plugs are commonly used.

Language and culture: English is the official language of Mauritius, but the most widely used is French and the local dialect, Creole. Hindi, Urdu and Chinese are also spoken.

Mauritius enjoys a widely varied culture, due in part to its complex history. First settled by the Dutch, the island was later overtaken by the French, who brought over slaves from Africa, specifically Senegal, Guinea, Mozambique, and Madagascar. Then the British eventually took control, and brought over indentured laborers from India. Later yet, Chinese settlers arrived, primarily Hakka and Cantonese.

Today, the result is a blend of diverse cultures, religions, and languages. The population includes Hindus, Creole, Chinese, Muslims and Europeans. Most are bilingual and easily switch between English and French. Creole is the main language, and there are also few Asian languages. The diversity is also evident in the cuisine, which is a blend of Indian, Creole, Chinese, and European. In fact, a combination is often offered within the same meal.

A somewhat conservative location, it's wise to refrain from nude and topless sunbathing on public beaches. And dress appropriately if you decide to visit any religious places.

Travel Health: No vaccination certificates are required for entry into Mauritius, unless travelling from a country infected by yellow fever or where yellow fever is classified as endemic. It's a good idea to pack shoes that can be worn in the sea to protect against sharp coral, sea urchins and stonefish. Stonefish stings are uncommon but can in some cases be fatal. You should obtain urgent medical attention if stung; many hotels stock anti-venom serum. Visitors should take precautions against mosquito bites, as there have been several cases of the Chikungunya virus, which is spread

by mosquito bites, although this is more common from October to May. Travellers should stick to bottled water. Medical facilities are good and free in public hospitals, but private clinics are expensive and medical insurance is recommended.

Tipping: Tipping in Mauritius is discretionary. However, some extra money paid for services, such as a taxi ride, waiting or cleaning is appreciated. In the hotels travellers can add around 5% of their incidental expenses when paying the bill on departure, if service has been good. Government tax is added to all hotel and restaurant bills and this is included in the basic price. However, all incidental hotel expenses will incur a 12% tax, which is generally included in the price quoted.

Safety Information: A visit to Mauritius is usually trouble free, however petty crime can be a problem and it is not wise to wander alone at night outside the grounds of hotels. Visitors should be aware of pick pocketing in the central market in Port Louis. Care should be taken of bags and valuables when visiting popular tourist areas such as Pereybere, Grand Baie, Flic en Flac and Tamarin. There has been an increase in break-ins in self-catering accommodation and visitors are advised to only rent accommodation from registered proprietors. Cyclone season is from November to May.

Communications: The international access code for Mauritius is +230. The outgoing code is 00 followed by the relevant country code (e.g. 001 for the United States). City/area codes are not required. The whole island is covered by the mobile network; the local mobile phone operators use GSM networks, which are compatible with most international operators. Handsets and SIM cards can be hired at the airport. Internet cafes are widely available.

Duty Free: Travellers to Mauritius over 18 years do not have to pay duty on 200 cigarettes or 50 cigars or 250g tobacco; 1 litre spirits and 2 litres of wine, ale or beer; perfume and eau de toilette for personal use. Prohibited items include sugarcane and fresh fruit from parts of Asia. No dogs or cats from a 62-mile (100km) radius where rabies has occurred in the past 12 months are allowed into the country.



Currency: Currency used is the Mauritian rupee. Mauritian rupees do not circulate outside Mauritius so that you can only change money on the island.

There are 3 banks in the airport just after the baggage hall. Major credit cards such as Visa and Mastercard are accepted in restaurants and hotels and also in some shops and supermarkets.

Shopping: Take a little something back home, be it a diamond necklace or a cashmere pashmina, a rack of spices or a colourful basket. Mauritius has shopping opportunities for all!

Duty & Customs: Duty-free items available in Mauritius now include popular photographic and cinematographic equipment and accessories, watches and clocks, cellular phones and other types of telephony elements, paintings, engravings and antiques, sunglasses and binoculars. Duty isn't applied to leatherwear and jewels, and levies have been reduced on perfumes and cosmetics.

VAT Refunds: Visitors returning home after a trip to Mauritius can claim a VAT refund at the airport by showing receipts and the corresponding purchased goods.

ABSTRACTS

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KN3	PRABHAT JHA	Tobacco deaths (avoidable) and taxes (unavoidable)	28
KN4	JOE HARFORD	Population-based cancer registries: Why bother?	29
KN5	RENGSWAMY SANKARANARAYANAN	Cancer screening in developing countries	30
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KN7	CHRISTOPHER WILD	Liver cancer: global burden, causes and prevention	32

CANCER REGISTRATION IN MAURITIUS

DR SHYAM MANRAJ

National Cancer Registry Co-ordinator (Mauritius)



This presentation is a comprehensive one on the cancer situation in Mauritius. It starts with a brief overview of cancer care facilities available in the Republic of Mauritius as regards manpower and equipment. This will be followed by a history of National Cancer Registry (NCR), present methodology, latest figures and then trends over the past two decades.

The NCR of Mauritius was set up in 1989 and has been operational on a continuous basis since then. Data has been collected from archives of the unique Pathology and Radiotherapy departments, regional hospital records, private medical laboratories and Overseas Treatment Unit.

Latest figures pertaining to the period 2005-2009 are as follows: 2758 cases were registered in males (ASR 95.3), 4094 cases in females (ASR 114.2). Main sites in males were colon-rectum, prostate and lungs whereas in females breast cancer is by far the commonest site (ASR 43.5) followed by uterine cervix (11.9) and colon-rectum (9.2). 96% of cases were microscopically verified.

Cancer mortality statistics from the Civil Status Office for the corresponding period showed 2499 deaths in males and 2416 deaths in females. MI ratio was 0.9 in males and 0.59 in females.

A National Cancer Control Panel (NCCP) Action Plan 2010-2015 has recently been validated and is being implemented. Priority has been given to setting up of systematic Nation-Wide Breast and Cervical Cancer Screening programs. Cancer registration has been scaled up with introduction of death certificate only (DCO) beginning in 2009 and use of new NCR forms and survival studies for certain prevalent sites started in 2010.

Finally, data from the NCR of Mauritius will be compared to that of other small island developing states (SIDS).

INFECTIONS AND CANCER - THE CONTRIBUTION OF AFRICA

ROBERT NEWTON, D. PHIL

Reader in Clinical Epidemiology at the University of York (UK)



Infections are a predominant cause of cancer in Africa, with reported prevalence of many oncogenic viruses (such as papillomaviruses, hepatitis viruses and the Kaposi's sarcoma associated herpes virus) being amongst the highest in the world. Such cancers are at least theoretically preventable by avoidance of infection (via education and behaviour change), by early treatment of infection, or through vaccination. Research in Africa has been central to our understanding of viral oncology, beginning in 1958, when Denis Burkitt described a previously unrecognised tumour affecting children. Although unknown outside parts of Africa at the time, Burkitt's description of the tumour and of its geographical distribution across the continent marked a turning point in the history of cancer research and clinical oncology as it became the first human tumour in which an underlying infectious cause was identified. It was also one of the first cancers to be successfully treated using combinations of drugs, now standard therapy for many tumours. In part, as a result of Burkitt's seminal contribution, we now know that at least 20% of cancers worldwide (two million cases a year – the majority in developing countries) are caused by infections.

TOBACCO DEATHS (AVOIDABLE) AND TAXES (UNAVOIDABLE)

PROF PRABHAT JHA, MD, D. PHIL

Centre for Global Health Research (CGHR), St. Michael's Hospital, University of Toronto, Toronto, M5C 1N8, Canada

Correspondence: Professor Prabhat Jha, CGHR, St. Michael's Hospital, University of Toronto, Toronto M5C 1N8, fax +1 416 864 5256 (phone 6042), jhap@smh.ca



Abstract:

On current consumption patterns, about 450 million adults will be killed by smoking between 2000-2050. At least half will die at ages 30-69 years, losing decades of productive life. Smoking-attributable cancer and total deaths have fallen sharply in high-income countries but will rise globally unless today's smokers, most of whom live in low- and middle-income countries, quit smoking before or during middle age. Tripling taxes on tobacco could rapidly raise cessation rates and deter smoking initiation. Higher taxes, regulations on smoking and information for consumers could avoid at least 115 million smoking deaths in the next few decades.

Key facts:

- Currently, smoking causes about 5-6 million deaths a year, including 31% and 6% of all cancer deaths in middle-aged men and women; the proportions of male cancer and total deaths due to smoking are falling in high-income countries, but rising in low- and middle-income countries.
- Cessation by today's smokers is the only practicable way to avoid a substantial proportion of tobacco deaths worldwide before 2050.
- Cessation before middle age avoids more than 90% of the lung cancer mortality attributable to smoking and markedly reduces the risks of death from other diseases. While cessation has become common in high-income countries, it is still uncommon in most low and middle-income countries.
- Countries such as France, which have aggressively used higher taxes to curb smoking, have reduced consumption much faster than countries that have not.
- In low- and middle-income countries, a 100% higher tobacco price reduces current smoking by about 20-40%, twice the effect seen in high-income countries.
- Health information, counter advertising, restrictions on smoking and cessation therapies also are highly effective at reducing smoking.
- Higher tobacco taxes need not be regressive on the poor in financial terms, and tobacco control is certainly progressive in health gains.
- A 70% higher street price of cigarettes (corresponding to about a 2-3 fold higher tax) would avoid 115 million deaths or about one-quarter of expected tobacco deaths over the next few decades. Of the avoided deaths, about 25 million would be from cancer and 50 million from vascular disease.

POPULATION-BASED CANCER REGISTRIES: WHY BOTHER?

JOE HARFORD, PHD

*Director, Office of International Affairs, National Cancer Institute,
National Institutes of Health, Bethesda, MD, USA*



Population-based cancer registries monitor the frequency of new cancer cases in well-defined populations by collecting information from treatment facilities, pathology laboratories, and death certificates. Data from the local registry can be used to monitor cancer trends over time and to guide planning and evaluation of cancer control interventions. Ideally, these data can assist in setting priorities for allocating scarce health resources and serve as a basis for clinical, epidemiologic, and health services research. The quality of data sources used by cancer registries varies from one venue to another as do the accuracy and completeness of the incidence data the registries generate. The publication Cancer Incidence in Five Continents (Ci5) attempts to compile data from registries judged to be comparable in quality. The lower quantity and quality of cancer registries in certain regions of the world mean that these regions (e.g., Africa) are underrepresented in Ci5. This situation is not improving over time even as the total volume of global incidence data in Ci5 expands. It appears that the value of cancer registries is under-appreciated by policy makers, since there seems to be a general unwillingness to invest in registries despite the fact that starting and maintaining a cancer registry are not overly expensive in the grand scheme of things. This undervaluing of cancer registries exists despite the fact that virtually every publication on the topic of cancer control has trumpeted the benefits of population-based registries. Where have we gone wrong? What can be done to raise the level of appreciation of local incidence data in those who have the responsibility and authority for cancer control efforts. How might available registry data (even if not included in Ci5) be utilized more effectively in cancer control and as a basis for cancer research? Selected examples of the use of registry data will be highlighted.

CANCER SCREENING IN DEVELOPING COUNTRIES

R. SANKARANARAYANAN, MD

Head of the Early Detection & Prevention Section and the Screening Group at the International Agency for Research on Cancer (IARC)



Cancer screening requires infrastructure and human resources, limiting the scope for cancer screening in many developing countries. Most of the existing screening programmes target cervical cancer. Large scale cytology screening is on-going in many Latin American countries and in Thailand in Asia and their impact on disease burden is minimal due to organizational and quality issues; reorganization of programmes is on-going in some countries. There have been considerable research efforts in the last few years to evaluate alternative screening approaches such as HPV testing and visual screening and low-intensity screening such as a single or two lifetime screens and single visit screen and treat approaches in order to further improve introduction and coverage of cervical screening efforts in developing countries. Among these HPV testing seems to be an objective and promising approach, but new developments in test formats may improve access to HPV screening in the long run. Breast and colorectal cancer screening programmes are yet to evolve in developing countries. Oral cancer screening programmes in Cuba and Taiwan are yet to impact disease burden in these countries. The findings from important research studies and on-going programmes will be discussed in detail.

DEVELOPMENT OF CANCER CARE IN COUNTRIES IN TRANSITION : WHAT ARE THE FUNDAMENTAL FACTORS APPLICABLE TO BREAST CANCER?



JEAN-MARC NABHOLTZ

*Chairman, Department of Medicine; Director, Division of Clinical Research
Jean Perrin Comprehensive Cancer Center of Auvergne
Former Director, Cancer Therapy Development Program University of California
at Los Angeles (UCLA), CA, USA
Founder and Past Chairman, Breast Cancer International Research Group (BCIRG)*

Breast cancer is becoming a major burden to countries in transition and recent studies have suggested a better awareness of this disease. Despite the fact that the incidence and epidemiology of breast cancer appear different in countries in transition, the lessons drawn from the experience in developed countries point out the importance of screening programs and improved therapeutic strategies based upon a better understanding of the biology of breast cancer.

The major challenge for developing countries will be the setting up of proper infrastructures to improve the transfer of technology from developed countries to

developing countries and help to set up local models around empowering the local human resources and investing in training and in software structural developments.

This approach would allow the implementation of standardised management strategies globally simpler and cost effective.

Additionally, processes aimed at including clinical and translational research in patient care, although complex, could be considered within such an organised approach, and the success of such organisation depends on the capacity to evaluate the quality of care from screening, through pathology to treatment. Such a collaborative approach with access to screening programs, as well as appropriate treatment management and research programs, are the necessary conditions to have a definitive impact for advances in our crusade against breast cancer.

LIVER CANCER: GLOBAL BURDEN, CAUSES AND PREVENTION

CHRISTOPHER WILD, PHD

Director, International Agency for Research on Cancer (Lyon, France)



Cancer of the liver is the seventh most common cancer worldwide. Around 85% of cases occur in developing countries, with the highest burden in east and southeast Asia and in sub-Saharan Africa. Incidence and mortality are almost equivalent and the poor survival rate translates to liver cancer being the fourth most common cause of cancer death, with an estimate of almost 700,000 deaths in 2008. The majority of liver cancers are hepatocellular carcinomas (HCC) and major risk factors have each been classified by IARC as Group 1 human carcinogens, namely chronic infections with hepatitis B virus (HBV) and hepatitis C virus (HCV), exposure to the dietary contaminants aflatoxins, and excess alcohol consumption. Exposure to a combination of chronic HBV infection and aflatoxins results in a more than multiplicative increase in HCC risk. In terms of prevention much could be achieved if current knowledge were to be implemented. An effective vaccine is available against HBV and long-term studies in China and The Gambia are underway to formally assess the impact on HCC incidence. Avoidance of contaminated needles would further help by reducing HCV-associated liver cancers. Intervention strategies to reduce aflatoxin exposure have been explored, including simple post-harvest interventions. Most recently work has begun on the treatment of chronically HBV-infected individuals using antiretroviral drugs. HCC thus represents a paradigm whereby initial descriptive epidemiology ultimately contributed to identification of risk factors and development of strategies for cancer prevention.

Supported by the NIEHS, USA: Grant no. ES06052.

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NATIONAL CANCER ACTION PLAN 2011-2015 IN MAURITIUS : FIRST YEAR IMPLEMENTATION.

A. MOHITH

Mauritius, an island state of 1.2 million inhabitants of predominantly Asian ethnicity different from mainland Africa, has a characteristic pattern of cancer distribution and trends. While Kaposi's sarcoma is unknown, breast cancer accounts for 38% of female cancers and the incidence rate has doubled over 15 years. Cervical cancer has fallen by 15% over eight years while liver cancer accounts for <2% of cancers. Overall cancer incidence rate has increased by 40% over 15 years.

Mauritius Cancer Registry has been collecting data since 1989: its last report was instrumental to the conception of the country's first National Cancer Control Programme (NCCP) adapted to the prevailing cancer situation and forecast.

The Plan sets out with goals to:

- 1) *Strengthen the primary prevention programme,*
- 2) *Promote population-based cancer screening programmes and early detection strategies,*
- 3) *Effective cancer diagnosis and treatment,*
- 4) *Set up patient-centred palliative care services,*
- 5) *Enhance delivery of cancer care through better planning,*
- 6) *Improve cancer control through research and surveillance.*

This presentation will detail the process of prioritising cancer activities and cancer control strategies, and highlight the role of Mauritius Cancer Registry in developing an evidence-based NCCP for a small nation in transition with a free public health care.

CHARACTERISTICS AND SURVIVAL OF HPV-RELATED TUMOURS IN THE BASQUE COUNTRY (SPAIN)

M.I. IZARZUGAZA, R. MARTÍNEZ, N. LARRAÑAGA, M.C. TOBALINA, V. DE CASTRO BASQUE COUNTRY CANCER REGISTRY, DPT.SANIDAD Y CONSUMO. VITORIA-GASTEIZ, SPAIN

Background

Human Papillomavirus (HPV) infection is one of the most common sexually transmitted infections. Certain types of the HPV were identified as a necessary cause for cervical cancer and this discovery led to advances in the prevention of the disease. In the Basque Country (BC) a vaccination program has been set up in the year 2007. To know the incidence and survival and trends of HPV-related tumours in BC is the main objective.

Methods

Cases included are all cancers diagnosed from 1986 to 2007 in the BC in the vulva, vagina, cervix, penis and scrotum skin with epithelial morphology. %Microscopic Verification and %DCO are used as quality indicators. Incidence rates adjusted to the WP were calculated; the Estève method for Relative Survival and Joinpoint regression model for trends, by site were used.

Results

Total number of cases was 2797:19.4% vulva, 3.7% vagina, 65.0% cervix, 11.4% penis, 0.4% scrotum skin. %DCO was 1.6% and 95.7% MV. Incidence rates/100,000 were 6.8 in women and 0.9 in men. Relative Survival for all sites was 72.2% for men and 62.7% for women.

Conclusion

These results are base-line indicators of HPV-related tumours in the BC before the vaccination program was implemented.

PREVENTION OF GENITAL CANCERS IN SOUTH AFRICA: A CASE OF CERVICAL CANCER

DANUTA KIELKOWSKI

National Cancer Registry South Africa, Johannesburg, South Africa

Background

South Africa is a developing country with a dual economy. In the last decade, cervical screening was made available free of charge to women 30 years of age and over in the public health care system.

Methods

Using various data sources, this study explores the cervical screening programme and the morbidity and mortality of genital cancers among South Africans.

Results

Cervical and breast cancers are the top two cancers among women in South Africa, and uterine and ovarian cancers are less common. The mortality rates for these cancers differ by year. Trends over time show that both breast and cervical cancers are rapidly increasing. The cervical cancer mortality rate increased from 14 in 1995 to 18 per 100, 000 in 2003; a decline was observed in 2008. Breast cancer mortality was 12.5 in 1995 and increased to 18 per 100, 000 in 2008. Both ovarian and uterine cancer mortality rates were stable over time.

Conclusion

An increase in incidence and mortality of breast and cervical cancers could be due to greater awareness of women and health providers. However, the increase in deaths due to cervical cancer indicates limitations of the current screening system.

IDENTIFICATION AND TREATMENT OF CERVIX PRECANCEROUS STATE

CHARLES GOMBÉ MBALAWA, J. NSONDÉ MALANDA, G. IBARA, J.B. NKOUA MBON

Registre des Cancers de Brazzaville, Service de Carcinologie et Radiothérapie, Brazzaville, Congo

Background

In Africa, cervical cancers are often in first place among female cancers. This cancer is characterized by a morbid precancerous state which is well known, so organization of a fight is easy.

Methods

In our area where there are not enough pathologists, instead of cervical screening by cytology, we had proposed a campaign against cervical cancer through visual inspection with acetic (VIA) and lugol (VIL) solution and the treatment of pathologic states seen. During visual inspection we noted the duration of aceto-white area, the vascular modifications, iodo-negative and exophytic area. These campaigns, which had different funding procedures, were done during three periods (2000-2004; 2005-2007; 2008-2009). During the third period, we used electrocoagulation instead of cryotherapy and loop (loop electrosurgical excision procedure).

Results

We examined, during all the three periods of study, 10185 women; 1155 biopsies were made and 584 cervical intraepithelial neoplasia (CIN) were found. These lesions were treated by destructive and ablative methods with good results, controlled after one year by videocolposcopy.

Conclusion

The fight against cervical cancer can be done by VIA and VIL in countries where there are not enough pathologists. If the members of the health team learn these procedures correctly, the project can be done successfully.

MULTIDISCIPLINARY GROUP TO IMPROVE CANCER INFORMATION QUALITY: A MULTI-INSTITUTIONAL INITIATIVE IN BAHIA BLANCA, ARGENTINA (PRELIMINARY REPORT)

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Background

The quality of cancer data depends on multiple factors including the accessibility to the data and the laws regarding confidentiality. Our data was included in CIV, 8th and 9th Ed, nevertheless it still needs to be improved. The main obstacles found are: insufficient economic resources, lack of systematization concerning the way data is kept by the sources, lack of information in some of the hospitals and difficulties to get information from death certificates.

Methods

Strong advocacy has been made by our Association (the NGO affording the CR) regarding the necessity to improve Cancer Information in order to achieve the inclusion of this subject in the political agenda.

Results

The complaints and mobilization of two Bahía Blanca neighborhoods, claiming that their cancer rates had risen, drove the local government representatives to promote an agreement between the Municipality, our Association and the National University for the South. Such agreement has been recently approved and, therefore, activities started one week ago.

Conclusion

Researchers from the informatics area, statisticians, geography and also a family physician were invited and selected to form our new organization. The main Multidisciplinary Group (MG) objectives are to create a software program in order to unify the data storage in the different sources, promote its use in all hospitals, clinics and laboratories, and advocate for new legislation regarding the access to cancer data and death certificates. The MG will also offer scholarships for advanced Health Sciences students in order to introduce them to cancer epidemiology.

THE EAST AFRICAN REGISTRY NETWORK PROJECT

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The International Network for Cancer Treatment and Research (INCTR) has sponsored the development of an East African Registry Network (EARN). The founding members were the registries of Nairobi (Kenya), Blantyre (Malawi), Kigali (Rwanda), Kampala (Uganda) and Harare (Zimbabwe), with newly established registries in Addis Ababa (Ethiopia) and Dar es Salaam (Tanzania) joining as associates. The basis objective is to provide staff training and technical support for data collection, handling, and analysis, allowing preparation of comparative studies of incidence and time trends. In 2010 the four longer-established members expanded their activities to include recording of stage at diagnosis (for breast and cervix cancer), and survival for these two cancers plus cancers of the oesophagus and prostate (the most common cancers of men in the region). Preliminary results will be presented.

CANCER INCIDENCE IN MALAWI: TIME TRENDS IN BLANTYRE 1996-2005 AND PREDICTIONS UP TO 2015

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Background

Cancer is a major problem in Blantyre, Malawi which is also often overlooked and masked by the heavy burden of infectious diseases. This paper highlights the burden of the disease and the impact it has had in Blantyre, Malawi over the ten-year period of 1996 to 2005. An attempt has also been made to predict the incidence and total burden of cancer for 2015.

Methods

Data from the Malawi National Cancer Registry for the period from 1996 to 2005 were analyzed to yield age-standardized incidence rates for the most common cancers in Malawi. Linear trend models were used to predict incidence rates and the burden of cancer for Blantyre for 2015.

Results

The most common cancers, in terms of age-standardized incidence rates, were Kaposi sarcoma (50.6 per 100,000 for males, 26.4 for females), cervical cancer (49.4 per 100,000), oesophageal cancer (22.3 for males, 12.2 for females), non-Hodgkin lymphoma (6.6 for males, 5.3 for females), eye cancer (4.4 for males, 10.4 for females), and breast cancer (5.1). The projected total number of cases of cancer in 2015 was 2,327 compared with an average of 791 in 1996-2005. The estimated percentage increase in the mean annual number of cases in Blantyre, Malawi between 1996-2005 and 2015 was 193% among males and 243% among females.

Conclusion

Incidence rates of cancer in Blantyre have been increasing between 1996 and 2005 and two thirds of the projected increase in cancer burden is due to the assumption that such changes will continue for the next 10 years. Population growth and aging will also contribute to the projected threefold increase in the number of cancer cases. There is need to sensitize key stakeholders such as the Ministry of Health to include in the strategic planning measures that address this growing cancer burden.

THE NATIONAL CANCER REGISTRY IN SOUTH AFRICA – FROM PATHOLOGY TO POPULATION-BASED REGISTRATION

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Background

The National Cancer Registry in South Africa (NCR) was set up in 1986 with a core staff of 8 persons. It remained a passive pathology-based registry until the regulations relating to cancer registration were promulgated in April 2011 under the National Health Act of 2003.

Method

A review will be presented on the activities of the NCR, the outputs of the registry and its links to planning for cancer prevention and control.

Results

The setting up of the active population-based registry through cancer reporting from all clinical and laboratory-based sites covering the public and private health sectors is an important step forward in the enhanced surveillance system for cancers in South Africa. Sentinel sites using academic oncology units within the major public sector tertiary hospitals will provide data for risk factor analysis, assessment of missed opportunities in cancer prevention and evaluation of treatment outcomes in cancer survivors.

Conclusion

The three databases will assist in developing a comprehensive system for reporting on cancers in South Africa and provide information for cancer prevention programmes as well as treatment outcomes.

COMMON CANCERS AMONG WOMEN IN THE RURAL POPULATION OF SOUTH AFRICA

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Background

A population-based cancer registry monitors the incidence of cancer among a rural population living in the Eastern Cape Province. Results for the period 2003-2007 are reported with specific reference to cancers observed in women in 8 magisterial areas.

Method

Both active and passive methods were used in case finding. After manual coding, data were entered into a computerized database using CanReg, a software program designed by the International Agency for Research on Cancer. 2001 Population Census was used as a base for the population estimates to calculate the rates. 2001 Census was projected forward to mid-year of the study period (2005) using the annual growth rate for the Eastern Cape Province published by Statistics of South Africa. Age-standardized rates were calculated for each magisterial area using the World Standard Population.

Results

The most common cancers among women reported during the period 2003-2007, were cervix (ASR 19.1 per 100 000), oesophagus (16.2 per 100 000), breast (5.8 per 100 000), Kaposi sarcoma (1.1 per 100 000) and liver (0.9 per 100 000). Cervix cancer accounted for 33.9% of all cancers reported in this area whereas oesophagus was 31.9%, breast 10.3%, Kaposi sarcoma 1.8% and liver 1.7%. Cervical cancer rates are quite high in this area with ASRs ranging between 16.8 per 100 000 and 34.2 per 100 000. The increasing rate of this cancer across the cancer registration area is an indication of the limited free screening program. Oesophagus cancer is also very high with constant hot spots in this area and ASRs ranging between 12.7 per 100 000 and 38.7 per 100 000. Breast, liver and Kaposi sarcoma cancers rates are lower compared to the rest of the country.

Conclusion

There is an urgent need either to strengthen the current cervix cancer screening programme or provide other alternate measures to reduce the burden and save women's lives in this area. The cancer register provides an opportunity to investigate the situation as well as a support to cancer control programs.

CANCER INCIDENCE IN MAIDUGURI, NIGERIA

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Maiduguri Cancer Registry, Borno State, Nigeria

Background

The Maiduguri Cancer Registry covers the populace of Maiduguri, which is the capital of Borno State with a population of approximately 521,492. The Maiduguri Cancer Registry identifies and abstracts cancer cases from various health facilities for purposes of determining incidence, prevalence from cancer in the Maiduguri metropolis of the Northeastern region of Nigeria.

Methods

We extracted data on 2753 persons diagnosed with cancer from the MCR database between the period 2000 and 2009. Coding was done using the International Classification of Diseases for Oncology (ICDO) and the data abstracted were analyzed using the CanReg4 computer software program designed by International Agency for Research on Cancer and the statistical package for social sciences.

Results

A total of 2753 malignant tumours were recorded between the year 2000 and 2009 comprised of 1163 (42.2%) males and 1590 (57.8%) females. In Borno State a total of 2075 cancer cases were recorded, 865 (42.7%) were males and 1210 (57.3%) females. The most common cancer affecting the male categories in Borno State include prostate cancer 220 (10.6%) and gastrointestinal tract cancers 136 (6.55%) while in the female categories, the most common cancers are cervix 354 (17.06%) and breast 286 (13.78%).

Conclusion

The data so far received and analyzed has shown an increasing trend in the incidence of cancer in the region most especially in the major cancer cases affecting both sexes. Much of the improvement experienced in the registry is due to the grant received by the registry from the International Agency of Research on Cancer.

BUILDING A CANCER REGISTRY IN DAR ES SALAAM: A PILOT PROJECT TO EVALUATE COMPLETENESS AND VALIDITY OF PATHOLOGIC DATA

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Background

This pilot study forms part of a broader initiative to build a population-based cancer registry in Dar es Salaam, Tanzania. New registries face challenges in achieving completeness and validity of data. Use of new technology to facilitate remote data entry may aid in implementation of cancer registries and help to address concerns about completeness and validity.

Methods

All major pathology departments as well as relevant health department and academic leaders in Dar es Salaam have agreed to collaborate in the establishment of a population-based Tanzanian Cancer Registry. This pilot project focuses on pathologically confirmed malignancies in Dar es Salaam as a proof of principle for the larger project. The aims of the study are to ascertain the completeness of reporting of cancer diagnoses to a central office and to assess the validity of routine pathologic diagnoses of HIV-associated malignancies, by providing a comparison to expert review. During the planning phase of the study, we will provide training to the pathology departments reviewing cancer specimens throughout Dar es Salaam. This training will include utilization of novel remote data entry technology using netbooks to input new pathologic diagnoses of malignancy to a central CanReg5[®] registry database. During a prospective three-month data collection phase, pathology departments will input data regarding all new cases of malignancy into the central database. At the conclusion of the three-month period we will measure completeness of the submitted data by conducting audits of pathology records at the contributing sites. To measure validity, pathologic specimens from all diagnosed HIV-associated malignancies will be de-identified and reviewed by Dr. Ann Nelson, an international expert in AIDS pathology. It is our aim to demonstrate 90 percent completeness and 80 percent concordance with expert review.

Results

We aim to measure two principles which have previously been established as essential to the quality of cancer registry data: (1) completeness of reporting to the cancer registry; and (2) validity of pathologic interpretations of HIV-associated malignancies. This research is currently in progress, and results are forthcoming.

TIME TRENDS IN THE DISTRIBUTION OF THE HISTOLOGIC TYPES OF LUNG CANCER IN KOREA

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Background

Lung cancer is one of the most common cancers in Korea. This study was conducted to study the time trends in the distribution of the four major histologic types of lung cancer in Korea.

Methods

The lung cancer incidence data during 1999-2008 were obtained from The Korea Central Cancer Registry. The proportions of histological types were calculated among all lung cancer incidence cases, separately by sex and calendar year, and were examined for the time trend over the years in 1999-2008.

Results

The proportion of squamous cell carcinoma decreased from 34.9% to 30.4% in men from 1999 to 2008, whereas that of adenocarcinoma abruptly increased from 17.8% to 27.9% in men during the same period. The proportion of small cell carcinoma didn't show much difference over time (from 13.0% to 12.9%) and the large cell carcinoma decreased from 5.0% to 2.1% in men between 1999 and 2008. In females, similar decreasing trend in squamous cell carcinoma (from 10.5% to 7.9%) and increasing trend in adenocarcinoma (from 34.6% to 52.2%) as in males. The proportion of small cell carcinoma just slightly changed from 7.7% to 6.7% and the proportion of large cell carcinoma decreased from 3.8% to 1.4% among women during 1999-2008.

Conclusion

The present study showed that the proportion of lung cancer adenocarcinoma increased over the past 10 years in Korea, while squamous cell carcinoma decreased. The observed time trend might have been influenced by improved classification of histological types of lung cancer over the period. Understanding this time trend would suggest important changes in the selection of targeted therapy and patient management.

CANCER MORTALITY IN INDIA: AN ESTIMATE FROM NATIONALLY REPRESENTATIVE SURVEY OF 1.1 MILLION DEATHS

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Background

Data on cancer incidence and mortality are available from 20 functional population-based cancer registries in India. These registries are not representative of the cancer scenario in India as they are not randomly selected. Therefore data from a nationally representative survey on 1.1 million deaths were utilized to estimate cancer mortality in rural and urban India.

Methods

In a nationally representative sample of 1.1 million homes, we determined causes of death using an advanced form of Verbal Autopsy called Representative, Re-sampled, routine household interviews of Mortality with Medical Evaluation method.

Results

We observed 6.7% of male and 7.6% of female cancer deaths out of total 54126 and 41209 deaths observed for males and females respectively in the Million Death Study for the age group 15 years and above. We estimated a crude mortality rate of 63.7 for urban males and females while that for rural male and females were estimated to be 64.2 and 67.3 per 100,000.

Conclusion

The mortality because of cancer in India might be higher than that observed by Indian registries. The study suggests that the burden of cancer deaths is similar in rural and urban India.

TREND ANALYSIS OF CANCER INCIDENCE IN JAPAN USING DATA FROM SELECTED POPULATION-BASED CANCER REGISTRIES

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Background

Population-based cancer registries are run by over 80% of prefectures in Japan, only a part of which can provide long-term incidence data. We aimed to propose a method for monitoring cancer incidence trends in Japan using data from selected prefectures.

Methods

We collected from five cancer registries (Miyagi, Yamagata, Fukui, Osaka, and Nagasaki prefectures) 54539 primary cancer cases diagnosed in 1985-2004. Cancer mortality data in 1995-2004 were collected from the vital statistics. Representativeness of the data was examined by a funnel plot of log-linear regression coefficients calculated for the 10 years (1995-2004) of age-standardized rates (ASR).

Results

The ASR of all-cancer incidence in Osaka exhibited a decreasing trend significantly away from an increasing trend of the other four prefectures in total. The ASR of mortality exhibited a decreasing trend in all five prefectures; the slope for four-prefecture total (i.e. excluding Osaka) was more representative of Japan than the slope for five-prefecture total.

Conclusion

We conclude that using data from Miyagi, Yamagata, Fukui, and Nagasaki prefectures, with continuous monitoring of the representativeness of the data, is a provisionally relevant way to evaluate cancer incidence trends in Japan.

ESTIMATES OF GLOBAL CANCER PREVALENCE IN 2008 FOR 25 SITES IN THE ADULT POPULATION

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Background

Unlike the key indicators of cancer burden, incidence, mortality and survival, an appropriate definition of prevalence is not universally accepted. Prevalence is a rather complex measure of cancer incidence, fatality, and other influences operating in affected individuals prior to death or “cure.” Total (or complete) prevalence is the number of persons in a defined population alive at a given time who have had cancer diagnosed at some time in the past. However, the resource requirements for treating newly diagnosed patients are very different from those for supporting long-term survivors. Further, with an increasing proportion of patients considered clinically cured, point prevalence, which limits the number of patients to those diagnosed during a fixed time in the past, is commonly a more useful measure. Cancer-specific prevalence based on cases diagnosed within a certain number of years are likely to be of relevance to demands for services according to different phases of cancer care, for example, initial treatment (within one year), clinical follow-up (two to three years) and cure (four to five years).

Methods

The computational procedures are those described previously by Pisani *et al* (Int J Cancer 2002;97(1):72-81), with new sources of global incidence and mortality (from GLOBOCAN) and survival (from EURO CARE, SURVCAN etc.) utilised to update the previous figures for 1990 to 2008. A validation exercise comparing observed prevalence in the Nordic countries (from NORDCAN) will be briefly presented.

Results

The presentation will report new estimates by levels of human development, world region and country of 1-, 2–3- and 4–5-year point prevalence for 2008 in the global population aged 15 years or over, thus describing the number of cancer patients diagnosed between 2004 and 2008 who were still alive at the end of 2008. The 5-year global cancer prevalence is estimated to be almost 29 million in 2008, with prevalent cancers of the prostate and breast dominating in men and women respectively.

Conclusion

The methods used to estimate point prevalence appears to give reasonable results at the global level. It is important to assess the major drivers of the observed geographical variations in cancer prevalence worldwide and their relation with incidence, mortality and survival. The estimation of other time-based measures of global prevalence may be warranted.

METHODS OF POPULATION-BASED CANCER REGISTRY IN INDONESIA

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Background

One public health problem in Indonesia is cancer. Based on a national survey in 2007, it became the 7th largest cause of death in Indonesia, with a percentage of 5.7 among all causes of death. Unfortunately, there is no national population cancer registry for incidence and mortality data. A cancer registry has been developed since 1970, but it was partial and was stopped because of reasons such as not having a government body which is responsible for such a registry.

Realizing the above situation, the Indonesian government established the Sub Directorate of Cancer Control within the Ministry of Health. It has responsibility for developing a national cancer control program, including cancer registry.

Sustainable population-based cancer registry was started in 2007 with a model in Jakarta Province. This cancer registry was hospital-based at the beginning, and then expanded to be population-based. The Sub Directorate of Cancer Control, including me as one of the staff members, developed the registry in collaboration with other parties. The model in Jakarta will be a reference on developing population-based cancer registries in other areas in Indonesia. Now, we are planning to develop in four other areas.

Methods

Steps of cancer registry in Jakarta are data collection, data verification, data validation, data management and analysis, and data publication. Data collection is conducted by health facilities (hospitals, laboratories, primary health centers), then collected at the district/municipal level, and reported to the provincial level. The data is collected passively by holding meetings every three months in the district/municipality.

Verification of data is the responsibility of the medical doctor or pathologist in each data source. Data validation is conducted by a team of cancer registrars in the district/municipality and province, and consists of district/municipal/province health officers, pathologists, and registrars. We combine data from primary health centers, laboratories, and hospitals at the municipal and provincial levels. Data management and analyses are conducted by a cancer registry team at the provincial level, assisted by the national team.

We use software named Indonesian Cancer Registry System (SRIKANDI) which is adopted from CanReg4 IACR, but it's more complete. Compared with CanReg5, SRIKANDI software is similar, but with several differences. SRIKANDI software consists of three main parts: social information, tumour information, and follow-up. It contains a total of 32 variables for hospitals and 18 variables for primary health centers and laboratories. The software now uses Microsoft Access application and works independently in each data source. In 2012 we will develop online SRIKANDI.

Results

Data resulting from the population-based cancer registry in Jakarta Province shows that the top five cancers among females in 2005-2007 were breast cancer (incidence 31.2 per 100,000), cervical cancer (incidence 17.6 per 100,000), colorectal cancer (11.7 per 100,000), bronchus and lung cancer (7.7 per 100,000), and ovarium cancer (incidence 7.6 per 100,000). The top five cancers among males are bronchus and lung cancer (incidence 19.6 per 100,000), prostate cancer (13.5 per 100,000), colorectal cancer (12.5 per 100,000), pharyngeal cancer (7.9 per 100,000), and renal-pelvis-bladder cancer (5.1 per 100,000).

CHALLENGES OF CANCER CONTROL IN EGYPT DURING DEMOGRAPHIC AND DEMOCRATIC TRANSITION BASED UPON NATIONAL REGISTRY RESULTS

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Background

Demographic transition, population growth and other factors led to an increase in the number of cancer patients, creating a public demand for care that cannot be neglected during the current democratic transition. The paper quantifies the situation with solutions for the challenge in view of current constraints highlighted here.

Methods

The National Population-based Cancer Registry (NPCR) Program results filled a knowledge gap and were critically analyzed and assigned to populations of years 2020 and 2050 to predict cancer load. NPCR results indicate a yearly incidence of 1000 cases per million with prevalence of 16,000 to 24,000/year.

Results

Numbers will increase 133% in 2020 and 177% by 2030, higher than the effect of population growth. Egypt faced this challenge by increasing the number of cancer centers under constraints of manpower and cost that stress the need for health reform. Breast cancer is discussed as an example of demographic effect.

Conclusion

The solution is increased awareness and early detection with their pros and cons. NPCR results also show that bladder and liver cancer are the most frequent cancers and deserve attention through smoking and HCV control.

EVOLUTION OF PBCRS-A NECESSITY ACTIVITY TO IMPLEMENT CANCER INFORMATION: A BRAZILIAN EXAMPLE

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Background

There is a need to evaluate and better understand the role of PBCRs. Systematic evaluation of the registries is necessary.

Methods

The MOH of Brazil developed a matrix of External Evaluation Method of PBCRs; this matrix combines quantitative and qualitative attributes: simplicity, stability, acceptability, opportunity, representativeness, completeness and utility. Two PBCRs were evaluated: Goiania and Porto Alegre.

Results

Both registries were similar in simplicity and stability. The absence of variable “date of notification” compromised evaluation of opportunity. Acceptability (collaborate from data sources) was 92% (26 of 28) in Goiania while in Porto Alegre was 73% (22 of 30). Representativeness was similar for liver, esophageal and pancreatic cancer in both PBCRs. However, for lung cancer the mortality incidence ratio was 0.5 in Porto Alegre and 1.02 in Goiania. Completeness of the Goiania data was 68% in relation to APAC to all cancers combined. Porto Alegre was 50% using leukemia as a reference.

Conclusion

The matrix indicators were suitable to evaluate the PBCRs. Systematic evaluations of PBCRs are necessary to improve the role of PBCR in cancer control policies.

FUTURE CANCER BURDEN IN SONGKHLA, THAILAND: PROJECTION TO THE YEAR 2022

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Background

Due to the change in lifestyle of people in Songkhla, we project the cancer incidence rates to estimate the future burden of cancer in the area.

Methods

Cancer cases from 1989 to 2007 were retrieved from Songkhla Cancer Registry database. Nordpred package (Kreftregisteret) and R software were used to predict cancer incidence beyond 2007. Recent trend projection was only used for cervical cancer due to the effect of extensive screening program.

Results

Female breast cancer incidence rates are increasing and expected to reach a peak of 27.1 per 100,000 population in 2017. Lung cancer incidence rates continue to increase and in 2022 ASR would be 28.9 and 8.4 in males and females respectively. ASR of colorectal cancer would reach 18.7 and 11.5 and that of liver cancer would reach 24.1 and 6.1 in males and females respectively. In contrast, ASR of cervical cancer would drop to 8.1 by 2022.

Conclusion

Cancers of breast, lung and colon-rectum are expected to continue increasing. The decreasing incidence of cervical cancer suggests the success of screening program. The change in diagnostic criteria in liver cancer causes problems to the projection of the future incidence.

EXPERIENCE OF COMMENCING THE PROCESS OF ESTABLISHING THE FIRST POPULATION-BASED CANCER REGISTRY IN SRI LANKA

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Background

Cancer registry data has been published since 1985, based on cancer incidence data collected from all government cancer treatment centres. Seven editions of cancer registry data have been published, covering years 1985, 1986, 1987, 1990, 1995, 2000 and 2001-2005. Currently there is no Population-Based Cancer Registry (PBCR) in any geographic area in Sri Lanka.

Methods

Strategies for initiating a population-based cancer registry were developed from 2004 onwards with the guidance from the International Agency for Research on Cancer. In 2010 the National Cancer Control Programme established a working group on cancer surveillance comprised of experts from cancer treatment centres, professional colleges and universities.

Results

A project proposal on a population-based cancer registry was developed and ethical and administrative clearance was obtained from relevant authorities. The importance of and plan of actions for establishing a PBCR are being presented to the administrators, clinicians, laboratory staff and medical records staff. Field visits are being conducted to all data generating centres situated in the district and adjacent areas. Relevant data collecting instruments are being modified with the participation of relevant stakeholders.

Conclusion

Guidelines on cancer surveillance and booklet on PBCR will be developed to disseminate among the health care staff in both the public and private sectors. The process of information pathway will be activated and reviewed regularly within this year to identify limitations and relevant modifications will be introduced. Experience will be shared with both local and international experts.

THE NATIONAL CANCER REGISTRY OF URUGUAY: A MODEL FOR SUSTAINABLE CANCER REGISTRATION IN LOW AND MIDDLE INCOME COUNTRIES?

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Background

The National Cancer Registry of Uruguay (NCRU) was created in 1984. In 2002 our government decided to attach it to the Honorary Committee for the Fight Against Cancer (HCFAC), an organization ruled by public law, supported by government funds but operationally independent from the State.

Methods

NCRU started recording cancer incidence in the capital city Montevideo (MVD) and cancer mortality in the whole country in 1987. Since being included in the (HCFAC) in 2002, it extended systematic cancer registration to the whole country, providing essential data for the National Cancer Control Program (2005). Further, NCRU is linked with the national cervical and breast cancer prevention programs. NCRU employs seven staff in its central unit and actively collects data throughout the country through 30 registrars. An external evaluation by REDEPICAN (Iberic-Latin American Network of Cancer Information) was performed in June 2011.

Results

In its 20 years, the NCRU made two publications concerning MVD's cancer incidence and Uruguay's cancer mortality, has published three incidence atlases and three mortality atlases. The NCRU is now working on the 4th National Mortality Atlas that shall be published by the end of 2011. Despite limited financial resources, NCRU has always tried to improve data quality in order to meet International Standards. Our data were published in Cancer Incidence in Five Continents (CIFIC) 7th and 8th Editions (1997 and 2002), and our aim is to be included in the next CIFIC issue. NCRU has actively cooperated in many national research projects, and provides advice on epidemiological surveillance issues to the government when needed. Since the National Cancer Control Program was created in 2005, NCRU has contributed to develop prevention programs and to evaluate early detection and screening programs. According to the external evaluation performed by REDEPICAN, NCRU meets excellence criteria.

DOWNSTAGING IN BREAST, CERVIX AND COLORECTAL CANCERS IN IZMIR, TURKEY

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Methods

We examined the staging of certain cancer sites over time to see if there was a trend towards earlier diagnosis. We identified SEER Summary Stages of cases at diagnosis for breast, cervix, colorectal; and for control purposes, lung cancer, for both sexes in 2003-2008 in Izmir. The stages of tumors have been categorized into three groups: 1. Localized 2. Regional extension 3. Distant extension.

Results

The percentages of localized cancers are 41.8% in 2003 and 48.0% in 2008 for breast, 59.1%, 66.2% for cervix, 16.9%, 24.5% for colorectal, 10.3%, 9.9% for lung; the percentages of distant extension are 7.1%, 5.0% for breast; 13.6%, 3.8% for cervix; 25.9%, 22.0% for colorectal; 45.7%, 59.4% for lung in the same years respectively. There is evidence of downstaging in diagnosis for breast, cervix and colorectal cancers, but not for lung cancer where the vast majority of cases are diagnosed at a distant stage for all time periods.

Conclusion

Although there are no mass screening programs in Izmir, increasing awareness and opportunistic screenings might play the leading role in this pattern of staging.

SURVIVAL OF CHILDHOOD HEMATOLOGICAL MALIGNANCIES IN MOSCOW REGION, 2000-2005

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Background

The aim of the study was to estimate the observed survival of children diagnosed with hematological malignancies and residing in Moscow Region (MR), Russian Federation.

Methods

The data on patients were retrieved from the database of Childhood Population-based Cancer Registry of MR. Morphological diagnoses were stratified according to ICD-O-3 and ICC-3. Patients with hematological malignancies diagnosed during the period 2000-2005 were included and followed up until December 31, 2010. Survival analyses were carried out using the Kaplan-Meier method.

Results

295 cases were registered, 290 were analyzed. The 5-year observed survival (OS) for the whole group was 73±2.5%. The 5-year OS for leukemias was 67±3%, for acute lymphoblastic leukemia - 73±4%, for acute myeloid leukemia - 41±9%. The 5-year OS for the whole group of lymphomas was 88±3%, for Hodgkin's disease - 89±4%, for Non-Hodgkin's lymphomas (2b, 2c, 2d, 2e subgroups) - 85±6%.

Conclusion

The present results are comparable to survival data from East European countries. Introduction of protocol-based therapy for children with cancer in 2000 has resulted in significant improvement in survival.

INCIDENCE OF CHILDHOOD CANCERS IN SOUTH AFRICA 1987-2007: CHANGES OVER TIME AND CORRELATIONS WITH CHILDREN'S AGE

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Background

Studies of the incidence of cancer in Africa are rare. There is only one dedicated pediatric cancer registry on the continent, maintained by the South African Childhood Cancer Study Group (SACCSG). The aim is to analyze the trends of cancer incidence over time, age distribution and variation related to ethnic group in South African children, between 1987-2007.

Methods

Statistical analysis of the data from the SACCSG register, using CanReg4.

Results

There were 7976 cases recorded during the 20- year period. The number of cases of all cancers increases initially with age, reaches a peak and then decreases steadily or stabilizes. The most common cancer was leukemia followed by embryonal tumors and kidney tumors. Leukemia peaks at 4 years in our study and lymphoma at 5 years. The cancers of the central nervous system reach a peak much later at about 10 years while Kaposi sarcoma peaks at 5 years. The numbers of central nervous system tumors decreased with almost 50% in the second decade studied, while the number of epithelial tumors increased almost four times in the same interval.

Conclusion

The average of 33 cases of childhood cancer per million, as recorded in the register is small, by comparison with 140/million as reported in resource-rich countries. This is due to either under-diagnosing or under-reporting. As cancer is now a notifiable disease in South Africa it is expected that the total registered numbers will increase.

IMPROVED SURVIVAL OF DANISH CANCER PATIENTS 2007-2009 COMPARED TO PATIENTS FROM EARLIER PERIODS

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Background

A national cancer control plan was launched in 2000 following a Nordic cancer registry-based study on prediction of incidence and mortality. The latter was based on survival estimates with lower survival in Denmark than in the other Nordic countries. This was recently followed by a comprehensive Nordic analysis on cancer survival for cases 1964-2003 followed through 2006. Denmark still showed lower survival for many sites. Early indication of improved long-term survival from most cancers can be accessed from the survival during the first year after diagnosis. A steady improvement in survival was seen both before and after the introduction of cancer control plans in 2000 and 2005. However cancer survival increased in the other Nordic countries as well. Based on Danish data from 2007-9, we studied the impact on 1-year survival in relation to the Danish 2005 cancer plan.

Methods

All cancers from 1995-2009 in Denmark were studied in five 3-year cohorts of incident cases followed-up to death or to the end of 2010 using the NORDCAN database. Age-standardised (ICSS) 1-, 3- and 5-year relative survival was computed and 1-year survival for 2004-2006 and 2007-2009 presented to compare with a previous publication. For the Nordic countries, one- and five-year relative survival was computed for all cancers 2004-2008 and followed through 2009 by the cohort and the hybrid method combining cohort and period methods.

Results

The improving trend in overall 1-year age-standardised relative survival in Denmark is maintained with a three percent point increase to 72% for men and 75% for women. Excluding prostate and breast cancer lowered the relative survival to 65% and 67%, respectively, but similar improvement was maintained. Sites where survival already was high had the least or no improvement as was the case for haematological cancers except for NHL in men. The differences in survival between men and women are diminishing, especially seen for cancers of the digestive tract. In the Nordic comparison Denmark is still presenting a lower survival; however, the difference is getting smaller.

Conclusion

The trend of improved survival after introduction of the cancer plans are maintained for solid cancers. A fast track system for diagnosis and treatment introduced at the end of 2008 may have narrowed the gap in cancer survival between men and women for digestive tract cancer and improved survival for other cancers, e.g. the sex specific, kidney and brain. A Nordic bench mark analysis on comparable data is important to assess if the overall political goal – “world class cancer care” is reached.

MAKING SENSE OUT OF NUMBERS: A PILOT STUDY ON CERVIX CANCER SCREENING COVERAGE IN THE RURAL SETTING IN SOUTH AFRICA

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Background

A policy to provide free population-based screening for cervical cancer to all women at selected ages once every 10 years was introduced in South Africa in 1999. The target of the program was to screen at least 70% of women nationally within the target group over a 10-year period. During 2007, a review of secondary data was conducted to assess the coverage of the screening program using cytology and cancer register data in a population residing in the rural Eastern Cape Province. The aim of the study was to assess the screening program coverage in the cancer registration area covered by the PROMEC Cancer Registry.

Methods

Data were obtained from the PROMEC Cancer Registry database to determine the staging profile of all the cervical cancer cases recorded between 2003 and 2007. The staging information was collected from the medical records and is based on the International Federation of Gynaecology and Obstetrics (FIGO); staging that is used for cervical carcinomas. Permission was obtained from the National Health Laboratory Services (NHLS) to access data for Pap smears taken in the primary health clinics and hospitals within the area covered by PROMEC Cancer Registry. Twelve-month period data were provided as an anonymous Excel spreadsheet, subsequently cleaned and analysed. To estimate the proportion of women screened, i.e. the annual screening coverage, the number of smears in each age group was divided by the number of women

in the population, based on an extrapolation from the 2001 Population Census. Since the program aims to cover women every 10 years, an estimated 10-year screening rate for each age group was calculated by assuming that the same coverage rates observed in 2007 would be achieved for each year over a 10-year period, reaching women who had not been screened previously.

Results

Data obtained from the PROMEC Cancer Registry database showed that staging was unknown for more than 50% of the cases. However, of those cases with known staging, 23% were in the late stages III and IV and only 17% were in stages I and II. The crude annual screening coverage was 0.8%, and the 10-year coverage was estimated to be 7.6% (Table 1).

Conclusion

The success of the screening program in reaching its aims is dependent on achieving adequate coverage. In this pilot study, estimates of the coverage indicate that only 7.6% of the target population of women would be screened in a 10-year period. Contrasting cancer register and cytology data for this population has been useful in providing confirmatory information that population screening is limited and cervical cancer is detected at a late stage. The Department of Health needs to consider how it can implement the population screening policy in rural areas.

Table 1: Estimated cytology screening coverage annual and over 10 years

Age groups	Number screened	Population	Crude annual coverage (%)	10 year coverage (%)
15-24	46	23707	0.2	1.9
25-34	122	12477	1.0	9.8
35-44	128	10553	1.2	12.1
45-54	122	6173	2.0	9.1
55-64	52	5694	0.9	0.7
65+	32	7140	0.5	4.5
Total ages	502	65744	0.8	7.6

CANCER PATTERN IN BARSHI RURAL AND URBAN TOWN: AN OBSERVATION BY RURAL AND URBAN REGISTRY AT BARSHI, INDIA

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Background

The rural registry was established in Barshi in 1987 to observe incidence and mortality from cancer in rural India. To understand differences in the pattern of cancer in rural and urban India, a PBCR was established in Barshi town.

Methods

The data collection methods for rural cancer registry have been described earlier, while for PBCR at Barshi town, data collection method is active and similar to other PBCR in India.

Results

In 2006-07 the incidence rates observed in Barshi town were 51.9 and 55.4 while for rural areas the rates were 49.1 and 50.9 per 100,000 respectively for males and females. The pattern of cancer also seems to be altered slightly in urban areas with high rates of breast cancer in Barshi town compared to Barshi rural areas.

Conclusion

The rates observed in urban area are slightly high compared to rural area with higher rates for breast cancer. This suggests that even a slight change in lifestyle may significantly alter the cancer risk.

SURVIVAL AFTER COLORECTAL CANCER IN A SCREENED VS AN UNSCREENED POPULATION

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Background

Risk factors, early diagnosis and treatment for colorectal cancer (CRC) vary, and results in differences in incidence and outcomes across societies. To assess the influence of early diagnosis, we compare survival after CRC in a screened vs an unscreened population.

Methods

Relative survival (RS) analyses were performed to assess differences in outcomes for all CRC patients diagnosed in US SEER (2005, N=9349) and Norway (2004-06, N=8318).

Results

Stage distributions at diagnosis were different in US vs. Norway (42% vs. 22% localized; 35% vs. 48% regional; 19% vs. 23% distant). No (20%), minor (6%) or large (71%) resection rates were similar, but age and stage dependent. Overall 3-year RS was 67% in US and 61% in Norway. In multivariate models of age, sex, stage, and treatment, no country-effect was observed (HR 1.0, CI 0.9-1.1), but a sub-analysis revealed poorer outcomes after distant cancer in Norway ($p=0.03$).

Conclusion

The advantageous RS observed for US patients likely reflects the earlier stage distribution, perhaps explained by different CRC screening practices as the US recommends screening whereas Norway does not. More intense treatments of US patients with metastatic disease may also contribute favorably.

BREAST CANCER KNOWLEDGE, PERCEPTION AND SCREENING AMONG YEMENI WOMEN: AN APPLICATION OF THE HEALTH BELIEF MODEL

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Background

Breast cancer incidence is rapidly increasing in Yemen with very late presentations, most of which should be recognisable. Since disease stage is an important prognostic variable, early diagnosis is important. In the present study, we aimed at describing breast cancer knowledge, perception and screening practices among a sample of Yemeni women.

Methods

A cross-sectional study was conducted among 400 women. Sociodemographic characteristics, breast cancer knowledge, perception and screening practices were collected according to five subscales of the Health Belief Model (knowledge, susceptibility, severity, barriers, and benefits).

Results

Two-thirds had poor knowledge and low-perceived susceptibility. The majority had never performed any screening. Advancing in age, lower educational level, and not knowing anyone with breast cancer were significant independent predictors of poor knowledge, whereas younger age, higher educational level and perception and knowledge scores were significant independent predictors of breast self-examination practice.

Conclusion

Poor knowledge, low-perceived susceptibility and inadequate screening practices are prevailing. The need for culturally-sensitive, targeted education measures is mandatory in the effort to improve early detection and diagnosis to reduce the burden of breast cancer.

TRIPLE NEGATIVE BREAST CANCER AND ETHNICITY IN WOMEN IN NORTH EAST LONDON

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Background

This study examined the association between ethnicity and triple negative breast cancer (TNBC).

Methods

Electronic pathology reports received by the Thames Cancer Registry (TCR) from the North East London Cancer Network (NELCN) on patients diagnosed with breast cancer between 2005 and 2007 were collated. The status of oestrogen receptor, progesterone receptor and HER-2 were extracted, and a single record per patient created. Women were coded as not having TNBC if at least one receptor was positive or borderline, and coded with TNBC if all three were negative. Logistic regression was used to quantify the association between TNBC and ethnicity, adjusting for age, year of diagnosis and socioeconomic deprivation.

Results

There were 2,417 women in NELCN diagnosed with breast cancer between 2005 and 2007. Whether the patient had TNBC was determined for 1,228 (51%) women. Compared with White women, Black (OR=2.81, $p<0.001$) and Asian (OR=1.80, $p=0.044$) women with breast cancer were more likely to have triple negative disease.

Conclusion

As TNBC is a more aggressive disease, this finding may help to explain the higher proportion of Black women diagnosed with a more advanced stage.

TIME TREND AND PATTERN OF CANCERS AMONG WOMEN IN POPULATION-BASED CANCER REGISTRY IN BHOPAL, INDIA

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Background

The present study examines the pattern of cancers and their trends among the female population of Bhopal.

Methods

Trends in the Age-Adjusted Rate (AAR) were analyzed using the Joinpoint method for the incidence data collected over the years 1988-2005.

Results

Based on the percentage contribution of the total cancers, the leading sites of cancer during the year 1988-1989 were Cervix (24.6%) followed by Breast (21.2%), Oesophagus (5.9%), Mouth (5.3%) and Ovary (5.3%). A significant rising trend was observed in cancers of the Breast (APC 1.38), Ovary (APC 0.9), and Gall Bladder (APC 3.9), while a significant decreasing trend was observed in cancers of the Cervix (APC -2.5) Oesophagus (APC -2.2). Further significant changes in the leading sites were seen in 2004-2005. Breast (26.1%) was the leading site of cancer, followed by Cervix Uteri (17.9%), Ovary (7.3%), Gall Bladder (4.7%) and Oesophagus (4.3%).

Conclusion

The changes observed and the estimated burden of cancer will help in redefining the cancer control and cancer care activities in the area.

BREAST CANCER REGISTRATION IN YOUNG FEMALES: SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER

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Background

A significant proportion of women presenting with breast cancer is under age 40 years, and this group is relatively understudied.

Methods

Two-year data, Jan. 1, 2007- Dec. 31, 2008, from Shaukat Khanum, Lahore, Pakistan: female breast cancer patients 1664; under 40 years. 401 (24.1%), double breast primaries 3-total cases 404. Information collated on ER, PR and HER2 status, grade, disease stage, family history of cancer and histology.

Results

IHC on ER/PR and HER2 available in 294/404 cases. Summary of 294 cases: ER/PR+, HER2+ 36 (12.2%); ER/PR+, HER2- 94 (32%); ER/PR-, HER2+ 50 (17%); and ER/PR-, HER2- 114 (38.8%). Grade: 3: 61%, 2: 32% and 1: 0.7%; unavailable: 6%. Family history of cancer: present 21%, absent 68% and not available 11%. Stage: I-II 52%, III-IV 33%, localized 0.3% and unstageable 14% (AJCC 6th Ed.). Histology: 264 infiltrating ductal, few lobular and mucinous ca, 1 ductal ca in situ and 1 medullary ca.

Conclusion

At the population level in Lahore, it may be worthwhile registering breast cancer, which may be more doable than all cancers. This may help in translational research in patient management by hormone receptor status, thereby decreasing morbidity.

VARIATION IN INCIDENCE OF PRIMARY LIVER CANCER BETWEEN ETHNIC GROUPS IN ENGLAND, 2001-2007

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Background

The aim of this study was to describe the variation in incidence of primary liver cancer between ethnic groups in England for patients diagnosed between 2001 and 2007.

Methods

Data on patients with primary liver cancer (ICD10 C22) diagnosed in England between 2001 and 2007 were obtained from the national dataset. Ethnicity information was available for 13,139 of 17,458 patients. White, Indian, Pakistani, Bangladeshi, Black Caribbean, Black African and Chinese ethnic groups were analysed and age-standardised incidence rate ratios (IRR) calculated using the White groups as the baseline.

Results

Compared with White males, Chinese males had the highest IRR at 3.9[95%CI 2.6-6.0], followed by Black African (3.3[2.1-5.1]), Bangladeshi (3.1[1.9-5.2]) Pakistani (2.8[2.1-3.7]) and Indian males (1.4[1.2-1.7]) with statistically significant high IRRs. Black Caribbean males had a similar incidence rate to White males (1.2[1.0-1.5]).

In comparison with White females, Pakistani females had the highest IRR at 3.5[2.3-5.3]. Bangladeshi were next (2.9[1.3-6.4]), then Chinese (1.9[1.1-3.5]), Black African (1.8[1.1-3.2]) and Indian females (1.5[1.1-2.0]). Black Caribbean females (1.3[1.0-1.8]) had an incidence rate close to White females.

Conclusion

This study found large variation in incidence of primary liver cancer between ethnic groups, possibly due to high prevalence of risk factors such as hepatitis B and C infection in some ethnic groups.

PROGNOSIS FACTORS AND SURVIVAL IN LIVER CANCER: A POPULATION-BASED STUDY IN TAIWAN

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Background

There is no nationwide population-based study of relative survival rate and prognosis factors for liver cancer (LC) in Taiwan. Therefore, we aimed to evaluate the survival rates of age, sex, stage and initial treatment indications for liver cancer patients using the Taiwan Cancer Registry Database from 2004 to 2006.

Methods

Patients aged 15-99 years diagnosed with invasive liver cancer (ICD-O C22) between 2004 and 2006 were included in this study. All patients were followed up to either the death of the patient or the end of 2009. The relative excess risk (RER) of relative survival was estimated using Poisson model adjusted for sex, age group (15-49, 50-64, and 65-99 years), TNM stage, and initial treatment indications.

Results

Our finding showed that females had a better survival compared to males (RER 0.90, 95% CI 0.86-0.93). Older LC patients (65-99 years) had poor survival even adjusting for sex, stage, and initial treatment indications (RER 1.12, 95% CI 1.07-1.17).

Conclusion

Age, sex, stage and initial treatment choices were shown to be major predictors of survival in this population-based study. Additionally, surgical resection offered the best survival for stage I, II and IIIA patients. Surgical margin was also an important factor for liver cancer prognosis.

ESTIMATION OF CANCER INCIDENCE IN FUKUSHIMA, JAPAN, BEFORE NUCLEAR ACCIDENTS

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Background

Following the Fukushima Dai-ichi Nuclear Power Plant accident, a substantial amount of radioactive substances were released to the surrounding areas, and cancer risks among the residents are of great concern.

Methods

Since population-based cancer registry in Fukushima Prefecture started in 2010, no long-term cancer incidence data are available before the accident. We estimated cancer incidence in Fukushima, using incidence from other registries with reasonable completeness in Japan and mortality from all prefectures. Poisson regression analysis was applied, including four variables of age, year, proportion of DCNs and mortality rates in the model.

Results

Compared to the Japanese average, the age-standardized mortality rates for all sites in Fukushima were almost the same level in males and slightly lower in females. The estimated incidence rates in Fukushima showed almost the same tendency as observed in mortality, with the incidence/mortality ratios for all sites ranged from 1.8-2.0 in males and 2.3-2.5 in females.

Conclusion

Based on the available data, we could estimate the incidence rates in Fukushima before the accident with reasonable accuracy. It will be essential for monitoring cancer trends after the accident, especially for the sites which show high incidence/mortality ratios, such as thyroid cancer or leukemia.

USE OF THE EDERER II RELATIVE SURVIVAL METHOD FOR CANCER SURVIVAL ESTIMATION

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Background

The methods on how to calculate cumulative relative survival have been ambiguous and have given differences in empirical results.

Methods

The gold standard for the cumulative relative survival ratio is the weighted average of age-specific cumulative relative survival ratios, with weights proportional to numbers of patients at diagnosis. Mathematics and representative empirical materials from the population-based Finnish Cancer Registry were studied for the different relative survival methods and compared with the gold standard.

Results

The theoretical and empirical results show a good agreement between the method suggested in 1959 by Ederer and Heise (the so-called Ederer II method) and the gold standard.

Conclusion

The use of the method by Ederer and Heise, multiplication of the annual relative survival ratios, should be considered in future applications. This would be particularly important for the long-term follow-up when age-specific relative survival is not available in the oldest age categories.

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CANCER MAGNITUDE IN SHAM COUNTRIES

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BACKGROUND

This study was designed to present some epidemiological characteristics of cancer in Sham countries.

METHODS

In this study we analyzed data on some epidemiological characteristics of cancer in Sham countries.

RESULTS

Cancer of all sites is more predominant in females. The median age at diagnosis of cancer in all Sham countries is within the range of 51-60 years for men and 48-55 years for women. The five leading cancers among men in Sham countries are: Jordan (lung, colorectal, urinary bladder, leukemia, and prostate. Lebanon: urinary bladder, lung, prostate, colorectal, and NHL. In Palestine: lung, NHL, colorectal, prostate, and urinary bladder. In Syria: lung, NHL, urinary bladder, leukemia, and prostate. Among women, the highest ranking cancer is breast, and the second is colorectal. The highest ASR for breast cancer was found in Lebanese females, while the lowest was found in Syria.

CONCLUSION

Cancer incidence is on the rise in all Sham countries as in other Arab countries where incidence rates for both men and women are increasing. Comprehensive cancer control programs are much needed.

SYRIAN NATIONAL CANCER REGISTRY

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BACKGROUND

The Syrian National Cancer Registry (SNCR) was established in 2001 and it is a Population-Based Registry. SNCR collects cancer data from all over the country. The SNCR main office, including administrative and technical staff, is located in Damascus.

METHODS

A data abstract was constructed to be precise and simple. It includes personal identification, tumor details (diagnosis date, primary site, histology, behavior, grade, stage, basis of diagnosis), treatment information and follow-up. The primary site (topography) and histology (morphology) of the malignancies are identified and coded according to the International Classification of Diseases for Oncology third edition (ICD-O-3), published by the World Health Organization (WHO), 2000.

RESULTS

The total number of new cancer cases reported was 15,107: 52% males (7,875) and 48% females (7,232). Among these new cases 9.8% were cancer in children (1,489), age <15 years. The most common cancers in Syria were breast (16.9%), leukemia (10.1%), lung (8.7%), lymphoma (5.6%) and bladder (4.4%).

CONCLUSION

This is a new cancer registry and there is no requirement to provide data about new cancer cases. The role of the registry is not considered important and there is a lack of knowledge among caregivers and the population on early detection, but cancer is now the first priority of the health authorities.

CANCER INCIDENCE IN ADEN CANCER REGISTRY, YEMEN

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BACKGROUND

Aden Cancer Registry is a population-based cancer registry which started its activities in 1997. Its objective is to establish a reliable magnitude of cancer in the area covered by the registry. The first report was published in 2003. This article describes data from the second report on cancer incidence during 2002-2006.

METHODS

Internationally accepted standardized cancer registration methodologies were used.

RESULTS

There was no difference in the overall incidence between males and females and age-standardized rate (ASR). The most common cancers were breast, leukemia, non-Hodgkin's lymphomas (NH lymphoma), brain and Hodgkin's disease. Among males, leukemia was first, followed by NH lymphoma. In females, breast came first whereas leukemia and NH lymphoma came later. The highest ASR for males (145/100,000 inhabitants) was observed at age 70-74 years whereas for females, two peaks (each 105 per 100,000 inhabitants) were equally noticed at ages 60-64 and 70-74 years.

CONCLUSION

The overall pattern of cancer incidence is not much different from that in the previous report and bears some similarities with the Gulf countries with which we share many characteristics despite some differences that warrant further investigation.

INCIDENCE OF CHILDHOOD CANCER IN ADEN CANCER REGISTRY, YEMEN (2002-2006)

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BACKGROUND

In Yemen, data regarding childhood cancers are very scarce. This paper aimed to describe childhood cancer registered in Aden Cancer Registry, which is a population-based cancer registry covering an area of around two million inhabitants.

METHODS

All registered cancers for patients under 15 years of age in the period 2002-2006 were analyzed. CanReg 4 for cancer registries was used in the analysis. Validation checks of each data entry were carried out to maximize data validity.

RESULTS

Childhood cancer accounted for 11.6% with more males (60%) compared to females (40%). The leading cancers were: leukemia, non Hodgkin's lymphoma, Hodgkin's disease, brain cancer and nephroblastoma. Both sexes showed similarities in the first five ranking cancers but they differed in their relative frequencies.

CONCLUSION

Despite that childhood cancer accounted for almost the same percentage relative to the overall cancer incidence, differences in the leading cancer order for both sexes and for each sex was observed compared to the previous five years (1997-2003). Furthermore, differences with the pattern of childhood cancers in the Gulf Cooperation Council States are also clear. Further in-depth analysis is obviously needed.

BREAST CANCER DIAGNOSIS AND TREATMENT: CURRENT CHALLENGES FOR THE BREAST CANCER CONTROL STRATEGY IN YEMEN

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BACKGROUND

The present paper aims to describe breast cancer diagnosis and treatment challenges that face the national breast cancer control strategy (BCCS).

METHODS

This is a qualitative study with 15 clinicians in Yemen on screening and diagnostic opportunities, treatment plans, views on the assignment of each diagnostic measure and therapy to one of four incremental levels--basic, limited, enhanced, or maximal.

RESULTS

There is agreement about the challenges of poor screening access and delayed follow-up. Constraints to timely and quality diagnosis were conceptualized as related to patients and the health system. There is no consensus on the assignment of the different diagnostic and treatment modalities in the four tiered- resource system.

CONCLUSION

Taking in consideration that BCCS cannot be achieved by any single organization and should involve many partnerships; the need for a participatory approach in the development process was critically indicated. Efforts should be made to apply the Breast Health Global Initiative evidence-based guidelines for the management of breast cancer in our country, which is characterized by limited health care resources and is the only way toward improving patients' clinical outcomes.

COMPREHENSIVE CANCER ASSESSMENT IN HINKLEY, CALIFORNIA IN RESPONSE TO CONCERN ABOUT HEXAVALENT CHROMIUM IN GROUND WATER

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BACKGROUND

Hinkley, California is a desert community known for the “Erin Brockovich” film that alleged a cancer excess from chromium 6 [Cr(VI)] contaminated groundwater. Inhaled Cr(VI) is accepted as a cause of sinonasal and lung cancer.

METHODS

We assessed observed and expected counts of new cancers in Hinkley, 1996-2008. Indirect standardization adjusted age, sex, race/ethnicity, population size, and outmigration. Observed counts divided by expected numbers defined standardized incidence ratios (SIR).

RESULTS

Counts for all cancers (SIR; 95% CI=0.91; 0.78, 1.04) and each of 15 types did not differ significantly from expected numbers. The cervix cancer count was above the expected number (SIR; 95% CI=2.83; 1.82, 5.86), while digestive (SIR; 95% CI=0.72; 0.48, 1.03) and prostate (SIR; 95% CI=0.65; 0.40, 0.98) cancers were fewer than expected. No nasopharyngeal carcinoma or pancreas cancers were found.

CONCLUSION

Our findings do not support claims of a generalized cancer excess in Hinkley. Cervix and prostate cancer findings and advanced colorectal cancer disclose inadequate screening. Findings are consistent with previous assessments that found no cancer excess in Hinkley.

RISK FACTORS FOR BREAST CANCER IN HONG KONG

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BACKGROUND

Our study aimed to look into prevalence of risk factors for breast cancer in Hong Kong and to give a better insight towards breast cancer preventive measures and direction for breast health education.

METHODS

We randomly selected 356 breast cancer survivors and 356 healthy women of same ages and socio-economic status by systematic sampling. Chi-square test and unconditional logistic regression model were used to test the difference between case and control.

RESULTS

Risk of developing breast cancer in women with early menstrual age was two times greater when compared with women with menarche at age > 13 (OR 2.61, 95% CI 1.88-3.61, $p < 0.001$). Women without childbirth demonstrated a significant higher risk compared with women with reproductive history (OR 3.23, 95% CI 0.19-0.50, $p < 0.001$). Women who were long-term users of oral contraceptives had a 12 times higher risk, compared with women with short-term use of oral contraceptives (OR 12.78, 95% CI 8.14-20.06, $p < 0.001$).

CONCLUSION

Lifestyle-related factors may be operative by way of hormonal-reproductive mechanism which has a substantial impact on the increased risk for breast cancer.

LUNG CANCER INCIDENCE AND SURVIVAL IN ETHNIC GROUPS IN SOUTH EAST ENGLAND

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BACKGROUND

This study aimed to describe patterns of lung cancer incidence and survival in different ethnic groups in South East England.

METHODS

Age and socioeconomic deprivation standardized incidence rate ratios were calculated for males and females in each ethnic group, using the White groups as the baseline categories. Overall survival was examined, adjusted for age, socioeconomic deprivation, stage of disease and treatment. Results are presented for White, Indian, Pakistani, Bangladeshi, Black Caribbean, Black African and Chinese patients, apart from female survival results where only the White, South Asian and Black ethnic groups were analyzed.

RESULTS

There were 28,145 male and 18,257 female patients with lung cancer in South East England between 1998 and 2003. Compared with ethnic groups of the same sex, Bangladeshi men, White men and White women had the highest incidence rates. Bangladeshi men had consistently better survival estimates compared with White men. South Asian and Black women had similar better survival than White women.

CONCLUSION

The apparent better survival of South Asian and Black patients was surprising, and more detailed studies are needed to verify these results.

NEW MALIGNANCIES AFTER SKIN CANCER

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BACKGROUND

Skin cancer incidence is increasing in whites, whereas prognosis is good in developed countries. Research is scarce on risk factors associated with new malignancies after skin cancer. We therefore examine this association to address future public health needs.

METHODS

Our registry-based study includes all histologically-verified invasive cutaneous malignant melanomas (N=28 156) or squamous cell carcinomas (N=24 713) diagnosed in Norway in 1955-2007. Rates of second malignancies in skin cancer survivors were compared to rates of primary malignancies in the general population using standardized incidence ratios. Next, individual level risk factors were used to model these risks.

RESULTS

9632 secondary malignancies occurred. The cancer risk is twofold after skin cancer. It is threefold for subsequent skin cancers, and significantly elevated for lymphoma, colon, breast, prostate, and lung cancers. Highest risks were associated with male sex, older age, higher education, parenthood, southern latitudes and recent time.

CONCLUSION

Skin cancer survivors are at increased risk for second cancers. Heightened public health awareness to prevent subsequent cancers will be important as skin cancer incidence continues to rise.

ROLE OF THE CANCER REGISTRY IN CANCER CONTROL - ACTIVITIES IN SIKKIM, A NORTHEASTERN STATE OF INDIA

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BACKGROUND

The Population-Based Cancer Registry (PBCR) was established in Sikkim, a Northeastern state of India, in the year 2003. The PBCR serves a population of 0.6 million. Tobacco-related cancers (TRC) both in males and females and cervical cancer formed the major causes of morbidity and mortality in the state. The focus of the cancer registry was to highlight the data generated since the inception of cancer control measures by the state government in these preventable cancers. As per the report of the National Family Health Survey (NFHS -3, 2008) 19% of women and 62% of men in Sikkim use some form of tobacco. Tobacco consumption in the rural areas is more common. The information and reports generated by the cancer registry were shared with the decision makers and strategies were developed to reduce the use of all forms of tobacco in the state of Sikkim. Strategies were also developed for prevention of cervical cancer in the entire state.

METHODS

The relative proportion of tobacco-related cancers for the period 2006-2008 was derived. The Age-Adjusted Incidence rates (AAR) of cancer of the cervix uteri were also derived from the available data. The report of the National Family Health survey, along with the data reflecting the TRC and AAR of cervical cancer, was submitted to the State government and the decision makers.

RESULTS

The relative proportion of cancer associated with the use of tobacco (IARC-1987) was 34.8 and 20.9 in males and females respectively in Sikkim for the period 2006-2008. The AAR of lung cancer in Sikkim females was 7.7, among the highest in India. The AAR of cancer of the cervix was 10.9 and was the leading cause of cancer in females. The awareness by the health authorities of the dangers of the rampant use of tobacco in the population and of cervical cancer being the leading cause of cancer in females led to two major decisions. One was the implementation of the Cigarettes and Other Tobacco Products Act (COTPA) in the state of Sikkim and the other was the introduction of Visual Inspection with Acetic Acid (VIA) as a screening tool in the ambitious and unique Chief Ministers Comprehensive Annual Total Checkup for a Healthy (CATCH) Sikkim program, for women above the age of 30 years.

DISCUSSION

The data presented by the registry acted as a catalyst in taking up cancer prevention activities in two major areas. COTPA has been a deterrent in the state of Sikkim against the use of tobacco and related products. VIA as a screening procedure where the population is primarily rural has been a success in the first year of its implementation. Since the registry is relatively new and these interventions have taken place only in the past year, the effects will be seen in the years to follow.

A CHALLENGE OF ESTABLISHING CANCER REGISTRY IN INDONESIA: JAKARTA AS A REPRESENTATIVE OF URBAN AREA

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BACKGROUND

Indonesia, the largest archipelago, is the fourth largest population (220 million). According to WHO it is 46% rural and 54% urban. Cancer registry (CanReg) is based on representation of each area. CanReg in the urban area started in Jakarta, which is divided into five regions, around 2 million population in each region. This cancer incidence data can also be used as an estimate of cancer incidence in other urban areas in Indonesia.

METHODS

The Minister of Health (MOH) decreed Jakarta CanReg as a pilot project. The MOH determined a working system, organization structure in each region, hospitals, job description, budgeting, and the pathway of data collection. Each hospital determined an internal system for CanReg.

RESULTS

In the field work some challenges were found: non-permanent staffing in MOH, limitation of resource person who is an expert in CanReg, infrastructure, and budgeting. The activities of CanReg, which are resourced from all health facilities in Jakarta, have different results in the top ten cancers in each region of Jakarta.

CONCLUSION

This project is to train all stakeholders in this area and will become a pilot project for other urban-rural areas in other provinces. The National CanReg in Indonesia can be established when CanReg activities in urban and rural areas are being held.

ROLE OF FINNISH CANCER REGISTRY IN THE EXTREMELY SUCCESSFUL CANCER CONTROL IN FINLAND

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BACKGROUND

Finland was the only country with the optimistic WHO target of reducing cancer mortality by 15% in the 1990s in Europe. The Finnish Cancer Registry (FCR) actively monitors signals in changes in cancer trends in different population subgroups and regions and makes it possible for health professionals to react.

RESULTS

The powerful anti-smoking program has dropped the incidence of lung cancer among Finnish men from the world-highest to one of the lowest. Before the campaign, FCR made simulations on the effects of alternative smoking control operations and now actively follows the results. The most famous global success story is the organised cervical cancer screening in the 1960s and 1970s, which cut the incidence of cervical cancer by 80% in the screened age groups. The incidence rate of cervical cancer in Finland is the smallest in the world. FCR has a key role, not only in follow-up of the effects of screening on incidence rates in various population sub-groups, but also in taking care of the entire screening organisation.

CONCLUSION

The presentation will demonstrate tools developed by FCR to assist planning and follow-up of national cancer control programs.

STRENGTHENING THE ROLE OF CANCER REGISTRIES IN CANCER CONTROL THROUGH PRIVACY PROTECTED RECORD LINKAGE (P3RL)

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BACKGROUND

Prevention, early detection, and effective treatment of cancer will continue to be critical activities worldwide with cancer registration and cancer epidemiology research occupying central roles.

METHODS

The ability to link cancer-related data sources using key discriminating information such as patient name ethically without breach of confidentiality – **Privacy Protected Probabilistic Record Linkage (P3RL)** – has the potential to transform the role of cancer registration in cancer control by making available cancer-related data anonymously (privacy of cancer patients completely safeguarded) and thus heretofore not previously accessible.

RESULTS

Using cancer registration data we demonstrate the feasibility of P3RL.

CONCLUSION

In practice P3RL is important because access to privacy-protected data (such as patient names for linking records) is normally restricted to sites with data ownership (e.g. not allowed to share patient names between data sources). Ethically patients' identities and personal data must be strictly protected, yet information regarding their cancer experience is vital to society for developing and implementing adequate cancer prevention and control programs as well as for apposite health service planning. P3RL is targeted at resolving these ethical tensions and further integrating cancer registration in cancer epidemiology research and cancer control.

IMPACT OF THE NEW IMMUNOHISTOCHEMICAL PANEL FOR THE DIAGNOSIS OF LUNG CANCER ON OVERALL PATIENT OUTCOME

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BACKGROUND

The availability of targeted therapies created the need for precise subtyping of lung cancers. The aim of the study is to analyse the impact of the new immunohistochemical diagnostic panel on incidence and survival of lung cancer patients by histotypes.

METHODS

Patients were selected from the Ticino Cancer Registry and categorized into the four WHO-defined histotypes. Two-year overall survival (OS) was performed for patients with a 24-month complete follow-up (incidence period 1996-2008). Trend analysis of survival probability was computed.

RESULTS

2467 lung cancers were selected: 40.4% adenocarcinoma; 21.2% large cell carcinoma (LCC), 15.3% small cell carcinoma, 23.1% squamous cell carcinoma (SqCC). We observed an increasing trend of two-year OS of all cases, and an improved and decreased OS in SqCC and LCC, respectively.

CONCLUSIONS

The introduction of an immunohistochemical panel could have influenced not only the incidence of different lung cancer subtypes, but also the short-term outcome of patients, suggesting the need for cautious interpretations of previous studies and clinical trials where the diagnosis of lung cancers was based on histological evaluation without ancillary immunohistochemical studies.

QOCC STUDY: INDICATORS OF QUALITY OF CANCER CARE IN SOUTHERN SWITZERLAND

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BACKGROUND

To identify a panel of specific indicators, minimum requirements and targets, in order to assess the offered Quality of Cancer Care (QoCC); to promote a culture of QoCC among health-care providers; and to contribute to the improvement of patient outcomes in the long term.

METHODS

QoCC indicators will be defined through up-to-date literature following the Delphi process, and will refer to all incident cancers of colon-rectum, prostate and ovary/uterus occurring between 2011-2013 in Canton Ticino. A pilot study on colorectal cancers in 2009-2010 already identified some indicators of diagnosis/pathology and surgery.

RESULTS

QoCC indicators of the pilot study concerning 428 colorectal cancers (303 colon, 125 rectum) will be reported.

CONCLUSIONS

The QoCC approach, based on up-to-date incidence years, will allow a quick translation of results into the daily clinical practical, will favour the process of standardization of care, based on the evidence-based medicine and will create a comparable platform for other Cancer Registry initiatives.

ENHANCING CANCER REGISTRATION DATASETS: COMPARISON OF ALGORITHMS FOR MULTIPLE IMPUTATION OF MISSING VALUES

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BACKGROUND

Missing data constrain the value of population-based cancer registries in cancer control programs. Multiple Imputation (MI) reduces bias in statistical inference from incomplete datasets, as compared to simple complete case (CC) analysis. We compared two algorithms for MI: Chained-Equations (MICE) and Expectation-Maximization applied to bootstrapped data (EMB).

METHODS

We simulated 30% and 60% univariate missingness in tumor stage in breast cancer registered 1996-2005, using 6 different missingness mechanisms. Cox models were fitted to complete, incomplete and imputed datasets. Analysis endpoint was the stage-dependent hazard ratio. Regressions included stage as ordinal (A1) or continuous (A2).

RESULTS

CC analysis generated large biases only with 60% missingness. Estimates after MICE were always close to complete data. EMB introduced large biases with regression model A1 (stage violates the normality assumption) but not A2.

CONCLUSIONS

MI is superior to CC analysis; provided that analyses are robust to deviations from distributional assumptions in the imputation algorithm. We favoured MICE because tailored distributions are used for imputed variables. The advantage of EMB is significantly faster processing.

DIFFERENCES IN RECURRENCE DYNAMICS BETWEEN INVASIVE LOBULAR AND DUCTAL BREAST CANCER

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BACKGROUND

Studies on recurrence dynamics in patients with breast cancer (BC) ignore the impact of histology. This study aimed to determine differences in recurrence dynamics on population-based data between patients with a ductal breast cancer (DBC) and lobular breast cancer (LBC).

METHODS

Surgically treated women (2003-2004) with invasive DBC or LBC, without distant metastases or second primary BC were selected from the Netherlands Cancer Registry. The hazard rate for recurrence (locoregional (LRR) or distant) for 5 years follow-up were determined (life-table method). Wilcoxon test was used to determine differences in recurrence patterns between DBC and LBC.

RESULTS

Of 16,231 women identified, 87% had DBC and 13% LBC. LRR was found in 4% of the DBC and in 3% of the LBC patients, whereas metastases were found in 11% and 10% of patients, respectively. Notably, in DBC patients a peak in recurrence rate was seen between 1-2 years after diagnosis, both for LRR and distant metastases. On the other hand, in LBC patients the recurrence pattern did not show major peaks: after 2 years the curve revealed an almost steady level for LRR and distant metastases. This recurrence pattern was significantly different ($P < 0.001$). Moreover, the influence of age, stage and treatment on recurrence differed between DBC and LBC. We also noticed a difference in localization of metastases.

CONCLUSIONS

Our study showed an overall equal number of recurrences after DBC and LBC, but with a totally different recurrence pattern, which could have implications on follow-up of the patients.

EUROPEAN-WIDE REGISTRATION OF THREE IMPORTANT CANCER INDICATORS: THE EUROCHIP PROJECT

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BACKGROUND

Cancer registries (CR) provided population-based comparative cancer survival statistics showing large differences across Europe. EUROCHIP (European Cancer Health Indicators Projects) focuses on fighting inequalities in the burden of and care for cancer. Three indicators were defined, which were strictly associated with cancer survival differences: "stage at diagnosis", "cancer treatment delay", "compliance with cancer guidelines". The EUROCHIP-3 project aims to get insight into the present situation of collecting these indicators in all European countries.

METHODS

A qualitative questionnaire was addressed to all European CRs (206) in collaboration with the EURO COURSE project and the ENCR. The questionnaire asked about the availability of the items necessary to evaluate the three indicators and if unavailable, the most important reasons; lack of staff, funding, data sources or interest.

RESULTS

Fifty percent of the CRs responded (N=103), from 35 different countries. The indicator "stage at diagnosis" was collected by 81% of the CRs. "Cancer treatment delay" was collected by 37% of the CRs. Only 15% of the CRs collected items for the indicator "compliance to cancer guidelines". 15% of the CRs collected the items necessary for all three indicators. Most mentioned reasons for not collecting one or more indicators were a lack of staff and a lack of access to data sources.

CONCLUSION

Evaluation of cancer care and cancer outcomes through data from CRs is possible in a minority of the CRs. Therefore the registration of indicators should be supported by CRs, to support the fight against inequalities in the burden of and care for cancer.

VALIDITY OF DATA ON VITAL STATUS IN THE NETHERLANDS CANCER REGISTRY

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BACKGROUND

Survival rates are important outcome parameters for cancer care. The Netherlands Cancer Registry (NCR) has no access to death certificates, but made great efforts to complete vital status by linkage to the electronic national population municipality registry (GBA, as of Oct 1, 1994) and for patients diagnosed earlier, by collecting information from hospitals and by consulting the Central Bureau of Genealogy (CBG). The validity of vital status information was evaluated during an incidence period of 20 years since the start of the registry on Jan 1, 1989.

METHODS

Data on cancer incidence (1989-2008) and vital status were retrieved from the NCR (n=1,303,248). Follow-up was calculated as time from diagnosis to death, emigration or Dec 31, 2009. Proportions of patients still alive and born before 1910 or with metastasized pancreas, colorectal or stomach cancer and at least five years of follow-up were calculated over time. Five-year relative survival rates for poor prognosis cancer sites pancreas and pleura were calculated and compared to survival rates reported by EURO CARE and SURVCAN.

RESULTS

Of all cancer patients, 36.8% were still alive on December 31, 2009. For less than 3% of patients born before 1910 or with a metastasized form of pancreas, colorectal or stomach cancer, a date of death/emigration was not retrieved. Five-year survival rates for pancreas (4%) and pleura (5%) cancer are lower than the estimates for EURO CARE and the results reported by SURVCAN.

CONCLUSION

Validity of vital status information in the NCR is high as indicated by low proportions of living patients older than 100 years or with metastasized pancreas, colorectal or stomach cancer. Moreover, 5-year survival rates for pancreas and pleura cancer are low compared to rates calculated by EURO CARE and SURVCAN. International definition of follow-up data quality indices is needed to enable valid comparison between countries.

CANCER PREVALENCE IN THE NETHERLANDS

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BACKGROUND

Information on cancer prevalence is of importance for health care planning and resource allocation, but until now this information was not available in the Netherlands nationwide.

METHODS

All cancer patients diagnosed in the Netherlands between 1989-2009 are recorded by the Netherlands Cancer Registry (NCR). Data on cancer incidence and vital status were retrieved from the database. Overall cancer (patients) and cancer-specific (tumours) 5-, 10- and 20-year prevalences were calculated. Cancer prevalence is defined as the number of individuals diagnosed with cancer and still alive at a specific date.

RESULTS

The five-year prevalence on January 1, 2010, reflecting the number of patients diagnosed with cancer in the preceding five years and still alive, was 272,462 (131,965 males and 140,497 females). The 20-year prevalence (diagnosed 0-20 years before), was 544,371 patients (239,118 males and 305,253 females), of which 71% were 60 years or older. The 20-year cancer prevalence among males mainly consists of prostate cancer (73,431 [29%]), colorectal cancer (38,698 [15%]) and non-melanoma skin cancer (24,791 [9.7%]). Among females, breast cancer with 139,786 cases (44%) is the most frequent prevalent cancer followed by colorectal cancer (36,822 [12%]) and melanoma (23,920 [7%]).

CONCLUSION

These estimates are the most up-to-date prevalence numbers available in the Netherlands. More than half a million (former) cancer patients are currently present in the Netherlands and it is expected that this number will further increase in the future due to aging of the population, increasing incidence and survival rates.

EUROCOURSE: TOWARDS OPTIMISATION OF THE USE OF CANCER REGISTRIES FOR SCIENTIFIC EXCELLENCE IN CANCER RESEARCH IN EUROPE AND ITS ERA-NET

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BACKGROUND

EUROCOURSE is initiated by the European Network of Cancer Registries (ENCR) and 'their' programme owners (Cancer societies, Ministries of health and science, Public health institutes, Health insurance companies) and program managers (Comprehensive cancer centres, Research departments in academia). The project aims to root cancer registration in the practice of oncological care and cancer control across Europe. It provides information on cancer occurrence and outcome, thereby facilitating translational research and evaluation of mass screening and biobanking. EUROCOURSE will offer a perspective for regional and national funding bodies to contribute to epidemiological cancer control at European level.

METHODS

EUROCOURSE encloses 15 partners from 12 countries. It will explore diversity in coverage quality, usage and output, commissioning and funding of cancer registries across Europe, now serving about 40% of the population. The 10 work packages will synthesize and stimulate best (and ethical) practices in data collection, management, analysis, interpretation and peer-reviewed publication. It will combine advances in informatics technology with data privacy protection and facilitate electronic data synthesis at European level, through a portal (at IARC) with uniform quality control. It will lead to better use of data in the various European research projects.

RESULTS

The public health tasks of cancer registries largely consist of reporting on variation in risk and outcome of the various cancers across the world and may serve as a sampling frame for in-depth studies of quality of care, quality of life, mass screening and long-term side effects. Diversity and heterogeneity of registries fortunately coincides with common epidemiological practices, which are the backbone for collaborative and comparative use of cancer registration data for cancer surveillance across Europe. It will strengthen population-based translational cancer management and research. EUROCOURSE's inclusive approach will culminate in a CANCER CONTROL SUMMIT in November 2011 for all stakeholders in the cancer control community in Europe.

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ASSOCIATION OF EPSTEIN-BARR VIRUS INFECTION (EBV) WITH BREAST CANCER IN RURAL INDIAN WOMEN

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BACKGROUND

Breast cancer is the most common malignancy affecting females worldwide but conventional risk factors are able to explain only a small proportion of these cases. A possible viral etiology for breast cancer has been proposed and Epstein-Barr virus (EBV) is a widely researched candidate virus. The aim of the present study, the first one of its kind in India, was to determine if there is any significant difference in association of EBV infection with tissue and serum samples from breast cancer patients as compared to patients with benign breast diseases.

METHODS

We looked for expression of Epstein-Barr virus Nuclear Antigen-1 (EBNA-1) in breast cancer tissue specimens by employing immunohistochemistry (IHC). We also measured levels of anti-EBNA-1 Immunoglobulin (IgG) antibodies in stored sera of these patients using commercial Enzyme linked Immunosorbent Assay (ELISA) kit. Patients with benign breast diseases were used as a comparison group for both immunohistochemical and serological analysis.

RESULTS

Fifty-eight cases of malignant breast disease and 63 of benign breast disease (controls) were included in the study. Using manufacturer-determined cut-off of 3 IU/ml, 50/55 tested (90.9%) cases and 27/33 tested (81.8%) controls were seropositive for anti-EBNA-1 IgG. Mean antibody levels were significantly higher for cases (54.22 IU/ml) as compared to controls (18.68 IU/ml). IHC for EBNA-1 was positive in 28/51 cases (54.9%). No IHC positivity was noted in the tested 30 controls.

CONCLUSION

Our results show that EBNA-1 expression is seen in a significant proportion of breast cancer tissue specimens from rural India, and as compared to patients with benign breast diseases these patients also have a higher immunological response against EBNA-1.

FACTORS INFLUENCING BREAST CANCER SCREENING ACTIVITIES AMONG ARABIC WOMEN LIVING IN THE STATE OF QATAR

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BACKGROUND

Breast cancer is the most common cancer in Qatar, the incidence rate is rising and it is often diagnosed at advanced stages.

METHODS

We implemented a three-phase research program for which one of the goals is to understand breast health issues in Qatar. This quantitative study examines data from a convenience sample of 800 Arabic women in Qatar on a cross-sectional community-based survey. Face-to-face interviews were used to investigate knowledge, attitudes, practices, barriers and facilitators regarding breast cancer screening activities.

RESULTS

Preliminary results show 38.1/100,000 incidence and 12.9/100,000 mortality in Qatar.

CONCLUSION

Combined results will enable development of culturally appropriate intervention strategies to raise awareness and participation rate in breast cancer screening among Qatari women.

POPULATION-BASED CANCER REGISTRY AND PREFECTURAL ORDINANCE FOR CANCER CONTROL PROMOTION IN GUNMA, JAPAN

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BACKGROUND

The Gunma Population-based Cancer Registry was initiated in 1994. We report our efforts to improve cancer registration in Gunma where the number of registrations has rapidly increased. Gunma has a population of about 2 million.

RESULTS

In 2003, there were only 3,406 registrations in the registry and the number of incidence cases was 6,078. The DCO rate was 61%. In 2007, the number of registrations was 13,731 and the number of incidence cases was 12,045, and the DCO rate was 25.7%. There were two efforts to improve the accuracy of the population-based cancer registry. One was the organization of the Association of Gunma Population-Based Cancer Registry in 2005. The other was the endeavor of cancer care hospitals, which were newly designated, and that cancer registry became mandatory through the establishment of the Cancer Control Act in 2006. These two factors promoted the cancer registration from regional medical institutions as well as cancer care hospitals and the accuracy of the cancer registry rapidly increased.

CONCLUSION

These efforts and the improvement of cancer registration have connected with the establishment of The Gunma Prefectural Ordinance for Cancer Control Promotion established in 2010.

THE INCIDENCE AND SURVIVAL RATE OF MALIGNANT MELANOMA IN THE GWANGJU-JEONNAM CANCER REGISTRY, SOUTH KOREA

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BACKGROUND

Breast cancer is the most prevalent cancer among women in Singapore and the leading cause of cancer-related deaths. BreastScreen Singapore (BSS) was launched in 2002 as the first population-based breast cancer screening program in Asia, with the aim of reducing breast cancer mortality in Singapore. The program encourages female Singaporeans and Permanent Residents, aged 50 years and older, to attend subsidized screening at participating centres.

METHODS

This study reports the key findings from a program evaluation carried out by analyzing screening data from participants screened between 2002-2009. Key indicators included were the program's cancer detection rates, sensitivity, benign biopsy rates and interval cancer rates.

RESULTS

These indicators were found to be comparable to other established population-based breast screening programs such as Norway, UK and Australia. BSS seeks to further improve uptake through tailored community outreach by lay health advocates and by making screening more accessible via mobile units.

CONCLUSION

BSS will benefit from a new government policy allowing greater utilization of compulsory health savings for health screening, including screening mammography.

CANCER REGISTRY DATA: AN EVOLUTION LEADING TO CANCER CONTROL

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BACKGROUND

Cancer was first listed as cause of death in 1629 in the European *Bills of Mortality*. The first known systematic collection of cancer information was the London general census of cancer in 1728. The first specialized registry surfaced in 1923 with data collection methods to review outcomes. State and hospital registries soon evolved. The purpose of this study was to review the historical cancer registry data collection process and show how they assist in cancer control.

METHODS

Over time cancer data collection has evolved from the paper abstract and data fields to an electronic process and many data fields. Cancer registrars retrieve data from many sources to capture the patients' journey from diagnosis to treatment to long term follow-up. Data is sent from hospital/clinic sources to state registries and national registries. Registry information is reviewed for spikes in cancer incidence. Programs are initiated to lower incidence and mortality.

RESULTS

Knowledge of what the cancer registry and registrar can do for cancer control is a gold mine. Information on all cancers, including their causes and best treatments, is used for development of cancer prevention and control programs.

SURVIVAL OF CANCER PATIENTS IN ITALY UP TO 2007: RESULTS FROM THE NETWORK OF THE ITALIAN CANCER REGISTRIES (AIRTUM)

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BACKGROUND

We present a population-based analysis of cancer survival of Italian patients, including analyses of time trends, conditional survival, and national/international comparisons.

METHODS

We extracted all records of patients diagnosed during 1990-2007 and followed-up until the end of 2008 from the AIRTUM database, including all multiple tumours. Five-, 10- and 15-year relative survival (RS) and five-year conditional RS were analyzed by gender and macro-area. RS was calculated using Ederer II method. Recent survival experiences for diagnosis up to 2007 were estimated by hybrid approaches. Adjustment for age was performed using EURO CARE weights.

RESULTS

A total of 1.5 million individual records were analyzed for 29 different types of neoplasm. Five-year RS estimates for 2005-2007 for female breast, colorectal and lung were 87%, 64%, 15%, respectively. Time trends indicated increasing survival for most cancer sites. We report persisting lower RS in Southern Italy.

CONCLUSION

Delayed diagnosis and suboptimal management are consistent with the reported differences in survival within the country. Some comparisons between Italy and other countries will be discussed.

CANCER INCIDENCE RATES IN ULSAN, SOUTH KOREA: TEN YEARS (1999-2008) RESULTS OF ULSAN CANCER REGISTRY

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BACKGROUND

Ulsan, which is a major industrial city in Korea, initiated a population-based cancer registry in 2001.

RESULTS

The crude cancer incidence rates per 100,000 persons over a period of one year from 1999 to 2008 were 172.3, 173.7, 189.9, 198.6, 229.4, 221.9, 258.2, 273.3, 301.8, and 303.9 in men, while those in women were 149.6, 153.0, 174.4, 176.0, 206.2, 218.9, 256.6, 278.2, 304.8, and 318.4, respectively. The crude incidence rates of all cancers were 233.5 in men and 224.9 in women during the same period. The ASRs of all cancers were 326.3 in men and 210.9 in women during the same period. The most common cancer was stomach cancer (55.4 in men) and thyroid cancer (40.7 in women). The follow-up study continued until 2010, and the five-year cancer survival rates in men were 32.5%, 33.9%, 35.7%, 37.8%, 42.2%, 44.9%, and 43.0% per year from 1999 to 2005, while those in women were 54.8%, 53.7%, 55.0%, 57.1%, 62.3%, 63.9%, and 62.9%, respectively. The five-year cancer survival rates in men were 53.6% for stomach, 58.6% for colorectum, 16.6% for liver, and 10.3% for lung cancers, and those in women were 85.3% for breast, 77.1% for cervix, 49.3% for stomach, 57.3% for colorectum, 15.1% for liver, and 13.6% for lung.

CANCER INCIDENCE IN THE SOUSSE REGION, TUNISIA, 2003-2007

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BACKGROUND

We analyzed incidence rates of the major cancer sites during 2003-2007 in the Sousse region, Tunisia.

METHODS

Incidence rates were calculated using annual data on population size and its estimated age structure. A total of 2976 incident cases of cancer were registered, with a male-to-female sex ratio of 1.4:1.

RESULTS

World age-standardized rates (ASR) showed stable trends in males and increasing trends in females by +1.3%. The leading cancer sites in males were lung (ASR: 31.7), bladder (15.1), colon-rectum (12.9), prostate (11.3), and non-Hodgkin's lymphoma (NHL) (6.6). Over time, colon-rectum cancer showed a marked increase by +4.8%. For females, the leading cancer sites in rank were breast (29.7), colon-rectum (12.9), cervix uteri (4.9), ovary (4.6), and NHL (4.6). Over time, we observed a marked increase for cancers of the breast by +2.6% and corpus uteri by +7.1% and a significant decrease of the cervix uteri cancer by -5.5%.

CONCLUSION

The results underline the increasing importance of cancer as a cause of mortality and morbidity in Tunisia. Our findings justify the need to develop effective programs aiming at the control and prevention of the spread of cancer among the Tunisian population.

ROLE OF CANCER REGISTRIES IN CANCER CONTROL: HOLYCROSS CANCER REGISTRY, POLAND - 25 YEARS EXPERIENCE

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BACKGROUND

The Holycross Cancer Registry (HCR) covers an area of 11,710 km populated by 1,297,000 urban and rural inhabitants, which includes 3% of the Polish population. HCR is located in the middle-south part of Poland and is one of 16 regional cancer registries in Poland. It was established in 1986 and functions as a department of the Holycross Comprehensive Cancer Centre (HCCC), which is relatively new and one of the most modern oncology hospitals in Poland. The HCR registers about 5000 new cases and 3000 cancer deaths every year. The HCR data are of good quality, meeting the IARC criteria and allowing international comparative analyses. We publish a regional bulletin every year. In 2006 the predictions of incidence for years 2010 and 2015 in our region were made. We started also monitoring five-year survivals. We actively participate in the following international Projects: CI, EUROCIM, ACCSIS, EURO CARE, EUROCHIP, RARE CANCER.

RESULTS

The aim of this study is to compare our results to the national and European studies. The relative survival rates are compared between the periods before and after establishing the HCCC.

CANCER INCIDENCE AND SURVIVAL IN ADOLESCENTS AND YOUNG ADULTS IN OSAKA, JAPAN

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BACKGROUND

Cancer incidence in adolescents and young adults is 1.25 times more than those less than 15 years of age, yet it is much less than that in older age groups. Cancer in this age group has not been well described.

METHODS

We studied their cancer incidence and survival based on data from Osaka Cancer Registry. Cancer distribution for 15-29 year-olds was unique: Lymphoma and leukemia were commonest, and these accounted for 23.3% of all sites.

RESULTS

Distribution of cancer types changed dramatically from ages 15-19 to 20-29, and the pattern in the latter group resembled the one in the older age groups. Cumulative five-year survival for cancer diagnosed in 1996-2002 was 67.8%/69.4% among 15-19/20-29 year-olds. It is reported that adolescent and young adult patients who have a pediatric cancer will probably benefit from the expertise of a pediatric oncologist, at least in the form of consultation.

CONCLUSION

Developing a cancer resource network between pediatric oncologists and adult oncologists will be very important to enhance more successful outcome in the 15-29 age group and to increase survival, especially for lymphoma/leukemia as the survival in Osaka tends to be lower in Japan.

CANCER PREVALENCE IN ITALY: PATIENTS LIVING WITH CANCER, LONG-TERM SURVIVORS, AND CURED PATIENTS

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BACKGROUND

Data from AIRTUM (the Italian Network of Cancer Registries - CR) was used to estimate the number of Italians on 1/1/2006 ever diagnosed with cancer (complete prevalence). The prevalence was also broken down by age attained and years since diagnosis.

METHODS

The observed prevalence was corrected by gender, age and site specific completeness indices, estimated by means of statistical models using cancer incidence and survival data from CR with ≥ 15 years of observation.

RESULTS

As of 2006, 2,244,000 persons (4% of the Italian population) were alive with a cancer diagnosis; the number is nearly doubled compared to 1992. Long-term survivors (>5 years) represent 57% of these patients (1,285,680 people, 2.2% of total population). In patients aged ≥ 75 years, the prevalence was 19% in males and 13% in females. Italian women alive with a breast cancer diagnosis were over 500,000 (42% of prevalent female cases), while in men, 22% of prevalent cases (216,716) had prostate cancer.

CONCLUSION

The estimated proportions of prevalent cases in Italy were similar to those reported in Northern Europe, but at least 15% lower than those in the United States. The increasing cancer prevalence over time requires adequate health policies.

CANCER REGISTRY OF THE PROVINCE OF ENTRE RIOS –YEARS 2001-2007

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BACKGROUND

The cancer registry of the province of Entre Rios covered the population from 2001-2007. The population estimated for 2003 is 1,195,404 inhabitants, with a total of 589,119 men and 606,285 women.

RESULTS

The total number of tumors in both sexes is 24,970 cases, corresponding to men 12,345 and women 12,525 (including non-melanoma skin). Percentage of invasive tumors more common in males (12,313): prostate 16.6%, lung 13%, colon rectum 10.9%, unknown primary site 5.1%, stomach 4.4%, bladder 4.1%, esophagus 3.5%, lymphoma 3.5% and kidney 3.1% (excluding non-melanoma skin). Percentage of invasive tumor more common in females (11,606): breast 25%, colon rectum 10.6%, cervix 5.4%, unknown primary site 4.6%, lung 4%, ovary, uterus 3.6%, pancreas 3.2%, stomach 2.5% (excluding non-melanoma skin). Incidence rate according to age, for the first ten tumor sites in men: prostate 43.9, lung 37.5, colon rectum 30, unknown primary site 14.1, stomach 12, bladder 11.2, esophagus 9.9, lymphomas (all) 8.9, kidney 8.9. Incidence rate in women: breast 60.7, cervix 13.4, rectum colon 20.9, lung 8.9, ovary 8.4, unknown primary site 8, uterus 7.2, lymphomas (all) 5, pancreas 5.8, thyroid 3.7.

REACTIVATION VS. NEW HPV-16 DETECTION: IMPACT ON CERVICAL CANCER SCREENING

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BACKGROUND

Controversy remains regarding the importance of reactivation of HPV and its impact in primary screening. To examine this, we compared the rate of and risks for HPV 16 detection among women who did and did not have evidence of previous HPV 16.

METHODS

Women from the HPV SF cohort who were HPV 16 negative were tested for HPV antibodies. Using Cox Proportional Hazards, risks for HPV 16 were examined.

RESULTS

2.9%, 14.5% and 26.2% of 596 seronegative (SN) women had HPV 16 DNA detected compared to 2.1%, 5.9%, and 13.9% of the 269 seropositive (SP) women at 1 yr, 3 yr, and 6 yrs, respectively ($p=0.001$). Clearance of incident HPV 16 was similar in both groups with 100% of SN and 95% of SP clearing by 6 years ($p=.3$). Significant risks for incident HPV among SN included the number of new sex partners (HR=1.05), alcohol use (HR=1.61), marijuana use (HR=1.5), total months of DepoProvera use (HR =1.03 per mo.) and recent STI (HR=1.9). Among the SP, significant risks included older age of first intercourse (HR=1.3 per yr) and current use of Depo (HR =16.5). No sexual behaviors were found significant in the models for SP.

CONCLUSION

Risks for HPV 16 detection in the SP were not associated with sexual behavior, suggesting that these events reflect recurrent latent infection. As seen in SN, these HPV 16 detections rapidly disappeared. This finding suggests that HPV testing in developing countries may result in low PPV in women with recurrent latent infections.

USE OF GIS IN NARROWING THE AREAS FOR MEDICAL TARGETING IN BREAST CANCER EXAMINATIONS

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BACKGROUND

We investigated measures for the effective detection of breast cancer in its early stage by mapping the areas where breast cancer patients live through the use of the Geographic Information System, and by taking into consideration information such as population by age for each area.

METHODS

Study objects were 342 breast cancer patients in Hirakata City, Osaka Prefecture, Japan, from 2000 to 2004. Their geographic information was obtained by the use of the Address Regeneration Factory[®] sold by N.C.M. Inc. Based on this information, breast cancer patients were mapped on the detailed map of Hirakata City. MapInfo Professional[®]10 (Pitney Bowes Software Inc.) was used for the mapping, and the statistics of the national census of 2005 were used for the regional population.

RESULTS

A chart was used which is a combination of the distribution map of the female population ages 35 years and up, and the mapping of 342 breast cancer patients. This chart shows that breast cancer patients are interspersed throughout Hirakata City. A comparison of this chart with the distribution chart of the localized stage of breast cancer (including carcinoma in situ) as well as the distribution chart of other stages leads to the following conclusion: The areas to be targeted for health care administration are where the number of registered breast cancers at the localized stage is small, and where the number of registered breast cancers at the other stages is great.

SKIN CANCER SCREENING IN GERMANY

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BACKGROUND

A population-based skin cancer screening (SCREEN) was performed in 2003 in Schleswig-Holstein, northernmost federal state in Germany, to assess its feasibility and impact on skin cancer epidemiology.

METHODS

Individuals 20 aged years or older were offered a standardized whole-body examination by general practitioners (GP). If a GP detected a suspicious lesion, the patient was referred to a dermatologist, where a second examination and if necessary a biopsy was conducted. More than 360,000 residents were screened (19% of the population).

RESULTS

In 11,864 (9.3%) screenees, lesions were suspected to be skin cancer. In these a total of 2,908 skin cancers (582 melanomas, 1593 basal cell, 386 squamous cell carcinomas and 53 others) were diagnosed. Compared to pre-screening area melanoma incidence increased by 22% in men (WASR: 12.4 vs. 15.1/100,000) and by 45% in women (14.7 vs. 21.3).

CONCLUSION

After SCREEN a decline in melanoma mortality was observed. Feasibility of a population-based skin cancer screening could be shown. The decline in melanoma mortality in the screening region, while mortality stayed constant in the surrounding areas, represents strong evidence that SCREEN has the potential to save lives.

ROLE OF CANCER REGISTRIES IN CANCER CONTROL

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BACKGROUND

A population-based cancer registry is an essential part of any national cancer control program. Cancer control aims to decrease incidence, morbidity and mortality of cancer and to improve the quality of life of cancer patients through the systematic implementation of evidence-based interventions in preventions, early diagnosis, treatment and surveillance. Population-based cancer registry is a co-coordinating facility of co-operating hospital records in a selected geographic area to collect, combine, compare and evaluate uniformly defined information on cancer patients which facilitates and improves patient's follow-up. The information collected by a registry can be utilized in many ways, depends upon specific interest of public health authorities, hospitals, medical colleges and individual physicians.

RESULTS

To better understand the burden of cancer, Indian Council of Medical Research has established the National Cancer Registry Program in 1982. It has a good network of population-based cancer registries located in different parts of India and plays a crucial role in formulating cancer control plans as well as defining priorities. Cancer registry is an essential research tool for the cancer control program.

CANCER IN WOMEN IN INDIA

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BACKGROUND

An attempt has been made to better understand the burden of cancer in Indian woman by analyzing the database contributed by population-based cancer registries (Mumbai, Bangalore, Chennai, Delhi, Bhopal and Barshi) over the last two decades. 50% of the total cancer in women constitutes the cancers of breast, ovary, cervix, and corpus uteri.

METHODS

50% of the total cancer in women constitutes the cancers of breast, ovary, cervix, and corpus uteri. To study the trends in cancer, a linear regression method has been carried out.

RESULTS

Results show an increasing trend for breast, ovary and corpus uteri and a decreasing trend for cervix throughout the observation period.

CONCLUSION

It has been observed that cancer is becoming a severe disease in women which requires serious efforts to better understand the etiology of these cancers. Systematic epidemiological studies should be planned in the near future on a priority basis.

EXPLOITING POPULATION-BASED TISSUE REPOSITORIES FOR CLINICAL / TRANSLATIONAL RESEARCH: THE CANCER PATIENT TISSUE COHORT

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BACKGROUND

We describe the prevalence and genotype distribution of human papillomavirus (HPV) in anogenital, and head and neck tumor specimens to establish a pre-vaccine baseline in the U.S.

METHODS

The Cancer Patient Tissue Cohort is a unique resource consisting of tumor tissue from over 112,000 racially diverse cancer patients identified through three SEER cancer registries covering Los Angeles County, Iowa, and Hawaii. Tumor HPV status was determined.

RESULTS

The prevalence of the current prophylactic HPV genotypes, 16/18, was highest in anal cancer, followed by malignancies of the tonsils, cervix, base of the tongue, vagina, vulva, penis, oropharynx, and oral cavity. The HPV prevalence in oropharyngeal cancers significantly increased from 16% during 1984-1989 to 72% during 2000-2004. Should recent incidence trends continue, the annual number of HPV-positive oropharyngeal cancers among men is expected to surpass that of cervical cancers among women by the year 2020 in the U.S.

CONCLUSION

HPV positivity is higher in non-cervical cancer sites than previously thought. These data will be useful in establishing a baseline to measure the impact of the prophylactic HPV vaccine.

THE RURAL GRASS-ROOTS WORK OF THE CANCER REGISTRY: PROBLEMS AND COUNTERMEASURES

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The practice of cancer registration starts from the grassroots; for some problems exist and countermeasures must be explored. From the registration numbers, quality reporting, data verification, disease coding, data entry, patients who were followed-up, etc. exposition of countermeasures in order to better improve the rural grass-roots cancer registration. Much raw data needs to be collected from the grassroots, and many grassroots organizations need specific help to implement this activity. Therefore, attention must be paid to grass-roots-based collection of every aspect of the process, to identify and solve problems, and establish an effective management mechanism to continuously improve technology and quality of cancer registration.

AN ANALYSIS OF FACTORS TO COMPLIANCE WITH ENDOSCOPIC SCREENING FOR EARLY DIAGNOSIS AND TREATMENT IN THE HIGH-RISK AREA OF ESOP

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BACKGROUND

This study was to understand the compliance with and influencing factors about endoscopic screening for early diagnosis and treatment in the high-risk area of esophageal cancer.

METHODS

Using a cross-sectional survey, we chose the intervention and control group of 40-69 year-olds for a questionnaire on their knowledge about early esophageal cancer and their reasons for the rejection of an endoscopy. These surveys were then analyzed in the light of compliance of actual endoscopic screening.

RESULTS

Main reasons in the intervention group for refusing to accept the endoscopic screening: the first (65.8%) was not knowing the benefit of endoscopic screening; the second (48.1%) was fearing pain of endoscopy; the third (41.7%) was not wanting the procedure since they had no symptoms. The reasons given in the control group: the first (62.03%) was not wanting the procedure since they had no symptoms; the second (58.03%) was fearing pain of the endoscopy; the third was psychological burden.

CONCLUSION

The impact on endoscopic screening is mainly due to lack of knowledge about early diagnosis and treatment of esophageal cancer, and fearing the pain of endoscopy.

DIVERSE TRENDS IN LUNG CANCER BY HISTOLOGY: ARE ADENOCARCINOMA RATES STILL RISING IN WOMEN?

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BACKGROUND

The study objective was to examine global trends in lung cancer incidence by histological group in countries with high quality data.

METHODS

Incidence data from Population-Based Cancer Registries 1973-2002, published in Cancer Incidence in Five Continents with ≥ 15 years of consecutive data, including 1998-2002 data with $\geq 80\%$ microscopic verification, $\leq 5\%$ death certificate only, $\leq 25\%$ poorly-specified morphologies. Statistical analyses: Truncated age-standardised rates (TASR); rates versus birth cohort plotted by age.

RESULTS

Men: TASR of squamous cell and small cell carcinomas decreasing; adenocarcinomas increasing or stable (exceptions incl. France, Spain). Women: TASRs of each subtype rising; adenocarcinoma is the most frequent subtype. Trends in SCC-Men: rates decreasing. Trends in SCC-women: declines in rates in Australian and U.S. cohorts born after 1930; rates stable among post-WWII cohorts in Denmark and France. Trends in AdC-Men: declining rates in post-WWII Australian and U.S. cohorts; rates stable in Denmark but increasing in France. Trends in AdC-Women: decreasing rates in generations born 1940-50 in Australia and U.S., stabilisation in Denmark, but increases in France.

PREDICTIONS OF LUNG CANCER MORTALITY IN EUROPE TO 2020

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BACKGROUND

Lung cancer mortality rates vary markedly across Europe, and within each country, between males and females reflecting smoking prevalence patterns and trends.

METHODS

We estimated the future lung cancer mortality rates in Europe for 29 countries for 2010 and 2020 using cancer registration data for 1970–2007, and the official population projections from the U.N. Population. Data were analyzed using an age-period-cohort model as developed for the Nordic countries.

RESULTS

There will be an increase of 28.4% in the number of lung cancer deaths from the year 2000 (number of deaths = 316547) to year 2020 (number of predicted deaths = 406418). Among men, population growth and aging will explain most of the increase, while among women the increase is due to both to changes in risk as well as population growth and aging.

CONCLUSION

The overall number of lung cancer deaths in Europe will increase substantially in the next decade. The increase will be due mainly to the anticipated effects of population growth and aging among men, while among women changes in risk will add to the cancer burden of a growing and aging population.

DEVELOPING IT-SUPPORTED PUBLIC DOMAIN NATIONAL CANCER REGISTRY PROGRAM IN EGYPT: PROBLEMS, SOLUTIONS AND LESSONS GAINED

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BACKGROUND

Egypt was lacking population-based cancer registries until 1998 when a registry was established in a governorate through MECC. Its last report was 2002.

METHODS

Being limited to one district and dependent on external support, it became mandatory to start the Egypt National Population-based Cancer Registry (NPCR) Program in 2008 as a collaborative protocol between the ministries of Communication and IT, Health, and Higher Education. It aimed at better understanding and control of cancer through a network of population-based registries in five governorates spread over Egypt (22% of population).

RESULTS

NPCR is operational in four districts with a searchable database on the NPCR site. A demo will be available online and on CD at the meeting. Active data collection and online data entry allowed reporting with a one-year delay. Challenges faced are quality of medical records, private sector, training and methodology standardization, software, quality assurance and many others. Solutions and lessons gained are detailed in the text.

CONCLUSION

Successful implementation in four districts points to the feasibility of having IT-supported population-based cancer registries and an online public domain database in other developing countries.

HEALTH-RELATED QUALITY OF LIFE: FEMALE BREAST CANCER SURVIVORS IN JORDAN

OMAR NIMRI

Jordan Cancer Registry

BACKGROUND

There is a scarcity of health-related quality of life (HRQOL) studies; a literature review indicates few or almost none in this area. This study is to observe effects of treatment on the HRQOL of female breast cancer survivors. The significance of the study comes as cancer is the second cause of death in Jordan and breast cancer tops the list among female cancers.

METHODS

This was a descriptive study, a systemic random sample of 129 women selected from a total of 1,379 that fit the selection criteria, personally interviewed, with a minimum of 12 months post-surgical treatment. An appropriate verified and validated questionnaire consisted of EORTC (QOL-C30, QOL-Br23), (HADS, MHI), and the demographic personal data measured different dimensions affecting the HRQOL.

RESULTS

Data analysis indicated that women with partial mastectomies were having less emotional and functional dysfunctions and also have a better mental health than those with total mastectomy. Partial mastectomy had less body image distortion and better QOL. Unexpectedly, total mastectomy had less sexual dysfunction than with partial surgery; there was a significant difference in mental health and QOL, regarding time of surgery, after three years compared to one year. Age did not show any significant difference in mental health status and QOL between younger and older women.

CONCLUSION

As survival increases every year, health-related quality of life studies could help in future management of cancer patients and shed some light on this issue in an attempt to respond to this challenge. This would hopefully stimulate further research in this field which ultimately will be reflected on the patients themselves.

SURVIVAL ANALYSES AFTER NEPHRECTOMY IN ASIAN PATIENTS WITH RENAL CELL CARCINOMA: A REGISTRY DATABASE REVIEW

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BACKGROUND

The 7th edition of TNM classification for renal cell carcinoma (RCC) revised the T, N and M category criteria, achieving a better distribution of RCC patients with similar survival rates. We report survival trends of RCC patients with nephrectomy done from Jan 2000 to Dec 2010 at our hospital in Singapore, evaluating the AJCC (7th edition) prognostic risk grouping and impact of tumor size in an Asian population.

METHODS

680 RCC cases were identified from our RCC registry database. The 7th edition of TNM classification was used for cancer staging. Log Rank and Cox Regression were performed for survival analyses.

RESULTS

Five-year survival rates were 92.4%, 84.6%, 62.9% and 28.2% for stages I, II, III and IV. There was a strong association between five-year survival rates and AJCC 7th edition staging groups (HR=2.64, p=0.000). Five-year cancer-specific survival rates were 98.7%, 92.0%, 83.7% and 81.1% for tumor sizes 4.0, 4.1-7.0, 7.1-10.0 and >10. Five-year cancer-specific survival rates were strongly associated with sub-categories T1a/b, T2a/b (HR=2.44, p=0.000).

CONCLUSION

Our findings suggest that the 7th edition of TNM classification is applicable to our local population.

EVALUATION OF DATA COMPLETENESS OF THE RENAL CELL CARCINOMA (RCC) REGISTRY AFTER NEPHRECTOMY

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BACKGROUND

This study evaluated the data completeness in the registration of renal cell carcinoma after nephrectomy in the Urological Cancer Registry at the Singapore General Hospital (SGH), and its compliance to the international standards of US Commission on Cancer (CoC).

METHODS

The registry reviewed all 682 RCC cases with nephrectomy done at SGH from the Hospital Operating Theatre Management (OTM) between January 2000 and December 2010. We reviewed data items on patient identification, cancer identification, stage of disease at diagnosis, first course of treatment and outcomes.

RESULTS

100% of eligible cases were captured. Completeness rates were 100%, 93.7%, 97.8%, 91.6% and 99.9% for patient identification, cancer identification, stage of disease at diagnosis, first course of treatment and outcomes respectively as per CoC requirement of 90%.

CONCLUSION

The registry is fully compliant to CoC standards.

TRENDS IN INVASIVE AND IN SITU (CIN 3) CERVICAL CANCER INCIDENCE AND MORTALITY IN UMBRIA, ITALY: 1994-2008

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BACKGROUND

We analyzed trends in invasive cancer incidence and mortality and CIN 3 in the Umbria Region (1994-2008).

METHODS

Joinpoint regression was applied to evaluate temporal trends of the incidence and mortality rates (EP standard). Relative survival rates were calculated with the Hakulinen method.

RESULTS

The incidence and mortality rates in the period decreased: EAPC respectively of -1.5 (95% IC -4.0;1.1) and -4.1 (95% IC -9.0;1.1). In 2008, probably as a consequence of the increased number of foreign residents, accounting for 24.4% of invasive and 28.6% of CIN 3 incident cases, the incidence rate increased (7.2) as well as the mortality rate (1.4). CIN 3 incidence rates significantly increased by 6.7 per year (95% IC 4.9;8.5). Survival rates remain stable, but for 1998-2001 cases a peak was observed with the first round of the organized screening.

CONCLUSION

The introduction of an opportunistic screening strategy before (1980) and after the regional screening program (1999) are linked to the changes in trends. The growth of CIN 3 incidence is caused by the screening program but also to immigrants coming from countries with high prevalence of HPV-related lesions.

SOLID CANCER INCIDENCE RATES IN THE REPUBLIC OF BELARUS (1970-2010)

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BACKGROUND

Belorussian Cancer Registry data on more than 1,000,000 cancer cases which occurred in 1970 to 2010 were used for time-related trends for Age-Standardized Incidence Rates (ASRWorld) analysis in Belarus.

RESULTS

Five main types of time-related ASR trends were distinguished. No considerable changes in ASR were detected for liver, pancreas, esophagus, larynx, lung, cervix uteri, ovarian and bladder female cancers. A gradual growth of ASR was noted for colon cancer and melanoma of the skin in both males and females; and breast, corpus uteri and renal female cancers. Considerable decrease in ASR of stomach cancer in both males and females, and lip cancer in males was shown. ASR for female and male rectosigmoidal cancer and male cancers of thyroid gland, oesophagus, larynx, lung and bladder had been increasing till the middle of the 90s, when they stabilized. Incidence rates for skin cancers in both sexes, prostatic and kidney cancer in males, and thyroid cancer in females, which had been slowly rising from the 1970s to the 1990s, then started growing rapidly.

CONCLUSION

The above-mentioned ASR trends may be indicative of the impact of some environmental factors at certain periods of time.

THE ROLE OF BELARUSIAN CANCER REGISTRY IN CANCER CONTROL

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BACKGROUND

In Belarus cancer registration is mandatory, and it has been carried out since 1953. The cancer registry has been evolving gradually from paper records to an automated system of dispensary follow-up of cancer patients. The Belarusian Cancer Registry covers the whole territory of Belarus. It is based on more than one million records. The current version contains information for patient identification (address, birth date, age, occupation, relation to Chernobyl accident), data on diagnosis (ICD 10,9 and morphology codes, dates of diagnosis, outcome, last and planned visit, TNM, plurality and medical remarks), data on treatment (character and kind of specific therapy, dose and name of chemical or radiation supplies, name of surgery).

CONCLUSION

The program allows getting underlying reports (general cancer statistics, absolute numbers, rates and proportions and information on medical activity) and user-determined requests (to get medical records about patients of interest). Also primary database files can be used for specific scientific aims: survival analysis, descriptive and analytical epidemiological studies. Thereby the registry plays a key role in the organization of cancer control at multiple levels.

DISTRIBUTION AND PROGNOSIS OF MOLECULAR BREAST CANCER SUBTYPES AMONG SPANISH WOMEN

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Background

Breast cancer (BC) is regarded as a heterogeneous disease from a clinical and biological point of view. Gene expression profiling identifies four molecular subtypes. The aim was to determine whether clinicopathological features and prognosis of BC differed among molecular subtypes.

Methods

Data were obtained from 10 Spanish population-based cancer registries participating in the "High Resolution Spanish Study of Breast Cancer" that covered 20% of the Spanish population. Invasive female BC, mainly diagnosed in 2005, were retrospectively analyzed. Four molecular subtypes were constructed from immunohistochemical status of hormone receptors and erb2: Luminal A (estrogen receptor [ER] and/or progesterone receptor [PR] + and erb2 -), Luminal B (ER and/or PR + and erb2 +), Erb2 (ER and PR - and erb2 +) and Basal Like (ER, PR and erb2 -). Survival was analyzed according to molecular subtypes, using Kaplan-Meier and COX regression method; women were followed-up until 31/12/2008. Clinicopathological features (histological grade, stage, age) were compared among molecular subtypes.

Results

3,474 BC were identified and 2668 were classified into molecular subtypes. The proportions of Luminal A, Luminal B, Erb2 and Basal-like BC subtypes were 68.6%, 12.0%, 7.3% and 12.1%; and three years survival were 92.0%, 88.3%, 83.4% and 78.3%, respectively ($p < 0.001$). The prognostic value of BC molecular pattern remains when adjusting by grade, age and stage. Luminal A correlated to an early stage and a significantly higher mean age (60.53 ± 14.32 years) compared with other subtypes.

CONCLUSION

Marked differences in clinicopathological features and survival were observed among subtypes, which provide prognosis information, useful to guide clinical treatment.

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THE CHALLENGE OF CHILDHOOD CANCER IN INFORMATION FOR THE NEXT DECADE

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BACKGROUND

Contemporary society is undergoing radical changes in lifestyle, and the impact of these changes may affect the profile incidence of some tumors of childhood and adolescence.

METHODS

We conducted a literature search of incidence of tumors in children under 20 years, Group III (astrocytomas and gliomas) and Group X (gonadal carcinoma) in three countries.

RESULTS

In the United States, astrocytomas and other gliomas represent 52% and 15% of all CNS tumors, respectively. In Brazil, the highest incidences rates of astrocytomas occurred in Goiânia (11.71) and Campinas (11.17) per million. In Germany it is 16.1 per million. The greatest incidence of glioma in Brazil occurred in Goiânia (5.99), Belo Horizonte (3.34), and in Germany with an incidence of 2.8 per million. In the United States, 7% are gonadal carcinomas. In Brazil, the Curitiba registry reported a very high number of cases (which is being verified) while 10 other cities had no reported gonadal carcinoma cases. In Germany the incidence of these same carcinoma is 1.8 per million.

CONCLUSION

The incidence results followed a common trend in the three study countries. Records are important to monitor rare cancers.

REFERENCES

- Brazilian Institute of Geography and Statistics (IBGE). Summary of Results from Census 2010. Available at: <http://www.censo2010.ibge.gov.br/sinopse/webservice/> Accessed June 5, 2011.
- Brazilian Institute of Geography and Statistics (IBGE). Studies and Research Socioeconomic and Demography Information, number 3: young population in Brazil. IBGE:Rio de Janeiro, 1999.
- German Childhood Registry. Annual Reports 2009. Available at: <http://www.kinderkrebsregister.de/english>. Accessed 9 June, 2011.
- Parkin DM, Kramarova E, Draper GJ, Masuyer E, Michaelis J, Neglia J, Qureshi S and Stiller CA (1998). International Incidence of Childhood Cancer. IARC Scientific Publication, number 144, Lyon.
- Kuijten RR and Bunin GR (1993). Risk factors for childhood brain tumors. *Cancer Epidemiol. Biomarkers Prev.*, 2, 277-88. Published online May 1993.
- Ries LAG, Smith MA, Gurney JG, Linet M, Tamra T, Young JL and Bunin GR(1999). *Cancer Incidence and Survival among Children and Adolescents: United States SEER Program 1975-1995*. National Cancer Institute, SEER Program. NIH Pub. 99-4649. Bethesda, MD, 1999.

DEFINING THE BURDEN OF CANCER FOR CANCER CONTROL: CHANGING DATA INTO INFORMATION

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BACKGROUND

Central cancer registry incidence data is often used to identify areas where cancer control interventions are needed. However, what constitutes the burden of cancer is not clearly defined. Is it cancer incidence or is it cancer mortality? Is it population characteristics or is it risk behaviors?

METHODS

This presentation will define three additional data sets that are available in most countries and shows how these data sets can be combined with cancer incidence data using a simple rank sum approach to provide a logical description of the cancer burden in specific geographical areas. Combining these data together using a simple rank sum approach can convert the raw data into information easily interpreted by lay people with no training in statistics or epidemiology.

RESULTS

The approach has been used in Kentucky to define the areas of greatest need for colorectal cancer screening. Following implementation of this data driven cancer control intervention strategy, there was a 30% increase in colorectal cancer screening, a 16% reduction in colorectal cancer incidence, and a 16% reduction in colorectal cancer mortality in 6 years. All of these changes are statistically significant ($P < .05$).

TREND OF BREAST CANCER IN BHOPAL (INDIA) AND STUDY OF ITS RISK FACTORS

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BACKGROUND

Breast cancer in Bhopal is on the rise. The present paper evaluates the time trend in the incidence of breast cancer and attempts to explore its associated risk factors.

METHODS

The time trend in the Age-Adjusted Rate (AAR) was assessed using the Joinpoint method for incidence data over the years 1988-2007. A case control study was undertaken to study the impact of various risk factors in causation of breast cancer. The study was comprised of 462 histological confirmed breast cancer cases and disease-free controls matched for age and socioeconomic class.

RESULTS

Over the years 1988-2007 AAR increased significantly from 18.2 to 23.8/100,000 with APC 1.4. The factors which had a higher association with breast cancer were, obesity (BMI>25, OR 2.6), age at menarche (<12 years, OR 8.5), marital status (unmarried, OR 4.1), family history (present, OR 4.9), consumption of oral contraceptive (Use>2 year, OR 3.1). Nulliparity, absence of breast feeding, and lack of physical activity also showed a higher association with breast cancer.

CONCLUSION

Increasing incidence of breast cancer is largely attributed to obesity among women who are nursing fewer children and weaning them earlier and altering the hormone flow.

MAY DEPRIVATION INDEX EXPLAIN GEOGRAPHICAL INEQUALITIES IN LUNG CANCER MORTALITY IN ZARAGOZA (SPAIN)?

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BACKGROUND

This study tries to identify the evolution of geographic variations in lung cancer (LC) mortality in Zaragoza during 1996-2007 and its association with socioeconomic factors.

METHODS

Mortality data were obtained from the Aragon Mortality Registry and socioeconomic data from the 2001 Census. The geographical unit was census tract (CT). A synthetic deprivation index (DI) was obtained. The evolution of mortality between 1996-2001 (P1) and 2002-2007 (P2) was analyzed. Standardized Mortality Ratio (SMR) was calculated using internal standardization and adjusted using a Bayesian GLMM model.

RESULTS

An increase in women in all CT was observed, while in men this increase was not appreciated. For men, an association between LC mortality and DI was found in P1 and P2 (higher risk in most deprived CT). In women an increasing risk in less deprived CT was obtained between P1 and P2.

CONCLUSION

Men and women have different patterns of LC mortality and its association with deprivation. This could be explained, at least in part, by the different evolution pattern in smoking habits among both sexes. Financial support: PI126/08 and PI07/90453.

TOBACCO-RELATED CANCER (TRC) PATTERN IN URBAN AND RURAL AREAS IN TAMIL NADU, SOUTH INDIA

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BACKGROUND

A total of 21925 incident cases of TRCs in Chennai (1983-2007) and 1226 cases in Dindigul (2003-2006) formed the basis of the study.

METHODS

Age-standardized rates (ASR) per 100,000 person years were computed and trends were expressed as annual percent change (APC).

RESULTS

The ASR of all TRCs together among both sexes was more than two-fold higher in Chennai than Dindigul: the figures for men were 50.5 and 23.2 and women were 20.4 and 8.6 respectively. The commonest among TRCs in Chennai was lung (ASR: 11.9), followed by oesophagus (7.7) and mouth (5.9). The order in Dindigul was mouth (4.2), oesophagus (3.7) and lung (3.2). The trend of ASR of all TRCs together in Chennai during 1983-2007 was increasing among men (APC: 1.1%) and was significant for lung (2.7%), bladder (3.3%) and oropharynx (5.1%). The trend of ASR of all TRCs together was stable among women (-0.1%). A fall in oesophageal cancer (1.5%) and a significant increase in lung (8.0%) cancer were observed. Mouth cancer remained stable among men (0.3%) but showed a significant fall among women (1.9%).

CONCLUSION

The variable pattern of TRCs between urban and rural areas with similar prevalence of tobacco use reiterates the role of other environmental risk factors.

THE INCIDENCE AND SURVIVAL RATE OF MALIGNANT MELANOMA IN THE GWANGJU-JEONNAM CANCER REGISTRY, SOUTH KOREA

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BACKGROUND

The epidemiological features of malignant melanoma (MM) in Asian population are different than in the non-Asian population. Since there is limited reporting for MM in Asians, including Koreans, we assessed the incidence and relative survival rate (RSR) of MM in the recent 10 years (1999-2008) using the Gwangju-Jeonnam Cancer Registry (GJCR), South Korea.

METHODS

A total of 339 cases were extracted from the GJCR database and reviewed for site and histologic type by a dermatologist. We calculated the age-standardized incidence rate using WHO standard population (ASR) and relative survival rate (RSR).

RESULTS

During the period, overall ASR of MM was 0.7/100,000 and 0.8/100,000 in male and female, respectively. ASR per 100,000 of males and females were 0.5 and 0.8, respectively, in the first five years (1999-2003), and 0.8 and 0.8, respectively, in the second five years (2004-2008). Five-year RSR was 41.5% and 55.7% in males and females, respectively.

CONCLUSION

The incidence of MM was similar to previous Asian data, but lower than European data. Any increasing trend was not found in this data. In addition, five-year survival rates in both sexes were lower than most previous reports.

APPROPRIATENESS OF STANDARD MORTALITY INCIDENCE RATIO IN EVALUATION OF COMPLETENESS OF POPULATION-BASED CANCER REGISTRY

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BACKGROUND

The purposes of the study were to evaluate the magnitude of differences in mortality incidence (MI) ratios derived from the national mortality source and those derived from cancer registry (CR) databases in Thailand, and to determine factors associated with these differences.

METHODS

Cancer incidence cases and mortality cases were retrieved from five population-based CRs in four regions of Thailand. Two sources of mortality were used: death cases within the CRs and mortality statistics obtained from the Ministry of Public Health. Plots of percentage of MI ratio from CR databases and that from national mortality source against 1 minus 5-year relative survival were used to visualize the correlation between the two mortality sources.

RESULTS

There was high variability between the standard MI ratios derived from national mortality compared with 1 minus 5-year relative survival. The factors affecting MI ratios are a source of mortality data and misclassification of topographic site as the cause of death.

CONCLUSION

Use of the MI ratio is not recommended to evaluate completeness of cancer registry data when the quality of mortality data is poor.

ANALYSIS OF BREAST CANCER AND CERVICAL CANCER IN TAIWAN

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BACKGROUND

Breast cancer has the highest incidence rate and is fourth in mortality, and cervical cancer is ranked fifth in incidence and sixth in mortality in Taiwan. Obviously, breast and cervical cancers are terrible diseases threatening women's life and health in Taiwan.

METHODS

In this study, we linked Taiwan Cancer Registry data with Death Certificate data. There were 29306 and 21050 new cases of breast and cervical cancers from 2002 to 2007.

RESULTS

The five-year survival rates of stages I, II, III and IV were 97%, 91%, 72.8% and 27.3% for breast cancer, and 97%, 65.8%, 42.2% and 29.2% for cervical cancer, respectively. Cox proportional hazard models were used to calculate RR. For cancer cases diagnosed with advanced stage, RR is 2.56 (95% confidence interval [CI]=2.50, 2.62). Also, for cancer cases diagnosed among the elderly, RR is 1.12 (95% confidence interval [CI]=1.11, 1.13).

CONCLUSION

The national Pap smear screening has efficiently decreased cervical cancer incidence and mortality in Taiwan. The incidence and mortality for cervical cancer all decreased, with a 53.7% and 61.8% decline since 1985. Furthermore, the government provides mammography screening to reduce the risk of breast cancer.

SEX DISPARITIES IN CANCER INCIDENCE BY PERIOD IN KOREA, 1999-2008

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BACKGROUND

While the attention to the importance of sex differences in cancer incidence has been drawn, the analysis on the sex disparities in cancer incidence based on a population-based cancer registry has been rarely reported in Asia.

METHODS

Using the Korea National Cancer Incidence Database from the Korea Central Cancer Registry, we calculated age-adjusted (to world standard population) and sex-specific incidence rates and male-to-female incidence rate ratios (IRR) for 24 cancer sites during 1999-2008. The IRRs were also compared across period and age groups.

RESULTS

The five cancers with the largest male-to-female IRR were larynx (C32, 15.70), oesophagus (C15, 15.06), bladder (C67, 5.63), lung (C33-C34, 3.80), liver (C22, 3.70). Only two cancers had a higher incidence in females compared with males: breast (C50, 0.01), and thyroid (C73, 0.18). Over the period of 1999-2008, the largest consistent increases in male-to-female IRR were observed in cancers of the larynx (C32, 27.63), whereas the largest consistent decreases in IRR were shown in multiple myeloma (C90, -13.38). The magnitude of the male-to-female IRR also varied with age. For all cancers combined, cancer incidence rate was higher among females than males among the age group of 20-40 year-olds, while it was higher among males than females at 50 years and over.

CONCLUSION

It is clear that the incidence of most cancer sites is higher in men than women in Korea. Observing how male-to-female IRRs change with age and period may further provide insight for cancer pathogenesis.

UNKNOWN PRIMARY CANCER IN KOREA, 1999-2008

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BACKGROUND

Unknown primary cancer (UPC) tends to have an unfavorable prognosis. Cancer registries commonly refer to the proportions of cancers in this category as indicators of data quality, but comparatively little emphasis has been placed on them. The purpose of this study is to provide a descriptive overview of unknown primary cancer in Korea.

METHODS

Using Korea National Cancer Incidence Databases from the Korea Central Cancer Registry and mortality data from Statistics Korea, incidence cases and deaths of UPC during 1999-2008 were studied. UPC includes the following: the digestive tract (ICD-10 C26), respiratory system and intrathoracic organs (C39), retroperitoneum and peritoneum (C48), ill-defined sites (C76) and unknown primary site (C80).

RESULTS

In a series of 1.3 million cancer cases in Korea over the period of 1999-2008, unknown primary cancers accounted for 1.5% (20,083 cases) of all incident cancers. Over the 10-year period, there was a decrease in the proportion of UPC from 2.4% in 1999 to 1.0% in 2008. The most frequent diagnosis was adenocarcinoma (51.3%), followed by other carcinoma (35.1%), squamous cell carcinoma (9.6%) and other cancer (4.0%). 80.6% of cases were verified microscopically. Incidence rates were 4.4 cases per 100,000 in males and 2.7 in females, and mortality rates were 3.8 deaths per 100,000 in males and 1.9 in females. Incidence and mortality rates for UPC were generally higher in males than in females.

CONCLUSION

UPC can be interpreted as reflecting poor quality reporting or incomplete clinical follow-up of cases. Therefore, the decline in the numbers of cancers assigned to UPC is to be welcomed.

QUALITY OF LIFE IN WOMEN SUFFERING BREAST CANCER: A PILOT STUDY

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BACKGROUND

Breast cancer is a long-term illness and women have to live with the disease for many years, facing physical and emotional difficulties. The aim of this study is to identify the feasibility of investigating quality of life in women suffering breast cancer through the self-administered WHOQOL BREF questionnaire.

METHODS

Thirty women suffering from breast cancer and who were on treatment were selected. The questionnaire was self-administered anonymously. All women contacted participated in the study.

RESULTS

The average age was 48 years. Cancer was diagnosed during 2008-2011. All patients received chemotherapy, 92% surgery and 42% radiotherapy. 58% of them have college degrees, 8% primary studies and 25% have no education and 67% did not have economic problems. 42% of the total received institutional support and 58% did not receive it. 67% of the patients perceived their quality of life very good/good. Most of the women (58%) felt their relationships quite satisfactory. Sadness, loneliness, and/or hopelessness were observed often in 17% of women.

CONCLUSION

The WHOQOL BREF questionnaire could be self-administered in order to improve the participation even in women with low education.

COMPLETENESS OF CLINICAL STAGE ON ESOPHAGEAL CANCER IN POPULATION-BASED CANCER REGISTRY

DIEGO SILVA

Population-Based Cancer Registry of Goiania, Goiania, Brazil

BACKGROUND

Completeness is one measure to evaluate Population-Based Cancer Registry (PBCR) data quality. In this study we evaluate the performance of PBCR in collecting basic variables and clinical stage (CS) in esophageal cancer (EC).

METHODS

We analyzed all incident cases of EC at the PBRC Goiania for 1988-2008. It was evaluated for the completeness of the basic variables and CS (UICC, TNM, 2009). For statistical analysis we used SPSS 15.0.

RESULTS

For the period 1988-2008 were reported 827 cases of EC. Of these 635 (76.8%) were males, and 192 (23.2%) were females. There is no change in completeness for basic variables in the period (average 66% to 98%). CS was collected in 5.0% (42/857).

CONCLUSION

A qualitative variable such as CS was reported in 5% of the EC but extension of disease was 64%. There was an improvement on completeness on extension of disease significant for males. There was high agreement of the initial CS (73%) and extension of disease, but for advanced stage the agreement was lower (51.8%). There are limitations for PBCR in collecting CS. Although stage is not a mandatory variable in PBCRs. Information about stage is a basic for health policies and cancer control.

INTERNAL MIGRATION AND CHANGE INCIDENCE OF ESOPHAGEAL CANCER IN CENTRAL-WEST REGION OF BRAZIL

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BACKGROUND

In Brazil the highest incidence rates of esophageal cancer are observed in the south: 18.55/100,000 males and 4.56/100,000 females in Rio Grande do Sul (INCA, 2009). Studies on the neoplasm in central-western Brazil are scarce especially after the migration of population from southern Brazil to central-western.

METHODS

Incidence data were obtained from INCA (2009) for Cuiaba, Brasilia, and from PBCR for Goiania (2011). Mortality data for the period were obtained from DATASUS (2011).

RESULTS

The highest incidence of esophageal cancer in men was in Cuiaba (15.1/100,000), and was lowest in Goiania (6.54/100,000). In women, incidence rates were similar in Brasilia and Cuiaba. In Goiania incidence decreased by 35%; however, there was a significant increase in mortality for females (1.6% [p=0.04]) and a reduction in Cuiaba (-5.5% [p <0.05]). There was a cohort effect on mortality in men (p=0.001) in Goiania.

CONCLUSION

The incidence rates of esophageal cancer in Brasilia and Cuiaba are similar to southern Brazil. This high incidence rate is due to large-scale population migration from the south to the central-western area in the 1970's and 1980's, and the migrant population kept the habits of southern Brazil.

COLON CANCER IN CENTRAL-WEST OF BRAZIL

ANDERSON OLIVEIRA

Population-Based Cancer Registry of Goiania, Goiania, Brazil

BACKGROUND

The objective of this study was to evaluate colon cancer in central-west Brazil.

METHODS

Data from Goiania was from PBCR; for other cities, they were from INCA, with mortality data from DATASUS. Standardized incidence and mortality rates were calculated. The trend of mortality was done by a Joinpoint Regression Program.

RESULTS

Highest incidence rates in both genders were in Goiania (20.92/100,000; 26.99/100,000) and Cuiaba (18.44/100,000; 24.29/100,000). In men, the mortality rate was higher in Campo Grande and in women the rate was higher in Goiania. Mortality has increased in males in Cuiaba 8.1% ($p < 0.05$). The age group less than 50 years showed an increase of 13.2% in Campo Grande ($p < 0.05$), and 11.5% in Cuiabá ($p < 0.05$). In the age group above 50 years, there was an increase of mortality in all cities (Brasilia 4.9%, 5.8% in Campo Grande, Cuiabá 8.2% and 6.2% in Goiânia) ($p < 0.05$). For females, mortality increased 6.1% in Goiania, 4.0% in Brasilia and in Campo Grande ($p < 0.05$). In the group younger than 50 years, Brasilia showed an increase of 5.7% ($p < 0.05$). In women above 50 years of age, there was increased mortality in Brasilia (4.2%) and Goiania (6.6%) $p < 0.05$. There was a significant cohort effect in the male population of Brasilia ($p = 0.01$) and females from Campo Grande ($p < 0.05$).

CONCLUSION

Mortality trends showed an increase in mortality in both sexes in central-west Brazil. Reasons for this increase are unclear.

RECTAL CANCER IN CENTRAL-WEST OF BRAZIL

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BACKGROUND

To evaluate the incidence, mortality, trends of rectal cancer in the central-west part of Brazil.

METHODS

The data of Goiânia was from the PBCR and for others, from INCA. Mortality data was from DATASUS. Standardized incidence and mortality rates were calculated using the world's population. Trend of mortality was assessed using Joinpoint Regression Program. Age-period-cohort was applied to mortality.

RESULTS

The highest incidence rates were in females and males in Cuiaba (11.8/100,000; 8.0/100,000) respectively. The highest mortality rates were in males in Cuiabá (7.92/100000); Goiania (6.87/100,000). Mortality increased in males in Goiania 7.3% ($p < 0.05$) as for age above 50 years, 7.4% $p < 0.05$. The trend of mortality for women increased in Brasilia 6.9% ($p < 0.05$). In ages below 50, there was an increase of 8.7% ($p < 0.05$) in Brasilia. In women aged above 50, there was a significant increase in Cuiabá (10.0%), and Brasilia (7.8%) $p < 0.05$.

CONCLUSION

We observed an increased mortality from rectal cancer in the central west of Brazil which was more significant in Brasilia and Goiania. The mortality rate among women was higher in Brasilia, regardless of age.

ATTRIBUTABLE CAUSES OF CANCER INCIDENCE AND MORTALITY IN KOREA

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BACKGROUND

The population attributable fraction (PAF) of cancer risk factors is important for prioritizing cancer control plans. The objective of this study, therefore, was to perform a systematic review and provide an assessment of the number of cancer cases and deaths in Korea in 2007 that were attributable to cancer risk factors.

METHODS

Cancer incidence data were obtained from Korea National Cancer Incidence Database, and cancer mortality data were obtained from the Korea National Statistical Office. The factors considered were tobacco smoking, alcohol drinking, infection, reproductive factors, obesity, physical inactivity, occupation and diet. Levin's formula was used to estimate the PAF that is derived from the exposure prevalence and relative risk. Relative risks were estimated from comprehensive literature search in Korean or other Asian populations and meta-analysis results on these data. The prevalence of exposure to risk factors was estimated from nationwide survey data, or large-scaled cohort studies in Korea.

RESULTS

Among risk factors, infection had the highest overall PAF for cancer mortality (24.7%) followed by smoking (21.6%), occupation (7.8%) and other factors. In men, smoking showed the highest PAF (30.9%) for cancer mortality, whereas PAF of smoking was only 5.6% for women due to very low female smoking prevalence. Among women, 8.7% of cancer incidence and 4.1% of cancer deaths were attributable to reproductive factors. On the contrary, the PAFs of obesity (1.4% in men, 2.2% in women), physical inactivity (<1% in both sexes) and alcohol drinking (2.6% in men and <1% in women) were relatively low for cancer incidence.

CONCLUSION

A well-planned cancer control program for infection and tobacco smoking should be given a high priority in Korea. Appropriate protection against occupational exposure should also be acknowledged as the PAF for occupation appeared to be considerable.

SURVIVAL OF CANCER PATIENTS IN KOREAN ADULTS BY SEX AND STAGE AT DIAGNOSIS, 2004-2008: NATIONAL CANCER REGISTRY STUDY

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BACKGROUND

Although stage at diagnosis is the most important prognostic factor for cancer survival rates, there are limited population-based estimates of stage-specific survival rates. This report presents survival rates for the eight most common cancer sites in Korea by sex and stage at diagnosis.

METHODS

We analyzed data from the Korea National Cancer Incidence Database on 532,363 adult cancer cases diagnosed with eight major cancers during 2004-2008. Patients were followed up to December 2009 and five-year relative survival rates (RSRs) were calculated by sex and stage at diagnosis.

RESULTS

From 2004 and 2008, the five-year RSRs for stomach, colorectal and liver cancers were similar or higher in men (63.9%, 72.0%, 23.3%) than in women (61.6%, 67.5%, 22.7%), whereas those in lung cancer were much higher in women (21.5%) than in men (15.9%). For colorectal, female breast, cervix uteri, prostate, and thyroid cancers, five-year RSRs were over 90% for localized stage, ranged from 71.4% to 99.7% for regional stage, and from 16.7% to 67.6% for distant stage cases. On the contrary, liver and lung cancers showed low survival rates even in the localized cases (35.5% and 39.5%).

CONCLUSION

Korean cancer patients showed relatively good five-year survival rates, and in particular, survival rates for stomach and cervical cancers were high. The estimation of sex- and stage-specific survival rates in the present study will provide essential evidence for evaluating and planning national cancer control programs.

NARECHEM: A SPECIALIZED CANCER REGISTRY FOR CHILDHOOD HEMATOLOGICAL MALIGNANCIES IN GREECE

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BACKGROUND

Since 1996, the Nationwide Registry for Childhood Hematological Malignancies (NARECHEM), a population-based registry, generates data by sex and age on incidence, mortality, survival and time trends. NARECHEM provides information on some 500 sociodemographic, clinical and treatment variables for >1700 incident cases of children diagnosed with hematological malignancies in the six pediatric hematology oncology units over Greece and their 1:1 matched controls.

RESULTS

Data analyses have led to 40 publications and ~1000 citations; the most recent one, in collaboration with Sweden, supports a positive and statistically significant association of IVF with leukemia. The results are to be confirmed in the larger database of the Childhood Leukemia International Consortium and a US prospective study. In the context of EURO COURSE, NARECHEM is now collaborating with registries of Southern-East European countries aiming at comparative descriptive studies. In 2011, after 15 years of research contribution, NARECHEM has gone public (narechem.gr); scientists and the general public can access a user-friendly environment for data on childhood hematological malignancies in Greece and mortality only in the EE-27.

GEOGRAPHICAL SUITE FOR WEB MANAGEMENT SYSTEM OF CANCER REGISTRIES

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BACKGROUND

The cancer registries have a long tradition in the presentation of cancer statistics through spatial representation. The availability of geographic information systems (GIS) with comprehensive mapping and spatial analysis capability has been greatly expanded, but the integration of GIS with management systems for cancer registries has not yet emerged. We present a flexible geographical suite fully integrated with the web-based management system of Umbria Cancer Registry (S.G.RTUP).

METHODS

We extended S.G.RTUP with geographical tools. All the developments are based on AMPAXG technology (Apache, Mysql, PHP, Ajax, XML and Google API) and object-oriented programming (OOP). GIS based on Google maps API is used for cases for geolocalization and incidence and mortality rate maps plotting.

RESULTS

S.G.RTUP integrates an innovative and unique geographic analysis system based on Google Maps API. SIR and SMR can be calculated for smaller areas (e.g. census section or user defined areas) to locate suspect disease cluster or to better define cancer risk for large areas. Also maps of Bayesian smoothed rates can be drawn within the cancer registry.

MORTALITY TRENDS OF LUNG AND LARYNX CANCER IN BRAZIL

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Population-Based Cancer Registry of Goiania, Brazil

BACKGROUND

The aim is to evaluate trends in mortality rates in Brazil for two smoking-related cancers.

METHODS

Deaths from lung cancer and larynx cancer were identified in the SIM/MOH. We calculated standardized mortality rates using the standard world population and trend using the Poisson regression model. To assess the effects of time on the mortality rates we used the software R.

RESULTS

The mortality trends showed increased mortality for laryngeal cancer in men <50 years in four regions of Brazil. There was decreased mortality in men >50 years of age in the southeast; for lung cancer there was a decrease in mortality in the south and southeast in men <50 years of age and only in the southeast for men >50 years of age. For females there was a decrease in the south and southeast in women >50 years of age and an increase in all regions of Brazil for both age groups in females.

Conclusion

The mortality rates for cancers of the lung and larynx have been increasing for women both sexes. For men in the southern regions there were declines in the period studied. Because it is a risk of cancer with 90% attributable to tobacco, prevention activities in relation to consumption could change the face of these trends for cancers of the lung and larynx.

BURDEN OF BREAST CANCERS AMONG FEMALES IN SRI LANKA: EVIDENCE FROM CANCER REGISTRY SRI LANKA 1985-2005

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National Cancer Control Programme, Sri Lanka

BACKGROUND

The National Cancer Control Programme collects cancer incidence data from all government cancer treatment institutions in Sri Lanka.

METHODS

Breast cancer incidence data among females during 1985 -2005 were explored to identify the burden of breast cancers.

RESULTS

From 1985 to 1995 breast cancer was the second commonest cancer among females and from 2000 to 2005 breast cancer was the most common-occurring cancer among females. From 2000 to 2005, around 25% of newly detected female cancers were breast cancers. In 1985, 531 new breast cancer cases were reported while in 2005 it was 1859 among females. Age-standardized breast cancer incidence rates among females in 2000 and 2005 were 19.1/100,000 and 18.4/100,000 respectively. When the age-specific breast cancer incidence rates were compared during 2000-2005 the highest incidence rate was reported in the 50-69 age group. Infiltrating ductal carcinoma was the commonest histological type throughout the period.

CONCLUSION

Breast cancer among females is a significant public health problem in Sri Lanka.

LONG-TERM SURVIVAL OF CANCER IN CALI, COLOMBIA: A POPULATION-BASED STUDY

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BACKGROUND

The aim of the present study was to obtain population-based survival estimates for the most important types of cancer in Cali, Colombia.

METHODS

A total of 14,681 patients with cancer were identified between 1988-2006 in the Cali Cancer registry for the following types of cancer: breast (3986); prostate (3442), stomach (3442) and lung (2170), which together account for almost 46% of all cases. For gastric and lung cancer both, males and females were included. Patients were followed for occurrence of death by review of medical records at different agencies, including the mortality database of the Secretary of Health of Cali, and hospital discharge records.

RESULTS

One-year, 3-year, 5-year and 10-year relative survival were 89%, 75%, 67% and 55% for breast cancer; 86%, 80%, 78% and 72% for prostate cancer; 34%, 22%, 19% and 16% for gastric cancer; and 23%, 11%, 8% and 7% for lung cancer respectively. The risk of dying from cancer is higher for low compared with high SES groups, HR: 2.2; CI95%:1.96-2.43).

CONCLUSION

This is one of the largest Latin-American population-based studies of cancer survival analysis. For the majority of cancers, Cali survival estimates were lower than those in the United States and Europe.

INFLUENCE OF THE AIDS EPIDEMIC ON THE INCIDENCE OF KAPOSI SARCOMA (KS) IN CALI, COLOMBIA

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BACKGROUND

Kaposi's sarcoma (KS) is the most common AIDS-defining malignancy and HAART has been shown to prevent or induce regression of KS.

METHODS

A total of 349 new KS cases (87.7% men) were registered between 1963-2007 in the RPCC among residents of Cali, Colombia. Of these, 94.7% were diagnosed during the HIV epidemic period of 1988-2007. From 1988 through 2007, 12,887 new cases (74.9% males) of HIV-AIDS were reported to the Secretary of Public Health of Cali.

RESULTS

KS was a rare cancer before the 1980s; male incidence increased sharply between 1989-1992 (EAPC: 144.9, CI95%:-80.9, 3034.6) and 1992-2004, (EAPC: 3.7; CI95%-0.6, 8.1), but decreased between 2004-2007 (EAPC: -25.3,-44.7). However, KS's incidence in females has continued to increase for the period 1991-2007 (EAPC 7.4, CI95%: 3.2, 11.7). ASR Notification Rates per 100.000 per year for HIV and AIDS increased to 34.1 (men) and 20.6 (women) between 2001-2005, and subsequently decreased the risk in both men (EAPC: -1.4 , CI95% -4.8, 2.2) and women (EAPC: -3.7, CI95 -7.0, -0.3).

CONCLUSION

The introduction of HARRT therapy has shown a limited impact in the incidence of KS in HIV-positive individuals in Cali, Colombia.

COLOMBIAN HEALTH SYSTEM INEQUITIES IMPACTS CHILDHOOD ALL SURVIVAL IN CALI

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BACKGROUND

VIGICANCER childhood cancer outcomes surveillance system was established in Cali, Colombia in January 2009 with the aim of gaining understanding of determinants of survival. This early report focuses on outcomes in acute lymphoblastic leukemia (ALL) the most frequent cancer in children under 15 years.

METHODS

Children with a new diagnosis of ALL and treated in a pediatric cancer facility in Cali were prospectively enrolled. Active follow-up was done every 3 months, and events (abandon, relapses and death) were registered when they occurred. Analyses were done with information up to August 2010.

RESULTS

KS was a rare cancer before the 1980s; male incidence increased sharply between 1989-1992. Ninety-six childhood ALLs were diagnosed and 94 were followed-up. ALL Event Free Survival (EFS) was 69% (95%CI: 52, 81) at 18 months. EFS in patients with non-subsidized health insurance was 93% (95%CI: 79, 98), with governmental subsidized insurance it was 60% (95%CI: 28, 81), and in non-insured 50% (95%CI: 23, 72). Most failures were due to early leukemic relapses. Adjusted HR for events in children with no insurance or subsidized insurance was 6.5 (95%CI: 5.2, 8.2).

CONCLUSION

Great disparities in outcomes exist among different insurance schemes in the Colombian health system.

THE EXTENT OF CANCER REGISTRY METHODOLOGY IN POST GRADUATE TEACHING OF CANER EPIDEMIOLOGY COURSES

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BACKGROUND

To describe the cancer epidemiology curricula in post graduate schools worldwide, an internet-based study was done.

METHODS

Using a stepwise approach, information on the cancer epidemiology curricula was abstracted through an internet search of medical or public health schools worldwide. The common scientific outline (a scholarly-developed classification of cancer-related topics) was used to describe the extent that cancer epidemiology and its scientific domains are incorporated into post graduate degrees in epidemiology.

RESULTS

Among the 120 studied schools, no school offered an explicitly doctoral degree in cancer epidemiology. Just eight schools offered cancer epidemiology as an area of concentration in their epidemiology curricula. The content of the cancer epidemiology courses offered in different schools were related in 44% of cases to topics of cancer control. Of these, 50% were allocated to cancer registration and surveillance.

CONCLUSION

This study will describe the detailed contents of cancer epidemiology curricula and the contents of course material in different subjects of cancer epidemiology, especially in cancer surveillance and registry.

DESCRIPTIVE EPIDEMIOLOGY OF CANCER IN ADOLESCENTS AND YOUNG ADULTS (AYA) IN THE STATE OF SAO PAULO, BRAZIL

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Hospital-based Cancer Registry of Sao Paulo, Brazil (FOSP)

BACKGROUND

To describe cancer cases among patients aged 15-29 years, diagnosed in 2000-2009, enrolled in the central hospital-based cancer registry, state of Sao Paulo, Brazil, according to sex, age group and the access to diagnosis/treatment.

METHODS

A specific morphology-based classification proposed by Birch et al. (2002) was used.

RESULTS

During this period, 10,604 cases were registered. Lymphomas were the most frequent for those aged 15-19 years (25%), with a predominance of Hodgkin's disease. In the group of patients aged 20-24 years, lymphomas still predominated among men (25%), but among women carcinomas were the majority (41%). In 25 to 29 years old, carcinomas represented the main group cancer and the most frequent sites were gastrointestinal tract (9%) in males and breast (18%) and genitourinary tract (17%) in women. The median interval between first consultation and diagnosis was seven days and the median interval between diagnosis and treatment was equal to one day.

Conclusion

The cancer pattern among AYA in Sao Paulo is similar to that observed in developed countries. Short intervals between first consultation/diagnosis/treatment demonstrate that universal access to treatment has been warranted.

PROSTATE CANCER IN MARTINIQUE ISLAND: THE PIVOTAL ROLE OF ITS CANCER REGISTRY AT THE LOCAL AND REGIONAL LEVEL

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BACKGROUND

Prostate cancer is the leading male cancer in most of the Caribbean, with Martinique registering the highest regional incidence rates. With 177 new cases per 105 men-years in 2005, Martinique is one of the most severely affected areas worldwide. Increasing trends on the island, as well as existing disparities with neighbouring Caribbean counterparts and mainland France arouse interrogations. Hypotheses mainly concern genetics, ethnicity, socio-demographical changes, westernized lifestyles, environmental factors and accessibility to diagnostic and therapeutic procedures, particularly screening. In this context, the Martinique Cancer Registry, which has been performing continual cancer registration since 1983, has an essential role to play.

METHODS

This present study analyzes population-based data from the Registry, coupled with other information sources over the 1990–2007 period, so as to describe and compare incidence, mortality and survival trends for prostate cancer in Martinique, mainland France and selected Caribbean islands.

RESULTS

By interpreting observed patterns in the light of suspected factors, this work will help identify priorities for local and regional public health interventions.

INFLUENCE OF COMORBIDITY IN BREAST CANCER RELATIVE SURVIVAL IN ZARAGOZA (SPAIN)

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BACKGROUND

The purpose of this study is to explore the impact of comorbidity in Breast Cancer (BC) survival in Zaragoza.

METHODS

A longitudinal study was conducted. Data from women diagnosed with BC in 2005 were collected from the Zaragoza Population-based Cancer Registry. Observed and relative 5-year survival (RS) rates and 95% Confidence Intervals (CI) were estimated. Analyses were stratified by TNM stages and presence of comorbidity.

RESULTS

Only 12.5% of the 392 women diagnosed had comorbidities, with Diabetes Mellitus with no target organ damage the most frequent, followed by cardiac insufficiency. The RS global rate was 0.87 (CI:0.82-0.92). Patients with low TNM stages presented a RS of 0.97 (CI:0.92-1.02) decreasing to 0.71 (CI:0.61-0.84) in those patients with high stages. Considering comorbidity, RS was 0.72 (CI:0.56-0.92) in those with at least one illness, exhibiting no differences with those without comorbidities (RS:0.89,CI: 0.85-0.94). In patients with high severity levels a lower RS rate was found in the group without comorbidities (RS:0.69,CI:0.58-0.83).

CONCLUSION

No remarkable differences were found in BC in dependence of comorbidity. Those detected in patients with high TNM stages must be considered cautiously.

MAURITIUS: FROM CANCER REGISTRY TO CANCER CONTROL PROGRAMME

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BACKGROUND

Mauritius, an island state of 1.2 million inhabitants of predominantly Asian ethnicity different from mainland Africa, has characteristic patterns of cancer distribution and trends. While Kaposi's sarcoma is unknown, breast cancer accounts for 38% of female cancers and the incidence rate has doubled over 15 years. Cervical cancer has fallen by 15% over eight years while liver cancer accounts for <2% of cancers. Overall the cancer incidence rate has increased by 40% over 15 years.

RESULTS

The Mauritius Cancer Registry has been collecting data since 1989: its last report was instrumental to the conception of the country's first National Cancer Control Programme adapted to the prevailing cancer situation and forecast. The Plan sets out with goals to: 1) strengthen the primary prevention programme, 2) promote population-based cancer screening programmes and early detection strategies, 3) ensure effective cancer diagnosis and treatment, 4) set up patient-centered palliative care services, 5) enhance delivery of cancer care through better planning and, 6) improve cancer control through research and surveillance.

CONCLUSION

This presentation will detail the process of prioritising cancer activities and cancer control strategies, and highlight the role of Mauritius Cancer Registry in developing an evidence-based NCCP for a small nation in transition with free public health care.

PERSPECTIVES ON ELECTRONIC DATA COLLECTION

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BACKGROUND

Many cancer registries are increasingly relying on electronic data streams to populate, augment or validate cancer surveillance data. These data streams are of varying levels of completeness, accuracy and timeliness. Each data source must be evaluated for its utility and efficiency of providing data. Investments in hardware, software and the development of personal relationships must be considered. Additionally incoming data must be harmonized with existing data sets, regional and/or national and international data standards. Data transmission formats must be developed, standardized, and shared with senders and receivers. Multiple entities wish to profit monetarily from many of these steps.

CONCLUSION

How can registries afford to increase their use of electronic data? How can cancer registries afford NOT to increase their use of electronic data? Can or should we establish international standards? These topics will be discussed from a broad and a local perspective by the authors using recent examples from North America.

ENDOMETRIAL CANCER: EFFECT OF TUMOR CHARACTERISTICS AND RACE ON SEER INCIDENCE AND USA MORTALITY

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BACKGROUND

Incidence, survival and mortality trends for this common cancer are changing by race, stage and histology. Recent data for endometrial cancer (EC) show increasing incidence and death rates for Black and some other non-white women, and for younger women. USA patterns differ from those reported by other high resource countries. Risk and prognostic factors within population groups may account for some of these differences.

METHODS

Age-adjusted (AA) rates (2000 US standard population) were calculated for more than 70,000 women with EC reported to SEER and for all USA deaths. Cases were examined by age, race, histology, grade, and stage. Type I cancers comprise over 80% of cases. Type II cancers include clear-cell, serous cystadenocarcinoma NOS, and papillary serous cystadenocarcinoma cancers.

RESULTS

White women have higher AA incidence rates (24.4 per 100,000 women) than Black women (20.6); in contrast, AA deaths rates are higher among Black women (7.2) than white women (3.9). Black women had a higher percent of Type II diagnoses than white women (14% vs. 6%). Women with Type II EC were more likely to be diagnosed with poorly differentiated grade (43%) than women with Type I EC (15%). In part due to poor prognostic factors, five-year relative survival among Black women is 61% compared to 86% among white women.

CONCLUSION

Multivariate analyses will provide additional insights regarding the inter-relationship of race, age, histology, stage, and grade.

EVOLUTION OF CANCERS IN MALI FROM 1987 TO 2008

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BACKGROUND

The Bamako cancer register was created in 1986. It records all cases of cancer diagnosed in the district of Bamako and its surroundings within a radius of 15 km including the city of Kati. It is a population-based registry whose data are computerized in the CanReg4 software.

METHODS

The frequency of cancer and incidence rates standardized on age (TSA) have been obtained by adjusting incidence rates gross world population divided into five year age groups.

RESULTS

A total of 9620 cases of cancer were recorded, including 5083 for women (52.8%) and 4502 for men (47.2%). From 1987-1997 leading cancers were as follows:

For women: cervical (26.95%), liver (14.78%), breast (12.99%) and stomach (10.95%).

For men: liver (37.77%), stomach (14.92%), bladder (7.92%) and prostate (3.71%).

From 1998 to 2008, the most frequent cancers were:

For women: cervical (28.18%), breast (16.69%), stomach (10.12%) and liver (4.86%).

For men: stomach (19.04%), liver (18.65%), prostate (9.2%) and bladder (7.26%).

By comparing these data with those of the previous ten years, we note the following trends:

In women: liver cancer was the second highest cancer from 1987 to 1997, then rose to fourth in the last ten years. In men: cancer of the stomach rose from second to first place. Prostate cancer rose from fourth to third place.

The following cancers had the highest mortality rates in these 20 years: liver (29.3%) stomach (17.6%), cervix (6.4%) and breast (5.4%).

AVOIDED NUMBER OF DEATHS FROM COLORECTAL CANCER IN OSAKA, JAPAN, 1975-2000

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BACKGROUND

Colorectal cancer is one of the leading cancer causes of death in Japan. Incidence and mortality increased until the mid-1980s and then leveled-off. Survival has dramatically improved and is higher than in Europe. In Osaka, the cure fraction increased from 20% in 1975 to 50% in 2000 for invasive colorectal cancer. We aimed to estimate the number of colorectal cancer deaths avoided by this improvement for patients diagnosed in 1996-2000 in comparison to those diagnosed in 1975-80.

METHODS

The number of deaths from colorectal cancer avoided until cure is reached was derived from the difference in the excess hazards of death in 1975-80 and 1996-2000. The excess hazards were estimated using mixture cure fraction models and were adjusted for age and stage at diagnosis. DCO cases (16%) were excluded.

RESULTS

Among patients diagnosed in 1996-2000, some 400 annual deaths were avoided, i.e. about 30% of all colorectal cancer-related deaths. For the whole Japan, it corresponded to some 16,000 deaths avoided every year. Avoided deaths were largest for ages 60-69 and metastasis disease.

CONCLUSION

The increasing number of avoided deaths reflects the impact of the progress in management of colorectal cancer care.

IMPACT OF TOBACCO CONTROL POLICIES IN MAURITIUS

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BACKGROUND

Lung cancer is a major killer among males in Mauritius, representing more than 20% of all deaths due to cancer, and incidence of tobacco-related cancers is increasing. Mauritius has committed to tobacco control for prevention of non-communicable diseases over the last 20 years. An FCTC-compliant comprehensive National Action Plan for Tobacco Control (2008-2012), together with new tobacco legislation, was implemented. The objective of the study is to measure the psychosocial and behavioural impact of the key tobacco control policies.

METHODS

A longitudinal cohort study was conducted in collaboration with the International Tobacco Control Policy Evaluation Project (ITC Project) over two waves in 2009 and 2010 using face-to-face interview questionnaires. A nationally representative random sample of 600 smokers and 240 non-smokers aged 18 years or more, were followed during both waves, and replenishment of respondents was carried out for those who were untraceable at wave 2.

RESULTS

Wave 2 confirmed that smokers and non-smokers are supportive of stronger tobacco control intervention and smoking cessation. The eight pictorial health warnings are highly effective and Mauritians still want more information about health risks on cigarette packs. Smoking in indoor workplaces and indoor/outdoor public places has decreased and there was a slight increase in smoke-free homes compared to wave 1.

CONCLUSION

A new set of pictorial health warnings with additional information needs to be developed. Enforcement of existing smoke-free laws must be sustained and a change in the legislation for 100% smoke-free workplaces is mandatory.

CANCER RISK IN THE ESTONIAN CHERNOBYL COHORT: 22 YEARS OF FOLLOW-UP

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BACKGROUND

After the Chernobyl nuclear accident on April 26, 1986, about 5000 men from Estonia were sent to Chernobyl to participate in environmental cleanup. These men remained in the area for an average of three months and were exposed to low-level radiation (estimated mean dose 10 cGy).

The aim of this study is to assess cancer risk in the Estonian Chernobyl cohort.

METHODS

The Estonian cohort of Chernobyl cleanup workers included 4831 men who spent at least one day in the Chernobyl area during the time period of 1986–1991. The cohort was traced for cancer incidence through population, mortality and cancer registries. Each person was followed up from his return to Estonia until death, emigration or December 31, 2007. Twenty-seven persons were excluded from the analysis because of insufficient data. A total of 4804 men contributed 85,577 person-years at risk. Cancer risk in the Chernobyl cohort compared to the male population of Estonia was measured by the standardized incidence ratio (SIR) with 95% confidence intervals (CI).

RESULTS

Overall, 205 cancer cases were diagnosed in the cohort compared with 189.93 expected (SIR=1.08; 95% CI 0.93–1.23) in the follow-up period of 1986–2007. Elevated risk was found for cancers of pharynx (2.21; 1.17–3.77), oesophagus (2.17; 0.99–4.12) and central nervous system (2.08; 1.08–3.64), based on 13, 9 and 12 cases, respectively. Clear evidence of an increase in the incidence of radiation-induced cancers was not observed – six leukemia cases vs. 5.09 expected and two thyroid cancers vs. 1.18 expected.

A

ABDULAZEEZ, James (O-) p
AFIFI, Hassan (P)
AGUILAR, Isabel (P)
AL-SAKKAF, Khaled (O & P)

B

BA SALEEM, Huda (P)
BADAR, Farhana (O)
BALASUBRAMANIAM, Ganesh (P)
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BANYDEEN, Rishika (P)
BAYO, Sine (P)
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BRAVO, Eduardo (P)

C

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CHAN, Amy (P)
CHEW, Poh Khim (P)
CHIANG, Chun-Ju (O)
CHOKUNONGA, Eric
CLOUGH-GORR, Kerri (P)
COUPLAND

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DE MOURA, Lenildo
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DIKSHIT, Rajesh (O)
DIMITROVA, Nadya (P)
DZAMALALA, Charles (O)

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EL JORD Ahmad (P)
ERVIK, Morten (P)
ESER, Sultan (O)

G

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GOMBE MBALAWA, Charles (O)
GOODMAN, Marc (P)
GUZZINATI, Stefano (P)

H

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HAMDI CHERIF, Mokhtar (P)
HAMMOUDA, Doudja (P)
HARFORD, Joe (KN)
HSIAO, Dhu-Chun (P)
HUANG, Honghong (P)

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ITO Yuri (P)
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JEONG, Kyoung Sook (P)
JHA, Prabhat (KN)

K

KACHANOV, Dennis (O)
KATALINIC, Alexander (P)
KATANODA, Kota (O)
KATAYAMA, Hidoaki (P)
KIELKOWSKI, Danuta (O)
KISTNASAMY, Barry (O)
KOERING, Susan (P)
KONFORTION, Julie (P)
KONG Hyun Joo (P)
KOYANDE Shrivani (P)
KUMAR, Anil (P)
KWEON

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M

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NIMR, Omar (P)

O

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OLIVEIRA SILVA, Jane Kelly (P)

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PARKIN, Max (O)
PERERA, Suraj (O)
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PUKKALA, Eero (P)

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SILVA, Diego (P)
SINGH, Rajvir (P)
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STRACCI, Fabrizio (P)
SUWANRUNGUANG, Kritika (P)
SYSE (O & P)

T

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WAHIDIN, Mugi (O)
WILD, Christopher (KN)