



International Association of Cancer Registries **35th Conference**



22–24 October 2013
Buenos Aires
Argentina



**PROGRAMME
& ABSTRACTS**





Conference Programme and Abstracts

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Welcome **International Association of Cancer Registries 35th Annual Meeting 2013**

The Instituto Nacional del Cáncer (INC) with the collaboration of the Bahía Blanca Cancer Registry and the International Association of Cancer Registries (IACR) would like to welcome you to Buenos Aires for the 35th annual meeting of the IACR.

Argentina has 13 population-based cancer registries with different levels of development and history and a national hospital-based cancer registry that centralizes data at the INC. The Bahía Blanca Cancer Registry was the first registry in the country. It was set up in 1989 and soon after became a Member of IACR.

The Instituto Nacional del Cáncer began its activities in September 2010, aiming at placing cancer in the government's agenda. The underlying idea is the coordination of public health measures and practices in the country at regional and national levels and the development and reinforcement of international bonds with similar institutions.

The Conference will emphasise the important role of cancer registries on the evaluation of cancer risks factors and quality of care. There will be two pre-conference workshops focusing on this: 'Trends – Incidence, Mortality and Estimations' and 'Measuring Inequities in Cancer Care'.

The venue for this conference is the city of Buenos Aires, a cosmopolitan city with a rich history, fascinating museums worth visiting and many other interesting places. Argentina is well known for her friendliness and appealing culture, ensuring you a pleasant stay.

Should our participants have some time to spare, Buenos Aires offers the possibility to travel to other tourist destinations like the Iguazú Falls, Patagonia or the Northern Mountains of Argentina as well as whale watching in Península Valdez.

Finally, we would like to thank the Scientific Committee and the Organizing Committee for their hard work and strong support in making this conference possible.

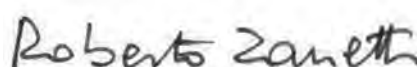
On behalf of the Organizing Committee, we are very glad to welcome you and hope to be able to assist you in every step of your visit in order to ensure a very pleasant experience.



Roberto Pradier
Director
*Instituto Nacional
del Cáncer*



Eduardo Laura
Director
*Bahia Blanca
Cancer Registry*



Roberto Zanetti
President
*International Association
of Cancer Registries*

Programme at a glance

	Scientific Meeting <i>National Academy of Medicine</i>					
	Monday 21st October	Tuesday 22nd October	Wednesday 23rd October	Thursday 24th October	Friday 25th October	
09:00	IACR Executive Board Meeting <i>National Cancer Institute</i> Workshop 1 Trends - incidence, mortality and estimations <i>National Academy of Medicine (Biblioteca)</i> Workshop 2 Measuring inequities in cancer care <i>National Academy of Medicine (Canton Room)</i>	Formal opening of the conference	Session 3 Hospital-based registries contribution to population-based cancer registries Keynote: Sabine Siesling <i>National Academy of Medicine – Aula Magna</i>	Session 6 Round Table Role of NCI in the development of CR <i>National Academy of Medicine – Aula Magna</i>	Mini-Workshop 3 Writing a scientific publication <i>National Cancer Institute (Floor 9)</i> Workshop 4 Cancer survival: an introduction to principles, methods and applications in cancer control <i>National Cancer Institute</i>	
09:15						
10:00		Session 1 Utility of population-based cancer registries in the evaluation of screening Keynote: Eduardo Franco <i>National Academy of Medicine – Aula Magna</i>				
11:00				Session 7 Importance of biobanks in the surveys of the cancer registries (EPI) Keynote: Joachim Dillner <i>National Academy of Medicine – Aula Magna</i>		
11:30						
12:00				IACR General Meeting		
13:00				Close of the scientific meeting		
14:00		Lunch / Poster Viewing <i>Aula Magna and Library (Foyer Area)</i>	Lunch / Poster Viewing <i>Aula Magna and Library (Foyer Area)</i>			
14:15		Clemmesen Lecture Keynote: Pelayo Correa	Session 4 Electronic Sources			
14:45						
15:00			Keynote: David Forman <i>National Academy of Medicine – Aula Magna</i>			
16:00						Latin America Cancer Registries Meeting <i>National Cancer Institute (Floor 11)</i>
16:30						
17:00		Session 2 Importance of cancer registries in the design and follow-up of cancer control programs and the quality of care Keynote: Henrik Møller <i>National Academy of Medicine – Aula Magna</i>	Break / Poster Viewing			
17:30	Session 5 IACR – IARC activities Keynote: David Forman <i>National Academy of Medicine – Aula Magna</i>					
18:30	Welcome Reception <i>Argenta Tower Hotel</i>					
20:30		Tango Restaurant <i>Café de los Angelitos</i>	Gala Dinner <i>Hipódromo Argentino de Palermo</i>			

The International Association of Cancer Registries

The International Association of Cancer Registries (IACR) was founded in 1966, as a professional society dedicated to fostering the aims and activities of cancer registries worldwide. It is primarily for population-based registries, which collect information on the occurrence and outcome of cancer in defined population groups (usually the inhabitants of a city, region, or country). For each new cancer case, registries record details of the individual affected, the nature of the cancer, information on treatment, and on follow-up especially with respect to survival from the disease.

Registries play an important role in research into the causes of cancer, both by providing data on patterns and trends, and in different types of epidemiological study (in particular, in their ability to follow up groups of persons exposed to potential hazards). They comprise an essential element in the planning and monitoring of cancer control strategies, and for identifying priorities in public health.

To ensure that cases are properly recorded, and that the statistical data gathered is complete and can be used to make valid comparisons, cancer registries must conform to accepted working practices and standards. The Association was created to foster the exchange of information between cancer registries internationally, so improving quality of data and comparability between registries.

The Association is a non-governmental organization which has been in official relations with the World Health Organization since January 1979.

The National Cancer Institute of Argentina

The National Cancer Institute of Argentina (INC) is an entity attached to the National Ministry of Health.

Created on September 9th, 2010 by Presidential Decree 1286, the INC is responsible for the development and implementation of health policies, as well as the coordination of joint actions for the prevention and control of cancer.

Its main goal is to decrease the impact and mortality of cancer in Argentina, and to improve the quality of life of those affected by the disease.

The work of INC includes the coordination of actions of promotion and prevention, early detection, treatment and rehabilitation as well as the research of cancer in Argentina and the training of human resources. Its activities include the development of regulations of the comprehensive aid of patients with cancer, the promotion of health and the reduction of risk factors; the outline of strategies for prevention and early detection, the training of specialized professionals and the establishment of a system of surveillance and epidemiological analysis.

The establishment of INC in Argentina has placed cancer on a place of major relevance in the health care agenda of the government. Its existence implies the coordination of specific national public policies and the joint work with local and international peer institutions of the region and the world, exchanging experiences, capacities and efforts to fight against this complex issue.

Committees

Programme Committee

Graciela Abriata

National Ministry of Health

Patricia Cueva

Director, Quito Cancer Registry, Ecuador.
IACR Regional Representative
South and Central America,

Brenda K Edwards

NIH/NCI, IACR Past President

David Forman

IACR Executive Secretary
Head, Section of Cancer Information, IARC

Eduardo Laura

Director, Bahía Blanca Cancer Registry

Dora Loria

Angel H Roffo Cancer Institute, Argentina

Sabine Siesling

IACR General Secretary

Roberto Zanetti

IACR President

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National Ministry of Health

Silvina Cazap

National Cancer Institute

Nancy Cruells

National Cancer Institute

Eduardo Laura

Director, Bahía Blanca Cancer Registry

Dora Loria

Angel H Roffo, Oncology Institute

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Director, National Cancer Institute

María Viniegra

National Cancer Institute

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Córdoba Cancer Registry, Argentina

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Director, Research Department,
National Epidemiology Institute, Argentina

Lenildo de Moura

Ministry of Health, Brasilia, Brazil

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President

Brenda K Edwards

NIH/NCI, IACR Past President

Sabine Siesling

IACR General Secretary

David Forman

IACR Executive Secretary

Lynn Ries

Treasurer

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America (North)

Maria Schymura (USA), Thomas Tucker (USA)

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Patricia Cueva (Ecuador)

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Europe

Andrea Bordoni (Switzerland), Eero Pukkala (Finland)

Oceania

Helen Farrugia (Australia)



The Enrico Anglesio Prize

Fondo Anglesio Moroni (Turin, Italy) awards several prizes every year, one of which is at the IACR Annual Conference of the International Association of Cancer Registries (IACR). The Enrico Anglesio Prize recognizes a young researcher working in a cancer registry or epidemiology centre for original scientific research in cancer epidemiology.

To date, three IACR-round prizes were awarded:

- in 2012 to Susan Spillane (Ireland): *Use of the antidiabetic drug metformin and disease spread at diagnosis in colorectal cancer*
- in 2011 to Mugi Wahidin (Indonesia): *Methods of population-based cancer registry in Indonesia*
- in 2010 to Yuri Ito (Japan): *Trends in cure fraction for colorectal cancer in Osaka, Japan, between 1975 and 2000*

The Enrico Anglesio prize will be awarded again this year at the 35th IACR Annual Conference.

To be eligible, candidates must be under 35 years of age and be the first and presenting author of the abstract selected for oral presentation. The abstract will cover original research which has not been presented elsewhere.

The Jury, appointed by the Fondo, will evaluate candidates based on the following criteria:

1. Clarity and incisiveness of the oral presentation
2. Originality and relevance of the scientific work
3. Quality of the abstract
4. Curriculum of the candidate

Prize money is €500. It is doubled to €1,000 if the research is published within one year in a journal with impact factor between 2.00 and 4.00. It is further raised to €1,500 if the journal has an impact factor over 4.00. The Enrico Anglesio Prize must be acknowledged in the article.

The award ceremony will take place at the end of the IACR conference.

Enrico Anglesio Prize Jury pool:

- | | | |
|------------------|--------------------|--------------------|
| • Andrea Bordoni | • Tomohiro Matsuda | • Stella de Sabata |
| • Jaume Galceran | • Ana Miranda | • Sabine Siesling |
| • Dora Loria | • Stefano Rosso | • Hans Storm |

Workshops

Monday 21 October

Workshop 1

Trends: Incidence, mortality and estimations

Academia Nacional de Medicina, Biblioteca

The workshop will focus on the emerging recent trends in cancer incidence and mortality across the world. After last year's enriching workshop in Cork on the best methods for investigating trends, it is time to apply them in the field for answering the most burning questions that are challenging us.

Faculty

Stefano Rosso (Piedmont Cancer Registry, Turin, Italy)

Facilitators

Isabelle Soerjomataram (IARC, Lyon, France)

Dora Loria (Angel H Roffo Cancer Institute, Buenos Aires, Argentina)

Tomohiro Matsuda (National Cancer Centre, Tokyo, Japan)

Gonçalo Forjaz de Lacerda (Azores Cancer Registry, Portugal)

09:00 – 09:30	Meeting-up and introduction
09:30 – 10:30	Presentations and question time
10:30 – 11:00	Coffee break
11:00 – 12:30	Group work
12:30 – 14:00	Lunch break
14:00 – 15:00	Group work resumes
15:00 – 15:30	Coffee break
15:30 – 17:00	Presentation of results and discussion

Monday 21 October

Workshop 2

Measuring inequities in cancer care

Academia Nacional de Medicina, Cantón

In the context of profound transformations attributable to globalization, equity in health (i.e., justice in its global distribution) is recognized as a momentous challenge for governments, societies, and health systems alike. Inequalities associated with socioeconomic determinants exert decisive influence on population health. Unnatural, unjust, unfair, unnecessary, and avoidable inequalities in cancer incidence, care, mortality, and survival are pervasive across the social gradient, from the worst-off to the better-off, in both less and more affluent societies, being particularly severe in the less egalitarian ones. Economic efficiency in health care is an incomplete goal without acknowledging the moral dimension of inequity and so addressing the social determinants of health must be regarded as an inescapable target of cancer control programs worldwide. Undertaking such a complex mandate requires, by necessity, generation of institutional capacities, and hence professional competencies, in measuring and monitoring social and health inequalities in cancer, as well as assessing the impact of population-level cancer control measures on health equity.

Faculty

Graciela Abriata (NCI, Buenos Aires, Argentina)

Oscar Mujica (PAHO, Washington DC, USA)

Gisele Almeida (PAHO, Washington DC, USA)

09:00 – 10:30	Conceptual foundations: What are social inequalities in health and cancer?
10:30 – 11:00	Coffee break
11:00 – 12:30	Methodological foundations: Analytical issues in measuring health inequalities
12:30 – 14:00	Lunch break
14:00 – 15:30	Metrics & Instrumental foundations: Measures of health inequalities and tools
15:30 – 16:00	Coffee break
16:00 – 18:00	Hands-on group workshop and Plenary session: Building social gradients in cancer mortality
18:00	Close of meeting

Friday 25 October

Workshop 3

From population-based cancer registry data to scientific publication

National Cancer Institute (Floor 9)

Cancer registry databases provide a unique source of data for research in cancer epidemiology. However, in Latin America communication of research findings to the international scientific community has been challenging. In this course we seek to improve research capacity in Latin America by promoting the effective use of population-based cancer registry data and by providing mentorship to cancer registry personnel for the production of an international peer-reviewed publication. The long-term goal is to maximize the contributions of cancer research done by cancer registry personnel in Latin America and to potentially increment the number of future peer-reviewed publications produced in the region. This will be the first such workshop that IARC has run specifically for cancer registry staff and will act as a pilot for future similar courses in Latin America and other low and middle income regions of the world. One of the key objectives that the IARC-UICC led Global Initiative for Cancer Registries is research capacity building and a frequent concern raised by registry personnel is the lack of skills in data analysis, interpretation and scientific writing. This workshop will directly meet this need.

Supported by the Union for International Cancer Control

Faculty

Esther de Vries (Erasmus MC University Medical Center, Rotterdam, The Netherlands)

IARC Expertise Transfer Fellow (National Cancer Institute, Bogota, Colombia)

Mónica S. Sierra (International Agency for Research on Cancer, Lyon, France)

Melina Arnold (International Agency for Research on Cancer, Lyon, France)

09:00 – 09:15	Welcome and introduction of participants and faculty. Course outline
09:15 – 09:45	Scientific writing 1: title and abstract (M. Sierra)
09:45 – 10:45	Presentation of abstracts I (10 min presentation, 5 min discussion each)
10:45 – 11:00	Coffee break
11:00 – 12:30	Editorial processes, authorship (E. de Vries) Vancouver guidelines (M. Sierra)
12:30 – 13:30	Lunch break
13:30 – 14:00	Scientific writing 2: methods and presenting results (M. Arnold)
14:00 – 15:00	Presentation of abstracts II (10 min presentation, 5 min discussion each)
15:00 – 15:15	Coffee break
15:15 – 15:45	UICC
15:45 – 16:15	Scientific writing 3: Introduction and discussion (E. de Vries, M. Sierra, M. Arnold)
16:15 – 16:30	In-class exercise
16:30 – 17:00	Homework schedule and close of meeting

Friday 25 October

Workshop 4

Cancer survival: An introduction to principles, methods and applications in cancer control

Academia Nacional de Medicina, Biblioteca

The objective will be to provide participants with the tools to understand the principles of cancer survival analyses and their practical applications in cancer control. The methodological concepts of cancer survival analyses will be illustrated by public health and policy applications throughout the day, with a particular focus on LMIC. Results from recent international survival studies will be presented and their interpretations discussed.

Supported by the Union for International Cancer Control

Faculty

Michel Coleman (London School of Hygiene and Tropical Medicine, UK)

Bernard Rachet (London School of Hygiene and Tropical Medicine, UK)

Claudia Allemani (London School of Hygiene and Tropical Medicine, UK)

Graciela Abriata (NCI, Argentina)

09:30-10:30	Population-based cancer survival: concepts
10:30-11:00	Coffee
11:00-12:00	Population-based cancer survival: estimation
12:00-13:00	Data for survival analysis: collection and validation
13:00-14:00	Lunch
14:00-15:00	Population-based cancer survival application: Illustrations from high-income countries
15:00-15:30	Coffee
15:30-17:00	Application of cancer survival analysis in low- and middle-income countries
17:00-18:00	International comparisons and policy applications

Workshop Faculty

Stefano Rosso

Stefano Rosso, presently Chairman of the ENCR Steering Committee, is a senior epidemiologist at the Centre for Epidemiology and Oncology Prevention (CPO) of Piedmont (Italy). Graduated in Medicine in 1981, his background includes a post-graduate specialisation in Public Health and a MSc in Epidemiology at the McGill University. He has been working with the Piedmont Cancer Registry since the beginning of his career and he is appointed Professor of Biostatistics and Statistical Models in Pharmacoeconomics at the Course of Specialization in Hospital Pharmacology of the University of Turin.



He is one of the founders of the Italian Association of Cancer Registries, where he coordinated nationwide publications on survival, incidence and mortality. The author of several scientific works, he conducted research on screening evaluation and skin tumours, also in cooperation with international consortia such as GEM (Gene-Environment Melanoma), and Helios (melanoma, and carcinoma of the skin).

He is an active member of the GRELL (Groupe des Registres de Langue Latine), Euroskin (European Society of Skin Cancer Prevention), AIE (the Italian Association of Epidemiology), and ESPCR (European Society for Pigment Cell Research). He serves as President of the Jury of the Enrico Anglesio Prize, awarded every year at the annual GRELL and IACR meetings to a young researcher working with a cancer registry.

Gonçalo Forjaz

Gonçalo Forjaz is a B.Sc. in Veterinary Medicine and a M.Sc. in Human Oncology. In his M.Sc. thesis Gonçalo studied human cancer incidence data within the Azores population for the first time and since 2007 he has been responsible for the Azores Cancer Registry, Portugal. The Registry is now integrated within the ENCR, the IACR and the GICR, and has already participated in the EUROCARE-5, EUROCIM-2, CI5-X, IICC-3 and CONCORD-2 studies. His expertise in cancer registration and epidemiology has been developed through courses at the IARC ('IARC Summer School'), the University of Porto Medical School ('Epidemiology Investigation and Data Statistics Analysis') and the LSHTM ('Cancer survival: principles, methods and applications'). In 2012, Gonçalo has been awarded with the Calum Muir's fellowship from the IACR and very recently he has been elected President of the Regional League Against Cancer.



Dora Loria

Dora Loria graduated from the Faculty of Chemical Sciences, University of Buenos Aires in 1971, with a PhD in Public Health (UBA). Since 1970 she has been a researcher at the Research Area of the Institute of Oncology Angel Roffo (IOAR). Between 2003 and 2012 she was Director of the Department of Epidemiology and Environmental Carcinogenesis (IOAR). At IOAR, she was a member of the Committee on Education and Research (1993-1995) and coordinator of the Committee on Education and Research. She was also a member of the National Scientific and Technological Research (CONICET) between 1998 and 2001. She was a Fellow of the International Union against Cancer (UICC). She collaborated with the Department for the Promotion and Protection of Health of the Ministry of Health and National Program Advisor for Cancer Control. She is now collaborating with the Argentine National Institute of Health. She has evaluated UICC Fellowships, projects for postgraduate degree (CONEAU), research projects for Medical Sciences (CONICET), and fellowships and research projects for the National Cancer Institute of Argentina since 2006, and is now a member of the jury for the A. Anglesio Prize (Italy) for young researchers in cancer epidemiology.

She has published numerous studies in scientific journals with peer reviews and numerous papers presented at congresses of the specialty; she has organised staff training and advised several cancer registries in Argentina. Since its creation in 2003, she has been the Executive Director of Cutaneous Melanoma Registry in Argentina. In 2010 she became a member of the Advisory Council of the National Cancer Institute of the Ministry of Health (Argentina) and a member of the Epidemiological Surveillance System and Reporting (SIVER, INC.)



Tomohiro Matsuda

Tomohiro Matsuda was born in Tokyo, Japan in 1973. After graduating the Kobe University (1996) and Tokyo University (1998), he joined the Tarn cancer registry in France as a doctoral student. He landed a position of researcher in the National Institute of Public Health (2003).

Currently he works in the National Cancer Center in Tokyo as chief of the population-based cancer registry section, while pursuing research in cancer epidemiology. He manages a project to standardize registration methods and plays a key role in legislating of cancer registration in Japan. He is the secretary of the Japanese Association of Cancer Registries, and his works are reflected on the web site, which can be found at www.jacr.in.

Isabelle Soerjomataram

Isabelle Soerjomataram is a medical epidemiologist with a special interest in causes, diagnosis, prevention and treatment of cancer. She received her medical degree from the University of Indonesia in 2001. Following a PhD in cancer epidemiology with a thesis on the epidemiology of multiple cancers at Erasmus Medical Centre (2007), Isabelle spent her PostDoctoral period at the Harvard School of Public Health under a fellowship from the Dutch Scientific Foundation to work in several areas of cancer research, in particular on the estimation of disability adjusted life years and cancer attributable fraction related to lifestyle. She returned to the department of Public Health in Erasmus MC Rotterdam in 2009, before she took her current position at IARC where she is currently studying the global burden of cancer mainly using the cancer registry database.



María Graciela Abriata

María Graciela Abriata is the head of the Surveillance and Epidemiological Analysis System at the Instituto Nacional del Cáncer – Ministerio de Salud de la Nación. She is a Medical Doctor (Universidad Nacional de Rosario) and a Master in Epidemiology, Health Management and Policy (Universidad de Lanús) as well as in Clinical Effectiveness and Health (Universidad de Buenos Aires). She is also a Field Epidemiology Specialist (Universidad de Tucumán and Ministerio de Salud de la Nación) and has a Fellowship in Medicine Management (Maimonides University). She was Professor at the annual course of Basic and Intermediate Epidemiology, organized by the Academia Nacional de Medicina; and at the annual course of Public Health organized by the Community Health Department of the Universidad de Lanús. She also was Assistant and Principal Researcher in topics related with methodologies to set research priorities in health for the Argentine Forum for Health Research (FISA).

Melina Arnold

Melina Arnold is a health scientist and cancer epidemiologist with a strong interest in cancer inequalities and cancer registration. She holds a PhD in epidemiology from Erasmus University (Rotterdam, The Netherlands), during which she assessed the burden of cancer in migrant populations in several European countries. Melina is currently a postdoctoral fellow at the International Agency for Research on Cancer, where she studies the global cancer burden attributable to excess weight and the impact of obesity on cancer incidence during life course.



Gisele Almeida

Gisele Almeida is the Advisor in Analysis of Health Systems and Services and the Coordinator of the EquiLAC Project of the Pan American Health Organization/World Health Organization (PAHO/WHO) in Washington, DC, where she provides technical cooperation to countries for the strengthening of the public health functions, use of evidence in public policies, and assessment of health systems performance. She is currently directing a multi-country study on the evolution of equity in health systems and their implications to public policy in the Region. She has extensive expertise in health systems research, health services management tools, evaluation methods, and project management. Before joining PAHO, she worked for the U.S. Department of Agriculture (USDA) and the Brazilian Agricultural Research Corporation (EMBRAPA). She received a Doctor of Public Health with specialization in Health Policy and a Master of Science in Information Management for Health Sciences from the George Washington University. She also holds a Bachelor of Science degree in information systems from University of Maryland and a Bachelor of Art degree in languages from Brazil.



Oscar J Mujica

Oscar Mujica is Regional Advisor in Social Epidemiology in the Area of Sustainable Development and Health of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization, since 1997. Dr. Mujica focuses on technical cooperation projects with Member Countries in strengthening professional competencies and institutional capacities in measuring, analyzing, and monitoring population health status, burden of disease, health inequalities and their social determinants, as well as in expanding the use of applied epidemiology in health services.

Being a professionally trained field epidemiologist, he also serves in the PAHO taskforce on epidemic alert and rapid response. His background is in medicine and surgery, infectious and tropical diseases, biostatistics, public health, and epidemiology. He has published several scientific papers and technical reports and has extensive experience in teaching public health epidemiology. Oscar Mujica has been nominated to the Donald C. Mackel Memorial Award and the Charles C. Shepard Science Award as he is the recipient of the Roussel Prize in Medical Research. Dr Mujica is Member of the American College of Epidemiology, the International Epidemiological Association, and the Society for Epidemiologic Research.



Esther de Vries

Esther de Vries is a biologist and cancer epidemiologist with a particular focus on the use of cancer registries in public health. Her PhD thesis in Epidemiology (Erasmus University Rotterdam, 2004) was on trends in melanoma and risk factors for melanoma in Europe. Her interests include time trends in incidence, mortality and survival, evaluation of progress against cancer and recently also socioeconomic differences in cancer incidence and prognosis and she has (co) authored more than 100 scientific publications on these topics. She was awarded a transfer of expertise fellowship by the International Agency for Research on Cancer to help cancer registries in Latin America make more extensive use of their data and is currently based at the National Cancer Institute of Colombia. She is associate editor for registry studies for the European Journal of Cancer and the Journal of Investigative Dermatology.



Mónica Sierra

Monica Sierra completed MS and PhD degrees in Epidemiology at the University of Texas School of Public Health in Houston. Her PhD thesis focused on the association of *H. pylori* infection with diarrheal and parasitic diseases in a cohort of children in the Andean region of Colombia. At present, she is a Postdoctoral Fellow at the International Agency for Research on Cancer in Lyon, France, leading a project aimed at describing the cancer profile in Central and South America.



Bernard Rachet



Bernard Rachet is a member of the Cancer Research UK Cancer Survival Group, Department of Non-Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine

Bernard qualified in medicine in France and worked as a clinician before entering epidemiological research. He completed an MSc in Epidemiology in Paris and a PhD in Epidemiology at the International Agency for Research on Cancer (IARC), Lyon, France. Before joining the London School of Hygiene and Tropical Medicine in July 2002, he spent three years as a postdoctoral fellow in Montréal (Canada), where he worked on cancer risks associated with occupational and environmental exposures, and on developments in methodology.

His current research is centered on cancer survival. Co-principal investigator in a Cancer Research UK programme grant since 2005, he is leading a wide range of projects to quantify, describe and explain patterns and trends in cancer survival by socio-economic group, geographic area and ethnicity, as well as extending the methodology and tools for survival analysis, in collaboration with many research partners in the UK and around the world.

He is involved in various face-to-face courses at the School, both on the Medical Statistics MSc and the Epidemiology MSc, and supervises several doctoral students.

Claudia Allemani

Claudia Allemani is part of the Cancer Research UK Cancer Survival Group, Department of Non-Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine

Claudia graduated in mathematics from the University of Turin (Italy) in 1996, completed a Masters in Statistical and Informatic Methods for data analysis in the University of Milan (Italy) in 1998, then a PhD-equivalent in Medical Statistics in 2001 and a PhD in Public Health and Education in 2006, both in the University of Pavia (Italy). She has been a Fellow of the Higher Education Academy (FHEA) since July 2012.

She was a Research Fellow in Medical Statistics and Epidemiology in Pavia from 1998 to 2001, studying geographical variation in the prevalence of multiple sclerosis (MS) in Sardinia (Italy) and the healthcare of MS patients in Italy.

From 2001 to 2011, she was a Research Fellow in the Epidemiology Unit, Istituto Nazionale Tumori, Milan (Italy), working on EURO CARE (European Cancer Registry-based study of survival and care of cancer patients) and related studies, and on the HAEMACARE project (haematological malignancies). She joined the Cancer Research UK Cancer Survival Group in October 2011 as a Lecturer in Cancer Epidemiology.

Her main interests are in international comparisons of cancer survival and the estimation of avoidable premature deaths. She works on the global study of cancer survival (CONCORD-2), for which she is leading the data management and survival analyses. She is also examining cancer survival by health insurance in the state of Kentucky (USA).



Michel Coleman

Michel Coleman is a member of the Cancer Research UK Cancer Survival Group, Department of Non-Communicable Disease Epidemiology, London School of Hygiene and Tropical Medicine

Michel qualified in medicine at Oxford last century, and practised in hospital medicine and general practice, later becoming an epidemiologist. He has been Professor of Epidemiology and Vital Statistics at the London School of Hygiene and Tropical Medicine since 1995. He has been Head of the Cancer and Public Health Unit (LSHTM) 1998-2003, Deputy Chief Medical Statistician (Office for National Statistics) 1995-2004, and Head of the WHO UK Collaborating Centre on the Classification of Diseases 1996-1999. He has worked for the World Health Organisation at the International Agency for Research on Cancer in Lyon (1987-1991), and was Medical Director of the Thames Cancer Registry in London (1991-1995). He has published widely on cancer and on public health, and has taught epidemiology in many countries. He has been involved in the issue of confidentiality and cancer surveillance for 20 years, both in the UK and internationally. His main interests include trends in cancer incidence, mortality and survival, and the application of these tools to the public health control of cancer. He has been an adviser on cancer registration, research and cancer control to governments in several countries. He leads the world-wide CONCORD study of cancer survival, first published in 2008; a second cycle expected to include over 200 cancer registries in 60 countries is now in progress.

With Dr Bernard Rachet, he leads the Cancer Research UK Cancer Survival Group on a research programme designed to identify, quantify and explain cancer survival trends and inequalities and to ensure the results are applied in the development of cancer policy.



Gulnar Azevedo e Silva

Gulnar Azevedo e Silva graduated in medicine at University of Rio de Janeiro State in 1978 and completed an MSc in Public Health at the University of Rio de Janeiro State and a PhD in Epidemiology at the University of São Paulo. She worked at the Epidemiology Division in the Brazilian National Cancer Institute where she developed projects on descriptive epidemiology and conducted case-control studies.

In 2000 she became Assistant Professor at the Department of Epidemiology from the Institute of Social Medicine of the University of Rio de Janeiro State. From 2003 to 2007 she coordinated the Prevention Unit in the National Cancer Institute.

She currently coordinates projects on the effectiveness of cancer screening strategies at primary care health services and participates in the research group of the Global Study of Cancer Survival (CONCORD). She supervises doctoral students mainly working on cancer mortality, incidence and survival related to social inequalities.



Scientific programme



Tuesday, 22 October 2013

09:00–09:15	Formal opening of the conference: Dr Roberto Zanetti, IACR President IACR 2013 Host		
09:15–13:00	Session 1: Utility of population-based cancer registries in the evaluation of screening <i>Moderators: Miguel Prince (Entre Rios Cancer Registry, Argentina) Patricia Cueva (Quito Cancer Registry, Ecuador)</i>		
09:15–09:45	Keynote address: Eduardo Franco		
09:45–10:00	1.1	Yutong He	The effect of endoscopic screening on esophageal cancer
10:00–10:15	1.2	Marie L Salim Miranda Macha	Equity in the prevention of cervical cancer: a contribution of family health strategy
10:15–10:45	1.3	Linda de Munck	Attending the breast screening programme after breast cancer treatment: a population-based study
10:45–11:00	1.4	Barbara Silverman	Using cancer registry data to evaluate Israeli national screening programs for breast and colorectal cancer
11:00–11:15	1.5	Gonçalo Forjaz	Breast cancer in the Azores 1983–2010: incidence, survival and mortality previous to a screening program
11:15–11:45	Break and poster viewing		
11:45–12:00	1.6	Eduardo Laura	Cancer trends in Bahia Blanca city, Argentina, between 1989–2007
12:00–12:15	1.7	Nontuthuzelo Somdyala	Trends in the incidence of most common cancers in the Eastern Cape province of South Africa; 1998–2007
12:15–12:30	1.8	Carina Musetti	Histological patterns of esophageal cancer in Uruguay (1996–2010)
12:30–12:45	1.9	Ernest Enchill	Breast cancer in women with respect to location, age group and tumour stage in Accra
12:45–13:00	1.10	Isabelle Soerjomataram	Cancer burden attributable to excess body mass index in Latin America between 1988 and 2008
13:00–14:15	Break and poster viewing		

Conference Programme

Tuesday, 22 October 2013 (cont.)

14:15–14:45	CLEMMESSEN LECTURE – PELAYO CORREA <i>Moderators: Eduardo Laura, Bahia Bianca Cancer Registry, Argentina)</i> <i>David Forman (IARC/IACR)</i>		
14:45–17:30	Session 2: Importance of cancer registries in the design and follow up of cancer control programmes and the quality of care <i>Moderators: Natalia Arias Ondicol (Neuquen CR, Argentina)</i> <i>Sabine Siesling (Netherlands Cancer Registry)</i>		
14:45–15:15	Keynote address: Henrik Møller		
14:45–15:00	2.1	Esther de Vries	Using cancer registry data to make policy scenarios for primary prevention: experiences with PREVENT
15:00–15:15	2.2	Tomohiro Matsuda	Survival of cancer patients diagnosed between 2003 and 2005 in Japan: a chronological study for evaluation of comprehensive 10-year strategy for cancer control
15:15–15:30	2.3	Camila B T Ferreira	Dissemination on cancer information in Brazil: Cancer surveillance report (CSR production strategies)
15:30–15:45	2.4	Felice ven Erning	Reduced risk of distant recurrence after adjuvant chemotherapy in elderly stage III colon cancer patients
15:45–16:00	2.5	Daniele Silveira	Breast cancer data quality at the population-based cancer registry of Sao Paulo: implications for health planning
16:00–16:30	Break and poster viewing		
16:30–16:45	2.6	Constanza Pardo	Comprehensive evaluation of population-based cancer registries: an experience in Colombia
16:45–17:00	2.7	Jérémie Jegu	Second primary cancers in France: effect of patient characteristics on second primary cancer risk
17:00–17:15	2.8	Matthias Lorez	Completeness of cancer case ascertainment in Switzerland
17:15–17:30	2.9	María Cristina Diumenjo	Quality measures of population-based cancer registries in Argentina up to 2013
EVENING	TANGO DINNER		

Scientific programme



Wednesday, 23 October 2013

09:00–11:15	Session 3: Hospital-based registries' contribution to population-based cancer registries <i>Moderators: Molly Diumenjo (Mendoza Cancer Registry, Argentina)</i> <i>Tom Tucker (Kentucky Cancer Registry, USA)</i>		
09:00–09:30	Keynote address: Sabine Siesling		
09:30–9:45	3.1	Karina Ribeiro	Incidence of childhood cancer in Guatemala: proxy estimates using data from a hospital cancer registry
09:45–10:00	3.2	Anton Ryzhov	The use of hospital-based cancer registries as a source for national cancer registry of Ukraine
10:00–10:15	3.3	Daniela C Stefan	Survival rates of childhood cancer in South Africa
10:15–10:30	3.4	Diana Noboa	The hospital-based cancer registry, a tool to improve quality of patient care
10:30–10:45	3.5	Carolina Luizaga	Central hospital cancer registries: a tool for planning cancer care
10:45–11:00	3.6	Berenice Rodriguez	Hospital cancer registry in a new institution. Iren SUR, 2009–2011
11:10–11:30	Break and poster viewing		
11:30–11:45	3.7	Carlotta Buzzoni	Cancer in children and adolescents: results from the Italian network of cancer registries (AIRTUM)
11:45–12:00	3.8	Yelda Leal	Incidence trends of breast, cervix and gastric cancer in Yucatan Mexico
12:00–12:15	3.9	Iman Meziane	Assessment of breast cancer risk in Morocco
12:15–12:30	3.10	Donaldo Veneziano	Importance of the HCR-HAC for the PBCR-JAHU
12:30–12:45	3.11	Marise Rebelo	Trends in incidence, mortality and magnitude of lung cancer in Brazil
12:45–13:00	3.12	Paulo Pinheiro	Lost to follow-up and cancer survival among Hispanics and Asians in the United States

Wednesday, 23 October 2013 (cont.)

13:00–14:15	Break and poster viewing		
14:15–16:00	Session 4: Electronic Sources <i>Moderators: Robert Pradier (INC, Argentina)</i> <i>Andrea Bordoni (Ticino Cancer Registry, Switzerland)</i>		
14:15–14:45	Keynote address: Eduardo Bravo		
14:45–15:00	4.1	Oliver Heidinger	Responding to restrictive data protection regulations: The highly automated system of the Cancer Registry NRW
15:00–15:15	4.2	Ivan Rashid	A new method to extract ICD-O-3 topography and morphology from pathology reports
15:15–15:30	4.3	Ignacio Ponzoni	CDC: A new software prototype to improve cancer data registration in Bahia Blanca, Argentina. First implementation experiences and challenges
15:30–15:45	4.4	Eva Morris	A retrospective observational study of the relationship between family history and survival from colorectal cancer
15:45–16:00	4.5	Ilya Veyalkin	Long-term thyroid cancer incidence trends in children, adolescents and young adults in Belarus
16:00–16:30	Break and poster viewing		
16:30–17:30	Session 5: IACR – IARC ACTIVITIES <i>Moderator: Roberto Zanetti (IACR President)</i>		
16:30–17:00		David Forman	IARC – CI5 Vol X
17:00–17:15	5.1	Stella de Sabata	GICR - Quality and sustainability of cancer registration in Latin America and the Caribbean: the registries' perception. The GICR/IACR Survey
17:15–17:30	5.2	Giulio Napolitano	Calculating simplified cancer staging from limited information: a new online tool for cancer registries
EVENING	GALA DINNER		

Scientific programme



Thursday, 24 October 2013

09:00–10:00	Session 6: Role of NCI in the development of CR – Round Table <i>Moderators: Robert Pradier (INC Buenos Aires, Argentina) David Forman (IARC/IACR)</i>		
10:00–11:00	Session 7: Importance of biobanks in the surveys of the cancer registries (EPI) <i>Moderators: Helen Farrugia (Victoria Cancer Registry, Australia) Marion Pineros (IAEA, Vienna, Austria)</i>		
10:00–10:30	Keynote address: Joachim Dillner		
10:30–10:45	7.1	Maria-José Sánchez-Pérez	The European prospective investigation into cancer and nutrition (EPIC) in Spain
10:45–11:00	7.2	Claudia Allemani	Global surveillance of population-based cancer survival (the CONCORD programme)
11:00–11:30	Break		
11:30–13:00	IACR General Meeting Presentation of poster prizes Enrico Anglesio Prize Honorary members IACR 2014		

Social programme

Monday 21 October – 18:30

WELCOME RECEPTION (*included in the registration fee*)
Mozart Room, Argenta Tower Hotel, Juncal 868 st.

Tuesday 22 October – 20:30

TANGO DINNER (*not included in the registration fee*)
Café de los Angelitos, Rivadavia Av. 2100

Wednesday 23rd October – 20:30

GALA DINNER (*included in the registration fee*)
Turf Room, Hipódromo Argentino de Palermo, Av. Libertador 4101, 3rd floor.

All participants are welcome to attend these events, however please note pre-booking is required.

BUS TRANSFERS TIMETABLE

October 21st

Castelar Hotel – Academia Nacional de Medicina	1 bus	07.30
Dazzler Recoleta – Academia Nacional de Medicina	2 buses	07.30 & 8.00
Academia Nacional de Medicina – Castelar Hotel	1 bus	17.00
Academia Nacional de Medicina – Dazzler Recoleta	1 bus	17.00
Academia Nacional de Medicina – Welcome reception	1 bus	18.00
<i>Welcome reception</i>		
Dazzler Recoleta – Welcome reception	2 buses	17.45 & 18.30
Castelar Hotel – Welcome reception	1 bus	18.00

October 22nd

Castelar Hotel – Academia Nacional de Medicina	1 bus	07.30
Dazzler Recoleta – Academia Nacional de Medicina	2 buses	07.30 & 08.15
Academia Nacional de Medicina – Castelar Hotel	1 bus	17.30
Academia Nacional de Medicina – Dazzler Recoleta	2 buses	17.30
<i>Optional Social Event</i>		
Dazzler Recoleta – Tango Show Dinner		19.30

October 23rd

Castelar Hotel – Academia Nacional de Medicina	1 bus	08.00
Dazzler Recoleta – Academia Nacional de Medicina	2 buses	07.45 & 08.15
Academia Nacional de Medicina – Castelar Hotel	1 bus	17.30
Academia Nacional de Medicina – Dazzler Recoleta	2 buses	17.30
<i>Gala Dinner</i>		
Castelar Hotel – Gala dinner	1 bus	19.45
Dazzler Recoleta – Gala dinner	2 buses	19.45 & 20.00

October 24th

Castelar Hotel – Academia Nacional de Medicina	1 bus	08.00
Dazzler Recoleta – Academia Nacional de Medicina	2 buses	07.45 & 08.15
Academia Nacional de Medicina – Dazzler Recoleta	1 bus	14.00 & 14.45
Acad. Nacional de Medicina – Inst. Nacional del Cáncer	2 buses	14.00

October 25th

Dazzler Recoleta – Inst. Nacional del Cáncer	1 bus	08.15
Inst. Nacional del Cáncer – Dazzler Recoleta	1 bus	18.00



Buenos Aires is the capital city of Argentina, one of the biggest Latin American cities and a cosmopolitan metropolis. It has a population of 12 million, the ninth-largest city in the world that represents the best of classical Europe and the most modern advantages of the new millenium.

This is a city characterized by the multiplicity of its artistic expressions, ranging from the great assortment of sculptures and monuments to streets and corners that surprise the visitor with their allegorical reliefs and murals.

Although it is a modern city with imposing turn-of-the-century European-style buildings, it also has some well-preserved districts of typical colonial architecture. The well-known warmth of its people, its groovy tangos and then exciting Sunday soccer afternoons are marvellous.

PROGRAMME VENUES

The National Academy of Medicine will be the main venue for the conference. It will host the scientific meeting and three of the workshop. An interesting neoclassical building situated in the beautiful Recoleta area of Buenos Aires, it is the oldest medical Academy in Argentina. It was founded in Buenos Aires in 1822, coinciding with the establishment of the University of the Buenos Aires School of Medicine.

The National Cancer Institute is situated on the busy Av. Julio A. Roca 781 10°. It will be hosting the IACR Board meeting and one of the workshops

Getting around: Please consult the map on the inside back cover which identifies the different locations for each of the events. Transfers may also be available from some hotels. See the timetable on page 23 or check at the registration desk.

Excursions and Tours

City Tour

This tour will allow you to discover all the magic of the capital City of Argentina. The itinerary includes the typical Avenida de Mayo, the Congress Hall Square and many other buildings and palaces of an extraordinary architectonic value from an historic and cultural point of view: the historic Plaza de Mayo, Casa Rosada (Government House), the Metropolitan Cathedral and Cabildo (ancient City Hall). The tour continues with Colón Theatre's facade (one of the five most important Opera Houses of the world) and old San Telmo quarter. A stop will be made at colourful "Caminito" street in La Boca, a picturesque neighbourhood initially settled by Italian immigrants, then continuing to the recently renewed Puerto Madero area, Palermo district with its beautiful parks and buildings and sumptuous Recoleta area.

On Sundays the tour includes a visit to the San Telmo flea market.

Duration: 3 hours. **Schedule:** Daily at 9:00 am

Tigre and Parana Delta

The Paraná Delta is a 14,000 square kilometer area of semi-tropical forest made up of thousand of islands and islets crisscrossed by more than 1,200 miles of streams, brooks and rivers.

We will depart from Buenos Aires for a sightseeing of the northern districts of the city and northern outskirts: Olivos, where we can catch a glimpse of the Residential House of the President of Argentina; La Lucila, Martínez, San Isidro (and the Cathedral). The tour continues with a ride on the Riverside train which connects the most elegant residential areas in the northern suburbs. Once arriving to Tigre we will board a typical Delta boat to navigate along the Paraná River islands.

Duration: 4.5–5 hours. **Schedule:** Daily in the morning

Fiesta Gaucha

Visit to a typical "estancia" (ranch) of the Argentine pampas plains, one of the most fertile natural prairies of the world, renowned for its cereal production and cattle breeding. Visitors will be welcomed with wine and empanadas (meat pies) followed by a barbecue and will be able to enjoy folkloric songs and dances, as well as go horse riding, and watch the performance of gaucho equestrian skills.

Duration: 7 hours. **Schedule:** Monday, Tuesday, Thursday, Saturday and Sunday



Tours within Argentina

Iguazu Falls

Within a humid and tropical region, crossed by great rivers, there is a virgin jungle with huge trees and extraordinary flora and fauna. An impressive natural scenario of 275 waterfalls located in the middle of an exuberant sub-tropical rain forest and

vastly larger than the Niagara Falls, the Iguazú Falls are comparable only to Victoria Falls in Africa. This park was declared UNESCO World's Heritage Site in 1984. Three days (two nights):

Accommodation on bed/breakfast basis - Transfers in/out - Full day visit of the Argentinian side of the falls and the breathtaking Devil's Gorge. Half day visit of the Brazilian side of the falls.

Seat-in-bus services with Spanish/English speaking guide. Park entrance fees are NOT included. They should be paid on site by each person. Daily departures.



Salta

Traces of pre-Hispanic cultures and a strong presence of the Spanish colonial tradition can still be read in the architecture, folklore and in the people's way of life. Imposing sceneries of multi-coloured mountains, valleys and gorges together with the singular features of the Indian villages, ancient fortifications and markets, make this region particularly attractive. Four days (three nights): Accommodation on bed/breakfast basis - Transfers in/out - Half day city sight-seeing. One day tour to Humahuaca. One day Tour to Cafayate. Seat-in-bus services with Spanish / English speaking guide. Daily departures.



El Calafate – Los Glaciares National Park

Amazing huge glaciers at the south of the Andes which can be easily reached and seen: Perito Moreno, Upsala, Onelli and Spegazzini. This national park was declared a World Heritage Site by UNESCO in 1937.

Four days (three nights): Accommodation on bed/breakfast basis. Transfers in/out FTE airport. One day tour to Perito Moreno Glacier / One day navigation to Upsala, Onelli and Spegazzini Glaciers. Seat-in-bus services with Spanish/English speaking guide. Park entrance fees included. Daily departures.

Ushahia

On the shores of the Beagle Channel and surrounded by Martial mount, the capital city of Tierra del Fuego province (Fireland) allows to enjoy sea, mountains and forests. It is the southernmost city in the world, gateway to Cape Horn and Antarctica. Three days (two nights): Accommodation on bed/breakfast basis - Transfers in/out - Half day Tierra del Fuego National Park - Half day Beagle Channel cruise. Seat-in-bus services with Spanish/English speaking guide. Park entrance fee and port tax included. Daily departures.

Bariloche – The Lake Region

Mountains, blue lakes and millennial silent woods of incomparable beauty. It is the gateway to enchanted virgin landscapes in the most charming side of the Andes. Magic places and hidden lodges beside the lakes invite complete relaxation. Four days (three nights): Accommodation on bed/breakfast basis - Transfers in/out - Half day Nahuel Huapi Lake, San Pedro Península and Llao Llao - Full day tour to Isla Victoria. Seat-in-bus services with Spanish/English speaking guide. Park entrance fee included. Daily departures.



Valdés Peninsula

This peninsula in the Atlantic Ocean joins best special natural conditions for the development of marine mammals and aquatic bird colonies. Penguins (from September to April), whales (from June to November), sea-lions and sea-elephants can be admired from a short distance in this paradise of wildlife. It was declared a World Heritage Site by UNESCO in 1999. Three days (two nights): Accommodation on bed/breakfast basis. Transfers in/out. Full day tour to Peninsula Valdes. Half day tour to Punta Tombo. Seat-in-bus services with Spanish/English speaking guide.

Natural Reserves entrance fees included. Whale boat approach included. Daily departures.

Important: *The excursion to Punta Tombo will be arranged for the arrival or departure day. Please arrange your travel so that your flight arrives before 9am on the day of arrival and leaves after 5pm on the day of departure.*

Mendoza – wine district

Three Days (two nights): Accommodation on bed/breakfast basis - Transfers in/out - Half day city sight-seeing. Full day wineries tour in Luján de Cuyo (including lunch and beverages) – Half day wineries tour in Valle de Uco (including lunch and beverages). English-speaking guide – Minimum 2 people. Daily departures.

Keynote Speakers



Eduardo L. Franco

Dr. Franco is James McGill Professor and Interim Chair, Department of Oncology, and Director, Division of Cancer Epidemiology, McGill University, in Montreal, Canada. His research has focused on the epidemiology and prevention of cervical and other HPV-associated cancers, as well as on other cancer epidemiology areas. He published over 360 articles, 55 chapters, and two books on cancer epidemiology and prevention. He is the Editor-in-Chief of Preventive Medicine and has served in the editorial boards of the American Journal of Epidemiology, Cancer Epidemiology, Biomarkers & Prevention, Epidemiology, eLife, International Journal of Cancer, Medical and Pediatric Oncology, and PLoS-Medicine. His distinctions include: Fellow of the Canadian Academy of Health Sciences (2012), Fellow of the Royal Society of Canada (2011), McLaughlin-Gallie Award, Royal College of Physicians and Surgeons of Canada (2011), Lifetime Achievement Award, American Society for Colposcopy and Cervical Pathology (2010), Honorary President, EUROGIN Congress, Monaco (2010), Women in U.S. Government's Presidential Leadership Award (2008), EUROGIN Society's Distinguished Services Award (2006), Canadian Cancer Society's Warwick Prize in cancer control research (2004), Medical Research Council of Canada's Distinguished Scientist Award (2000), and Educational Excellence at McGill University (2000).



Pelayo Correa

Pelayo Correa is Anne Potter Wilson Professor of Medicine, Division of Gastroenterology. He was born in Sonson, Colombia in 1927. He received his MD in 1949 from the Universidad de Antioquia in Medellin and served on the faculty of the Universidad del Valle School of Medicine in Cali from 1954 until 1970. He was a Visiting Scientist at the US National Cancer Institute from 1970 to 1973, and then joined the faculty of Louisiana State University Medical Center, New Orleans, where he was Professor of Pathology from 1974 through 2005. In 1996 he was designated as a Boyd Professor, the highest academic rank in the LSU System. After retirement from LSU he joined the faculty of Vanderbilt University Medical Center where he continues to do research. Dr. Correa is the founder of the Cancer Registry in Cali, Colombia, the first population-based registry in Latin America, and was a leader in the development of the SEER Louisiana Tumor Registry in New Orleans. He is the author of over 500 publications and is the Principal Investigator of an NCI Program Project on the etiology of gastric cancer, which has been continuously funded since 1980. He has received numerous awards and honors for his seminal contributions to the natural history of gastric carcinogenesis.

Sabine Siesling

Sabine Siesling was born in the Netherlands in 1972. She studied Biomedical Science at the Leiden University and graduated in 1996, after she spend half an year at the University of Heidelberg, Germany. She finalised her PhD in 1999 on the clinical, genetical and epidemiological aspects of Huntington's Disease. She registered as clinical epidemiologist B and filled the position of head of the department of registration and research at the Comprehensive Cancer Centre Stedendriehoek Twente. After a merge with the Comprehensive Cancer Centre North Netherlands she became head of Research.

At this moment she is senior researcher at the Comprehensive Cancer Centre the Netherlands, Utrecht. She is project leader of the NABON Breast Cancer Audit, which is one of the key-indicators for the Dutch Health Care Inspectorate. She is Associate Professor at the MIRA Institute of Biomedical Technology and Technical Medicine, department of Health Technology and Services Research, University of Twente, Enschede, the Netherlands. Her research and teaching focuses on the quality of oncological care and follow-up.

She is involved in several PhD projects in which the effect of interventions, like peer review or care pathways, on the quality of care is evaluated by using the data of the Netherlands Cancer Registry. She is investigating clinical guideline adherence, personalised medicine and tailored follow-up. Moreover, she is involved in the Netherlands Breast Cancer Project, which tries to fill the gaps in evidence for systemic treatment regimes, which cannot be obtained by RCTs.

She is steering committee member of the European Network for Cancer Registries (ENCR), general secretary of the International Association of Cancer Registries (IACR), board member of the Netherlands Epidemiological Society, board member of the FEDERA (**Federation of Dutch Medical Scientific Societies**).





Henrik Møller

Henrik Møller is Professor of Cancer Epidemiology at King's College London School of Medicine, and Director of Cancer Epidemiology and Population Health in King's Health Partners Integrated Cancer Centre. He was a Director at the Thames Cancer Registry from 2000 to 2011. Previous employments were as Director of Centre for Register-based Research at the Danish National Research Foundation in Copenhagen (1995-1999); as Scientist and Acting Unit Chief in the Unit of Carcinogen Identification and Evaluation at International Agency for Research on Cancer in Lyon (1992-1995); and as Epidemiologist at the Danish Cancer Registry in Copenhagen (1986-1992). Henrik Møller has honorary associations with several medical schools in England and Denmark. He has published 300 peer reviewed research articles in cancer epidemiology and health service research.

Luis Eduardo Bravo

Dr Luis Eduardo Bravo is a Professor Emeritus of Pathology at Universidad del Valle in Cali, Colombia and has a Master degree in Epidemiology and Microbiology. He received the Laureate Thesis Award for "Trends in cancer incidence in Cali through 1962-2001: An Age-period-cohort analysis. Dr Bravo is the director of the Population-based Cali Cancer Registry (Registro Poblacional de Cáncer de Cali - RPCC). The RPCC was established at Universidad del Valle in 1962. The RPCC data have appeared in all ten volumes of Cancer Incidence in Five Continents. With the pediatric hematologist/oncologist of Cali he has established an epidemiological surveillance system for Childhood cancer. The new model developed in Cali and ongoing since 2009, with the support of My Child Matters program, has been implemented in other regions of Colombia.



David Forman



Dr David Forman is Head of the Cancer Information Section at the International Agency for Research on Cancer (IARC) based in Lyon, France. This 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, Dr Forman 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. Dr Forman's PhD and postdoctoral research was in cancer biology.

Dr Forman'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-analysis 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 over 200 publications in peer reviewed journals.

Joakim Dillner

Joakim Dillner is professor in infectious disease epidemiology at Karolinska Institutet in Stockholm, Sweden, since 2009. He was born in Stockholm in 1962. He earned his MD at Karolinska Institutet and earned his PhD in tumor virology in 1986, also at Karolinska Institutet. From 1986-1988 he was post doc at Scripps Institute in LaJolla, California. From 1988-2000 he was researcher at Karolinska Institutet, from 1990 associate professor in virology. In 2001 Dillner moved to Lund University where he became professor in virology, in particular molecular epidemiology. His research has focused on biobanking, cancer screening and tumor virology, especially human papillomavirus (HPV).

In 2001-2005 Dillner led an EU Network of Excellence on tumor virology, and in 2006 he became responsible for WHO HPV LabNet Global Reference Laboratory HPV. In 2002-2007 he was coordinator of the Swedish National Biobanking Program (a common biobank program for the medical faculties in Sweden, financed by the Knut and Alice Wallenberg) and in 2004-2009 he led the EU FP6 Network of Excellence on using Biobanks and Cancer Registries for Cancer Control. In 2009, he was main applicant to the Swedish Research Council for the founding of the Biobanking and Molecular Resource Infrastructure of Sweden (BBMRI.se). He was Director for BBMRI.se during 2009-2011 and is currently Co-director. During 2011-2012 he was Senior Visiting Investigator at the International Agency for Research on Cancer (IARC).



JOHANNES CLEMMESSEN LECTURE

Clemmesen's legacy in Latin America

Pelayo Correa *Vanderbilt University Medical Center*

The pioneer work of Johannes Clemmesen in cancer registration was an inspiration for the establishment of population-based cancer registries in Latin America. The main promoter of this activity was William Haenszel, then chief of the biometry branch of the National Cancer Institute, NIH, USA. He stimulated the establishment of population-based cancer registries in Cali, Colombia; Lima, Peru; and Sao Paulo, Brazil. Some of those efforts did not lead to continuous operation for a variety of reasons. But the Population-based Cancer Registry of Cali, Colombia (PBCRC) did prosper and has been in continuous operation for 50 years. More recently, PBCRC has been established in Quito, Ecuador, in continuous operation for over 20 years. These Registries have contributed substantially to our knowledge of the unique pattern of cancer epidemiology in Latin America, more recently providing valuable data on time trends in incidence and mortality. These results reflect the gradual transformation of some Latin American cities from immigrants from underdeveloped rural areas with a demographic pattern of "African" type, to a more affluent population displaying a "European" demographic pattern. It is hoped that coming decades will further document trends in cancer incidence and mortality in Latin America.



Johannes Clemmesen 1908–2010

Danish Physician and Pathologist

Johannes Clemmesen's thesis from 1938 was on transplantation of cancer from one animal species to another after X-ray exposure. Dr. Clemmesen was head of pathology at the Finsen Institute 1955–78, and became a specialist in internal medicine in 1943 and in pathology in 1946. He founded and led the Danish Cancer Registry under the auspices of the Danish Cancer Society in 1942 giving Denmark a unique position in understanding cancer causes, development and incidence. He led the Danish Cancer Registry until 1980. During his leadership a constant and high profiled scientific pro-

duction was authored by him – especially the link between bladder cancer and tobacco consumption, the high incidence of testicular cancer and not the least the shape of the age incidence curve of breast cancer with "Clemmesen's hook" at the menopause indicating 2 types of breast cancer – one among younger women and another among the older. His publication series in 5 volumes, "Statistical studies in malignant neoplasms" still stand as a milestone in cancer epidemiology with observations and analysis and literature review up to 1977. On the basis of his work and ideas the cancer epidemiology of the Danish Cancer Society was developed and many younger researchers can thank Clemmesen for developing the possibilities upon which they base their research in cancer. He was due his importance for establishing cancer registries internationally one of the fathers of the International Association of Cancer Registries and also the longest living honorary member. His life time achievement in research and the creation of the Danish Cancer Registry led to a doctor honoris causa at Århus University in 1978. He was acknowledged in 2003, at the age of 94 with the Danish Cancer Society Senior Research Prize, which he instantly supplemented by his own funds to form Johannes Clemmesen's Cancer Research Fund focused on the causes of cancer, in particular testis cancer with a very high incidence in Denmark shown by his cancer registry – his life achievement. Clemmesen had a good and active life even beyond age 94. He lived to see his life achievement be pulled apart by authorities separating cancer registration from research of which he expressed his deep concern. He did not live his active life long enough to see the modernized cancer registration blossom. His latest years were devoted to cope with old age and domestic matters. He died at the age of 102 in 2010.

Keynote Presentations

Role of the population-based cancer registry in the evaluation of screening

Eduardo L. Franco

Department of Oncology, McGill University, Montreal, Canada

Among the several public health dividends provided by population-based cancer registries (PBCR) is the opportunity to monitor the impact of health interventions at the population level. Ongoing compilations of incidence data from multiple PBCRs by the International Agency for Research on Cancer's GLOBOCAN project ensures the availability of country-specific morbidity and mortality data on cancers amenable to prevention by screening. The demonstration that the onset of organized or opportunistic screening with Papanicolaou cytology precedes a substantial reduction in the incidence of cervical cancer was the first line of evidence for the adoption of this secondary prevention strategy in high and middle income countries. Ongoing epidemiologic surveillance of cervical cancer incidence has also provided the basis for countries, such as the UK, Canada, Finland, and Norway, to adopt policies aimed at augmenting screening coverage or improving quality control measures in cytology. Monitoring of cancer incidence by PBCRs has also provided much of the basis for our understanding of the impact of widespread screening for prostate cancer as driven by practice guidelines in Western countries. The author will review examples of the role played by PBCRs in secondary prevention of cancer.

Populations and variations: Aetiological and clinical cancer epidemiology

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Population-based cancer registration, initially called geographical pathology, was developed in order to study the occurrence (incidence) of cancer in defined residential populations and their subgroups. In most cancer registries the basic cancer registration record has been amended with the dates of death or emigration, and this extends the scope of the registry to cancer survival analysis. Further enrichment of the registration record with social and medical data and details of cancer care further extends this and enables clinically relevant analysis of cancer care, prognosis and outcomes.

The modern cancer registry may contribute both to the understanding of disease occurrence, causation and prevention, as well as to clinical governance and comparative effectiveness research by means of clinical epidemiological studies of patterns of care and outcomes. The population-based epidemiological perspective can make important contributions in clinical research environments where the controlled trial is the standard and norm. Population-based analysis can expand the scope from the selected hospital population setting to the complete regional or national patient population, and it may contribute new knowledge both within clinical medicine and in research areas where the conduct of a trial is not feasible or possible.

The lecture will include examples of recent work in England on prostate cancer incidence and survival in ethnic groups, on the surgical management of lung cancer, and on breast cancer survival in relation to a recent childbirth.

Hospital-based registries' contribution to population-based cancer registries

Sabine Siesling

IKNL (Comprehensive Cancer Centre the Netherlands)

An increasing demand for transparent data on quality of care has become widespread through the world. Indicators which are thought to give insight in the quality of care have been developed based on existing guidelines. Hospitals have to present these indicators of care delivery or performance to their own professional networks (thought audits), health inspectorates, or the public. To compare these data between hospitals, case mix factors, such as tumour staging and co-morbidity, should be taken into account. Data for audits are mainly focussed on short-term complication rates and/or hospital mortality and based on hospital-based registries. Cancer registry data is often used as external validity.

Within Europe the EURO COURSE project (www.eurocourse.org) has had several workshops on the relation between clinical hospital registries and the cancer registries. More relation between the hospital registries and cancer registries should be enforced for several reasons: to reduce workload and overlap, to improve quality of both datasets, to gather relevant data (avoid data cemetery), to improve timeliness of the data, to have objective data, to be robust and be able to reveal transitions in time.

The use of the data of hospital-based registries by cancer registries and vice versa implies a large amount of thrust in the data validity. For the clinicians the cancer registry is seen as a black box. A way to increase the use of each other's data and increase the trust the situation in the Netherlands will be taken as example. Since 2011 the NABON Breast Cancer Audit has defined 23 indicators on the quality of multidisciplinary care for breast cancer patients. The data is gathered by registrars of the Netherlands Cancer Registry (NCR, IKNL and IKZ) in all hospitals in the Netherlands. These data are regularly given back to the clinician to have insight in the quality of care of their own hospital compared to the nation and, on patient level, in the data gathered. This is done through secured excel overviews. Moreover, in about one third of the hospitals the surgical indicators are gathered by the hospital as well, the latter because of highly dedicated surgeons or lack of thrust in the NCR. Validation of these data for the yearly report did not reveal large differences, although the hospital registry was less complete.

In a newly built system the clinicians can have regular on-line insight in their performance monitored through the multidisciplinary indicators. Moreover, a patient-level specialist can annotate and discuss with the registrar of the NCR on registered items. Including hospital registered data (or from other data sources) in the NCR is considered. This will change the work of the registrars in the future in several ways: more dialogue with clinicians, more monitoring function, and more insight in the use of the data, which all will improve the data.

Electronic Sources

Eduardo Bravo

Cali Cancer Registry, Colombia

Cancer registries collect large quantities of data which are obtained in different formats (physical and digital records). Different cancer notifications for the same patient will arrive in the course of time. Therefore it is necessary to link all notifications to the same person to obtain accurate information for the same tumor, the correct number of tumors, and to estimate valid incidence measures.

Data linkage is challenging if there is lack of a common unique identifier, input errors or typing mistakes. Now days, linking large data bases are increasingly more difficult when using traditional linkage techniques. New data linkage systems include probabilistic approaches, indexing methods, and parallelization approaches. These modules allow the safe detection and elimination of the duplicates and the efficient integration of information from different data sources of the Population-based Cancer Registries in order to produce high quality incidence data.

The Cancer Registry of Cali has developed and optimized a data linkage system to ensure local, national, and international availability with permanent and timely access to information about the incidence, survival and mortality from cancer in Cali, Colombia. This web application has allowed the establishment of a new model of surveillance system for childhood cancer in Cali, Colombia. The operational process includes capture of data, registration, and follow-up. The second process is data quality and analysis of information and the third process is communication of findings to health officials and the general public. This model was developed in Cali and it is ongoing since 2009; with the support of My Child Matters program, it has been implemented in other regions of Colombia. The expansion of this information system will provide health authorities and others with new information about childhood cancer burden in the south-western region of Colombia.

Importance of biobanks in the surveys of the cancer registries

Joakim Dillner

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Development and evaluation of effective health services for cancer control is dependent on high quality prevention research, which in turn is dependent on establishment of high quality research infrastructures.

The necessary materials upon which cancer research is based is termed the study bases and is formed by longitudinal follow-up of cohorts and biobanks using cancer registry linkages. Therefore, cohorts, biobanking facilities and cancer registries constitute key research infrastructures for cancer research, underpinning the development and evaluation of cancer control policies.

All over the world, there is an increasing establishment of large population-based cohorts and advanced biobanking facilities. These need to be regularly linked to cancer registries for follow-up on disease development.

International standardization and networking of research infrastructures is required in order to enable international research and comparability of research results. Networks of biobanks and cancer registries have developed and proposed an international operating procedure and standard minimal dataset for linkages of biobanks, cohorts and cancer registries, which will be reviewed. The internationally comparable provision of well characterized study bases for molecular cancer research will be an essential prerequisite for the success of translational medicine.

Information for authors

Speakers

- Presentation will be accepted in ENGLISH or SPANISH. Simultaneous translation will be available for those two languages only.
- For each speaker, the allocated time to speak is 10 minutes, followed by a 5 minute discussion.
- All speakers are asked to keep to the allocated time.
- Only computer presentations will be available in the oral sessions.
- Please bring your presentation in English, saved on either CD-R or USB memory device to the AV Technician. If you have any difficulties, please contact the registration staff at the registration area and they will assist you.
- Speakers are requested to present their materials at least one hour prior to their presentation.

Poster presentations

A large number of posters were submitted to the 2013 IARC Annual Conference and space available for display is limited. Poster presenters are asked to take due note of the following guidelines:

- Posters should be **no more than 1.5m high and 0.9m wide, PORTRAIT** format only. Posters which do not fit on the poster boards will be removed.
- Posters will be divided in two groups of 70 posters, which will be displayed during **one day only**. Posters will be listed by group at the registration desk and a designated space will be given for your poster. Times for display, viewing and removal are indicated below:

	DISPLAY TIME	VIEWING	REMOVAL TIME
Group 1	Mon 21 October 3:00 pm to 6:30 pm	Tue 22 October 9:00 am to 4:00 pm <i>Evaluation: coffee and lunch breaks</i>	Wed 23 October 4:00 pm – 5:00 pm
Group 2	Tue 22nd October 5:00 pm and 6:30 pm	Wed 23 October 9:00 am to 4:00 pm <i>Evaluation: coffee and lunch breaks</i>	Wed 23 October 4:00 pm to 5:00 pm Thu 24 October Before 11:00 am

Each poster presenter will be expected to be in attendance for discussion of their poster at two designated times during the conference:

- During one tea/coffee break (Tuesday - Group 1 or Wednesday - Group 2) and
- The first 45 minutes of one lunchtime (either Tuesday or Wednesday).

Poster evaluation sessions are planned for Tuesday (Group 1) and Wednesday (Group 2).

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. All posters remaining on panels after the removal time will be discarded by the secretariat.



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The Effect of Endoscopic Screening on Esophageal Cancer

1.1

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Background

To evaluate the effect of the endoscopic screening projects on esophageal cancer survival rate, which is been applied in high risk area in China.

Methods

Endoscopic examination with iodine staining and index biopsy was performed in residents aged from 40 to 69 in Ci County, Hebei province. The intervention group was the population who were endoscopic screened, and the control group was the population who were not. The two groups were followed up.

Results

From 2000 to 2009, 1733 new cancer cases were diagnosed in endoscopic screening group and control group in Ci County, Hebei province. The incidence of esophageal cancer of ages 40–69 population by endoscopic screening is 4.1%, and the mortality rate is 2.8%; meanwhile the incidence of control group is 5.4%, and the mortality rate is 4.0%. The 1–5 years relative survival rates (RSR) of esophageal cancer by endoscopic screening are 47.0%, 39.9%, 35.4%, 31.8%, 30.6% separately, which are 33.0%, 25.4%, 22.5%, 21.6%, 21.4% in the control group. The incidence rate, mortality rate and RSR of the two groups are statistically significant ($P < 0.001$).

Conclusion

It is demonstrated that endoscopic screening can increase the survival rate on esophageal cancers.

Equity in The Prevention of Cervical Cancer: A Contribution of Family Health Strategy

1.2

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Goal

This study aims at evaluating the coverage of Papanicolaou test and the factors linked to its realization, on women of the coverage area of a Unit of Primary Healthcare in Juiz de Fora.

Methods

A transversal study was done from September 2010 to March 2012. All women, between 20 to 59 years old, residents of the chosen area, were recruited at their houses by the community health workers. Through a questionnaire, applied by trained researchers, we collected the data of 1301 women, who appeared at the UBS Unit of Primary Healthcare being recruited. The prevalence ratios (PR) with confidence intervals of 95% (95% CI), between selected characteristics and realization of preventive gynecological examination were calculated by Poisson regression.

Results

There is a coverage of 78% by Papanicolaou test, mainly as a SUS service (76%). It was found that there were no differences in the performance of the Pap smear for most of the studied variables. Only variables have performed clinical breast exam and mammogram were associated to the test preventive for cancer of the cervix, as recommended.

Conclusion

The results of this study showed no difference between the percentage of women who underwent preventive gynecological examination because of education and income, which may suggest equity of access to this test in this population catchment area. This fact can be attributed to the performance of UAPS, that has had as health care model the Family Health Strategy for 10 years.

Attending the Breast Screening Program after Breast Cancer Treatment: A Population-Based Study

1.3

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Background

Breast cancer (BC) patients are treated and followed in the hospital for 5–10 years, according to the prevailing guideline. In the Netherlands all women aged 50–74 are invited biennially for mammography by the nationwide screening programme. Little is known about the relation between the outpatient follow-up and the screening programme. This study evaluates whether women attend the screening programme after BC diagnosis and potential influencing factors.

Methods

Data of BC patients 50–74 years, treated for primary BC between 1996–2007 were selected from the Netherlands Cancer Registry and linked to the National Breast Cancer Screening Programme North. Cox regression analyses was used to study the number of patients (re-)attending the screening programme over time and factors influencing their participation.

Results

11,227 BC patients (53% screen-detected tumors) were included. 3.6% (n=406) attended the screening programme within 5 years after treatment. Another 3.9% (n=434) attended the screening programme more than 5 years after treatment. Factors that independently influenced attendance within 5 years after treatment were: interval tumors (HR 0.77; 95%CI 0.61–0.97) and non-screen related tumors (HR 0.41; 95%CI 0.29–0.58; ref: screen-detected tumors), recent diagnosis (HR 0.89 per year; 95%CI 0.86–0.92), receiving adjuvant radiotherapy (HR 0.65; 95% CI 0.47–0.90) and diagnosis of in-situ tumors (HR 1.67; 95%CI 1.25–2.23).

Conclusion

Within 5 years after BC treatment, 3.6% (re-)attended the screening programme. To reduce overlap, BC patients should be informed that attending the screening programme during the outpatient follow-up is unnecessary and the interrelation between outpatient follow-up and screening should be improved.

Using cancer registry data to evaluate Israeli national screening programs for breast and colorectal cancer 1.4

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Background

In 2004, the Israel Ministry of Health instituted a national health care quality measurement program. This program documented increased compliance with guidelines for breast and colon through 2010. We used cancer registry data to study the impact of increased screening on initial stage of breast and colon cancer.

Methods

The Israel National Cancer Registry (INCR) was established in 1960; reporting has been mandatory since 1982. Stage is coded according to the summary stage criteria of the Middle East Cancer Consortium (MECC). We selected cases of invasive and in situ cancer diagnosed from 2000–2010 at ICD-O-III sites C50 (breast) and C18-C20 (colorectal), excluding lymphomas at these sites.

Results

Annual number of breast cancer cases in women ages 50–75 increased by 22% from 2000 to 2010. The percentage of cases *in situ* rose from 8.7% to 11.8%, the percentage localized rose from 26.4% to 39.6%, and the percentage with distant spread at diagnosis dropped from 2.5% to 1.8%.

Annual number of cases of colorectal cancer in the population ages 50–75 increased by 12% from 2000–2010. The percentage of cases *in situ* rose from 1.8% to 4.3%, the percentage localized rose from 13.4% to 21.9% and the percentage with distant spread dropped from 11.2% to 7.9%.

Conclusions

We observed a shift in the percentage of breast and colorectal cancer detected at earlier stages during the period from 2000–2010, in parallel with increased cancer screening in the target populations. The INCR data are useful for assessing the implementation of national interventions.

Breast Cancer in the Azores 1983–2010: Incidence, Survival and Mortality Previous to a Screening Program 1.5

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Background

Breast cancer is the most frequent cancer among Azorean women. To elucidate descriptive patterns and health care outcomes for this disease before the introduction of the population-based screening program we looked for trends in incidence, survival and mortality on the most populous of the Azorean islands.

Methods

All breast tumors initially diagnosed between 1983 and 2010 on São Miguel island were analysed. Standardised incidence and mortality rates were computed. Net survival was estimated according to the method recently developed by Maja Pohar and collaborators. Excess mortality was estimated by using a Poisson assumption for the observed number of deaths. STATA version 10 was used in the statistical analysis. Trends were analyzed through 'Joinpoint' Program.

Results

A total of 1130 new cases were diagnosed and 410 deaths occurred in the period 1983–2010. The ASR has increased from 51.8 to 82.0/100,000, with an APC of 2.1% (95% CI 1.2–3.0). No significant trends were seen on breast cancer mortality on São Miguel. Age-standardised net survival at 5-year of follow-up improved gradually from 89.2% (50.2–98.1) for women diagnosed during 1983–1996 to 93.0% (77.6–98.0) for women diagnosed during 2004–2010. Women diagnosed during 2004–2010 experienced only 57% (0.35–0.92) of the excess mortality of those women diagnosed during 1983–1989.

Conclusions

An increase in diagnostic activity (opportunistic screening) together with changes in demography, lifestyles and reproductive factors might have contributed to an increase in incidence. The rate (hazard) by which women with breast cancer die due to their cancer has slowed down in more recent years.

Cancer Trends in Bahia Blanca City, Argentina, between 1989–2007 **1.6**

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Background

Cancer problem has motivated strong arguments among Bahía Blanca inhabitants due to the vicinity of the petrochemical industry. The Cancer Registry is therefore frequently consulted and, at present, its importance is better understood.

Methods

Joinpoint Program was used, with a log lineal model that allows to calculate percentage annual variation media.

Results

We found in lung- among men- an annual decrease of 3.18%; this difference is significant. In prostate an annual increment of 5.75%; this difference isn't significant. In stomach an annual descent of 1.15%; in colon-rectum an annual increase of 0.28% in bladder an annual increase of 0.14%; in esophagus an annual decrease of 2.49%; in pancreas an annual decrease of 1.6% and in larynx an annual decrease of 0.76%. None of these differences are significant.

We found in breast- among women- an annual decrease of 0.38%; colon-rectum an annual decrease of 0.85%; cervix an annual descent of 0.20%; lung an annual increase of 1.49% and in ovary an annual increase of 2.13%. None of these differences are significant. When we study the less frequent topographies we found significant annual increase in pancreas (2.26%) and central nervous system (3.06%).

Conclusion

The descent in lung cancer in men, may be the result of anti-smoking campaigns and smoking restrictions in public access areas. Rising prostate cancer is possibly due to increased detection of the disease with PSA. The increase of lung and pancreas cancer among women can be explained by increases in tobacco use in the last decades.

Trends in the Incidence of Most Common Cancers in the Eastern Cape Province of South Africa, 1998–2007 **1.7**

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Background

South African Medical Research Council has been keeping a population-based cancer register for more than 20 years which monitors cancer incidence in the population living in the rural Eastern Cape Province. This is a review on trends in the most common cancers both in males and females for the periods 1998–2002 and 2003–2007.

Methods

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. Age standardized rates were calculated using the World Standard population.

Results

The table shows the age standardized rates of the most common cancers; males and females.

	1998–2002	2003–2007
Males		
Oesophagus	31.3	32.7
Prostate	4.4	6.8
Lung	6.0	4.7
Larynx	2.7	3.5
Kaposi Sarcoma	1.6	3.1
Females		
Cervix	21.7	19.4
Oesophagus	20.2	19.9
Breast	7.5	7.2
Liver	0.9	1.4
Kaposi Sarcoma	0.3	1.4

Conclusion

In males there is an increased incidence rates observed in oesophageal, prostate, larynx cancers and Kaposi Sarcoma whereas lung cancer decreased. In females there is not much difference observed. However, a decrease was expected in cervical cancer particularly within a country such as South Africa where a national free screening is available.

Histological Patterns of Esophageal Cancer in Uruguay (1996–2010) 1.8

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Background

There are two main histological forms of Esophageal Cancer (EC): Squamous cell carcinomas (SCC) and Adenocarcinomas (ADC). Both present distinctive epidemiological and physiopathological profiles. There are few epidemiological reports regarding Latin-American situation from population based cancer data (PBCD) sources. EC is still an important health problem in Uruguay (UY). EC is among the top ten death cancer cause in men. Risk Factors prevalence, such as overweight, tobacco and alcohol, and particularly hot “mate” infusion consumption is high in Uruguay. This paper aims to describe histological patterns, from PBCD from the National Cancer Registry (NCR) in UY.

Methods

EC incidence data from NCR from 1996 to 2010 where analysed. Age Standardized Incidence Rates (ASIR) were calculated for ADC, SCC and ill defined tumors (IDT) for men (M) and women (W). EPI/ADC rate ratios were also calculated by gender. M/W rate ratio was calculated for each histology type. A modelled redistribution from IDT ASIR into ADC and SCC was performed keeping the observed proportion for each year.

Results

ASIR from IDT steadily decreased (about four fold in the study period), mainly due to improvement in NCR data collecting and processing. SCC ASIR prevails over ADC at least in a 3:1 relation. SCC estimated ASIR decreased significantly for men and women. ADC also decreased significantly in Men. In Women remain stable.

Conclusion

There has been an improvement in NCR data management, which may bias results of long term trends analysis. Every histological form decreased significantly, except ADC in women.

Breast Cancer in Women with Respect to Location, Age Group and Tumor Stage in Accra 1.9

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- 3 Biostatistician / Cancer Registry ICT Officer / Data & Medical Records Officer.

Background

Breast cancer is most common cancer and leading cause of cancer related death worldwide. Breast cancer presents as painless lump and increases yearly. The female:male ratio is very low. Breast cancer study done (1996 & 2003) also indicates that the left breast cancer is more common than the right breast cancer.

Methods

The data was extracted from medical records of breast cancer patients. Focus group discussion and interview was employed. Few men breast cases were observed. Simple descriptive statistics was applied.

Results

Total breast cases were 4009, with left recording 2409 and the right breast 1600. The lowest and highest incident ages were 9 and 96 years respectively. The mean and the median ages were 42 and 38 respectively. Age group 41–50 recorded the highest value with tumor stage III. Focus group discussion shows left breast stands a higher risk of acquiring cancer than the right breast.

Conclusion

By empirical proof, breast cancer cases dominated in the left breast than the right breast by 20.1%. The most occurrence were from 41–50 years with stage III. Men breast cancer also shows left higher than the right. However, the right breast is larger in size than the left from discussion and interviews. The study also confirms the SEER Program 1996 and 2003 that the left breast cancer exceeds the right sided breast.

Finally, researchers and scientists should investigate (aetiology) the rationale behind the dominance of left breast cancer over the right breast cancer.

Cancer Burden Attributable to Excess Body Mass Index in Latin America between 1988 and 2008

1.10

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Background

Excess body fatness is associated with increased risks of developing cancer. We estimated incident cancers attributable to excess body mass index ($\text{BMI} \geq 25 \text{ kg/m}^2$) across 28 Latin American countries in 2008. Additionally, proportions of cancers attributable to excess BMI in the last 20 years were estimated.

Methods

Population attributable fractions (PAFs) were calculated using gender-specific risk estimates and country-, age- and gender-specific BMI estimates. Country-specific numbers of new cancers in 2008 were derived from GLOBOCAN2008.

Results

In 2008, there were 1.2 million new cancer diagnoses in the 28 Latin American countries, of which 1.7% and 5.6% were related to excess BMI in men and women, respectively. These collectively corresponded to 42,977 new cases. Endometrial, postmenopausal breast and colorectal cancers accounted for 54% of these cancers. Regional PAFs were highest in Central America (7.1%, women) and in South America (1.8%, men). In addition to the regional differences there was marked cross-national variations within regions e.g. the largest PAF was found in Trinidad and Tobago (Caribbean) in women (8.9%) and in Argentina (South America) in men (2.9%). During the last two decades, we observed around 50% increase in the PAFs in the Latin American regions, with the strongest increase found in the Caribbean (70% increase in PAF).

Conclusions

These estimates provide a baseline to inform public health policy, and underline the need for interventions and policies to control weight in order to reverse the potential harmful impact of excess BMI on the burden of cancer in the region.

Using Cancer Registry Data to make Policy Scenarios for Primary Prevention: Experiences with PREVENT

2.1

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Background

Information on cancer incidence is vital, amongst others for policy-making purposes. The usefulness of such data is enhanced when different scenarios of effects of primary prevention interventions can be modeled using risk factor data. This helps policymakers, who are challenged by press and public opinions, in the decision-making process.

Methods

The PREVENT model was adapted to be able to handle cancer incidence information. It is a macrosimulation model based on the potential impact fraction (PIF) measure. It models expected future incidence as a result of interventions causing changes in risk factor prevalence, accompanying relative risks, underlying incidence data and time trends in incidence, and demographic projections.

Results

We used PREVENT to show potential effects of lifestyle changes (obesity, physical activity, smoking, alcohol consumption) on cancer incidence in Europe (www.eurocadet.org). For smoking and lung cancer, we also modeled differential impacts of prevention activities by socioeconomic level. In Denmark PREVENT was used to evaluate the national cancer plan. It was very helpful to be able to use risk factors in the modeling, which helped policymakers in the decision making process.

Conclusion/discussion

PREVENT is a useful tool for health scientist to evaluate the expected long-term effects of primary prevention activities. It raises hypotheses for research and is helpful to inform policymakers. The tool is available free of costs, but access to high quality cancer registry information, as well as risk factor prevalence data of sufficient quality and good epidemiologic knowledge are needed.

Survival of cancer patients diagnosed between 2003 and 2005 in Japan: A chronological study for evaluation of Comprehensive 10-Year Strategy for Cancer Control

2.2

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Background

Ministry of Health, Labour and Welfare in Japan has been conducting the Comprehensive 10-year Strategy for Cancer Control since 2003. The purpose of the present study was to analyze relative 5-year survival of cancer patients, incidence and mortality in order to monitor progress of the strategy.

Methods

We used the individual data of the seven registries meeting the required standards for the quality of registration data and follow-up investigation (2003 to 2005, 190,404 cases). We calculated the relative 5-year survival was calculated by pooling data. Comparison with the previous study (2000–2002) was done with the data of 6 registries which are common for the two studies.

Results

Relative 5-year survival (2003–5) for all sites was 55.4% for males and 62.9% for females. Survival figures for all sites changed slightly over the 6-year period (2.1 points for males and 1.1 points for females). A major improvement was remarked in several primary sites; prostate, malignant lymphoma, multiple myeloma and all leukaemias for males and esophagus, multiple myeloma and all leukaemias for females. Distribution of tumor stage at diagnosis was stable. As a whole, survival in early stage was improved, however, in some primary sites, improvement of survival in later stage was also observed. Incidence has been increasing, and mortality has been decreasing during the period.

Discussion

The study suggests an overall improvement in cancer survival, which might be in consequence of the development of treatments. No clear influence of preventive measures or screening diffusion was conversely recognized yet.

Dissemination of Cancer Information in Brazil: Cancer Surveillance Report (CSR) Production Strategies

2.3

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Background

It is a responsibility of the Brazilian National Cancer Institute (INCA) to disseminate the cancer information from Hospital-Based Cancer Registries (HBCR) and Population-Based Cancer Registries (PBCR). CSR production emerged from legal and political basis to construct the burden and oncology care situation.

Methods

This study show the information dissemination from HBCR, PBCR and Brazilian Mortality System strategies and results through CSR. The best practices in this process were consolidating for national and international experiences assimilation. It established the editorial production flow to standardized and defined dissemination strategies. The issues are prioritized according to institutional and social interests. CSR is published biannually in printed and electronic format. It is intended for managers and health professionals, cancer registries, research institutes, universities, media and scientific societies.

Results

For 2011–2013 it produced four CSR featuring the themes: a) overview of oncology care from HBCR information; b) morbimortality profile of most frequent cancer among Brazilian women (cervix and breast cancer); c) incidence, mortality and trends of stomach, colorectal, trachea, bronchus and lung, skin, breast, cervix and prostate cancers.

Conclusions

CSR may support actions in different decision-making levels of cancer control and prevention in Brazil. It was the first opportunity of integrate analytical HBCR and PBCR information in one publication in Brazil. CSR could instigate the dissemination information process in HBCR and PBCR level. Furthermore, CSR has stimulated the adherence of cancer surveillance systems for quality improvement and sharing information, and political interests ensure the information is used to support the decision-making process.

Reduced Risk of Distant Recurrence after Adjuvant Chemotherapy in Elderly Stage III Colon Cancer Patients

2.4

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Background

Little is known about effects of adjuvant chemotherapy (CT_{adj}) on risk of distant recurrence in elderly with colon cancer, treated in daily practice.

Methods

1189 resected stage III colon cancer patients diagnosed in the southern Netherlands in 2003–2008 were included. Distant recurrence was defined as distant metastasis of primary colon cancer in other organs, regional lymph nodes not included, after primary diagnosis of M0 disease. Propensity score matching (PSM) was applied to create a subsample to reduce bias caused by differences between age groups. Cox regression was used to discriminate independent risk factors for distant recurrence.

Results

60% of the total study population received adjuvant chemotherapy and 33% developed a distant recurrence. Of 698 patients included in the PSM sample, 50% received adjuvant chemotherapy and 37% developed a distant recurrence. Adjuvant chemotherapy was correlated with a reduced risk of distant recurrence in the total study population (hazard ratio (HR) CT_{adj}_vs_nCT_{adj} 0.59, 95% CI 0.45–0.76) and in the PSM sample (HR CT_{adj}_vs_nCT_{adj} 0.69, 95% CI 0.50–0.96). In separate analyses for patients aged <75 and ≥75 years, the effect of adjuvant chemotherapy on risk of distant recurrence remained comparable for both age groups (HR CT_{adj}_vs_nCT_{adj} 0.55, 95% CI 0.40–0.76 and 0.57, 95% CI 0.36–0.90 respectively).

Conclusion

Adjuvant chemotherapy is definitely to be considered for patients aged ≥75 years, as they derive comparable benefit as their younger counterparts with regard to risk of recurrence. However, it remains important to realize that in certain circumstances, withholding adjuvant chemotherapy from elderly may be appropriate.

Breast Cancer Data Quality at the Population-based Cancer Registry of São Paulo: Implications for Health Planning

2.5

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Background

Information based on population data, such as Cancer Registries, are essential to endorse health planning and provision of cancer care services. This paper aims to present a data quality evaluation and coverage of breast cancer incidence data from the Population Based Cancer Registry of the Municipality of São Paulo, Brazil. The evaluation was based on international quality standards adopted by international agencies worldwide.

Methods

The study included 46,305 new breast cancer cases recorded during a two five-year periods (1997–2001 and 2002–2006). Population-based cohort study was led focusing on variables such as: date and age at diagnosis, method of diagnosis, clinical stage and topography. Data collected by other Registries, in other countries, were used as a data proxy for coverage comparisons with São Paulo Cancer Registry.

Results

The study has shown that some variables considered in the literature as essential to the validity and comparability of Registries, such as the diagnosis by histopathology exam and age of the patients, has a good information, while than for other critical variables, such as clinical staging, there are problems of data completeness. Diagnostic criteria and classification based on International Classification of Disease (ICD -10) presented 100% of completeness. However, the completeness of death registration was around 20%, less than the expected for a cancer registry.

Conclusion

Record linkage methodologies can be applied to improve data quality in population-based registries and comparisons with others population-based information systems can be a good method of accounting for missing information and amplifying the usability of population-based cancer registries.

Comprehensive Evaluation of Population-Based Cancer Registries: An Experience in Colombia 2.6

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Background

In the global context, the establishment of population-based cancer registries, particularly in less developed regions has become of strategic importance. The factors influencing the operation and sustainability of registries can be determinant for their success, despite the existence of uniform quality indicators in the cancer incidence information. Our objective was to determine the current state of the structure, organization and operation of population-based cancer registries in Colombia, obtain information on their degree of development and identify specific problems that affect their operation.

Methods

We developed a descriptive study in five population-based cancer registries (Barranquilla, Bucaramanga, Cali, Manizales and Pasto). The analysis included five broad categories: general characteristics, indicators of operational procedures, scientific production, completeness, validity, and comparability. To establish the validity of the information we used the available incidence databases.

Results

All registries are based in a university (3 public, 2 private). The five registries covered 11.8% of the Colombian population. Four registries had published their results on cancer incidence. Financing comes from different sources and costs vary significantly. Cancer incidence rates ranged from 94.1 to 189.2 per 100,000. The coverage of information sources ranged from 60 to 90%. Validity indicators were within acceptable limits while comparability parameters showed variations between registries.

Conclusions

Operation of cancer registries in a model with universities and with different financial sources seems to provide sustainability; costs vary significantly and need to be further assessed. Registries might benefit from specific skills for managing chronic diseases programs.

Second Primary Cancers in France: Effect of Patient Characteristics on Second Primary Cancer Risk 2.7

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- 6 De Basse-Normandie (hémopathies malignes), du Doubs et du Territoire de Belfort
- 7 De l'Hérault, de l'Isère, de la Manche, de la Somme, du Tarn

Background

Although cancer survivors are known to be at greater risk of developing second primary cancer (SPC), SPC incidence estimates in France are lacking so far. We computed these estimates and analyzed the effect of patient characteristics (gender, age at diagnosis, first cancer site, year of diagnosis and follow-up) on SPC risk using a multivariate approach.

Methods

Data from 10 French population-based cancer registries were used to establish a cohort of all patients diagnosed with a first cancer between 1989 and 2004 and followed-up until December 31, 2007. The person-year approach was used to estimate standardized incidence ratios (SIRs) and excess absolute risks (EARs) of metachronous SPC. Multivariate Poisson regression models were then used to model SIRs and EARs separately by gender, adjusting for age, year of diagnosis, follow-up and first cancer site.

Results

Among the 289,967 followed-up patients with a first primary cancer, 21,226 developed a SPC. The SIR was of 1.36 (95% CI, 1.35–1.38) and the EAR was of 39.4 excess cancers per 10,000 person-years (95% CI, 37.4–41.3). Among male and female patients, multivariate analyses showed that age at diagnosis, follow-up and first cancer site were independently associated with SIRs and EARs. Moreover, the EAR of SPC remained elevated during patient follow-up.

Conclusion

French cancer survivors face a dramatically increased risk of SPC, most of them being related to high tobacco and alcohol consumption. Multivariate modeling of SPC risk will facilitate the construction of a tailored prediction tool to optimize SPC prevention and early detection strategies.

Completeness of Cancer Case Ascertainment in Switzerland

2.8

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Background

Use of cancer registration data, including evaluation of cancer risks factors or quality of care, depends on data quality. An important assessment of data quality is the completeness of case ascertainment.

Methods

This study included the five Swiss cancer registries which collected methodologically required variables. The dataset included all cases diagnosed 2006–2010 and covered about 35% of the registered part of Switzerland. Our assessment of the completeness of case finding integrated two different methodological approaches, each with different sets of assumptions. The first is the qualitative comparison of mortality:incidence (M/I) ratio with 1 minus 5-years relative survival per cancer site. The second approach is the Flow-method which provides a quantitative description of the success of case finding over time.

Results

Qualitative findings with the M/I versus survival method were similar in each cancer registry: 95% confidence intervals for M/I ratios and relative survival overlapped for most cancer sites analysed, indicating a high degree of case finding. Higher than expected M/I ratios were found for breast and prostate cancer. The Flow-method indicated completeness >90% five years post diagnosis for all cancer sites analysed, except for certain forms of leukaemia. Both methods showed increased levels of incompleteness with higher age at diagnosis.

Discussion

We found no systematic indications of incompleteness across several cancer sites. Findings for specific cancer sites have to be interpreted taking method-specific assumptions into account. In all, our study shows a high degree of case ascertainment in all Swiss cancer registries included in this study.

Quality Measures of Population-Based Cancer Registries in Argentina up to 2013

2.9

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Background

Cancer registries are important for decision makers in public health. The usefulness of Population-based Cancer Registry (PBCR) depends on the comparability, completeness and validity of their data. Our aim is to present the situation of several registries in Argentina.

Methods

Registries of Central, Cuyo and Southern regions of the country participated with their last period checked data. Quality indicators, for all tumors and major cancer sites, were: microscopically verified cases (%MV), cases ascertained by death certification only (%DCO) and mortality/incidence ratio (M/I). ASIR (world) were calculated. Local population data were from National Institute of Statistics and Census and mortality was provided by provincial and national vital statistics offices.

Results

These PBCR covered about 15% of Argentina's population. All registries use the same case and incidence date definition and use CanReg4 as software. Data were for different periods between 2001 and 2009. Population covered by PBCR range 530,219–3,282,680 (2006). For all cancer but skin in both sexes: MV% was over 80%, DCO% < 20%. Indicators were better in female than male. The higher M/I were for lung and pancreas, over 90%. The lower M/I for breast and cervical cancer (range: 20–50%). Quality decreased with increasing age.

Conclusion/discussion

Although the data can be further improved, for registries involved in this study, the quality seems to be acceptable for comparability in spite of the fact that they showed different degrees of development and history. It is still a challenge to develop new registries in areas of the country not covered.

Incidence of Childhood Cancer in Guatemala: Proxy Estimates using Data from a Hospital Cancer Registry

3.1

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Background

Approximately 80% of children diagnosed with cancer annually worldwide live in low and middle-income countries (LMIC); however, little is known of the epidemiology of childhood cancer in those settings. This study was designed to assess the adequacy of hospital-based registries to draw estimates of childhood cancer incidence.

Methods

All new cases of cancer in children < 15 years registered at the Hospital Cancer Registry from UNOP (Unidad Nacional de Oncología Pediátrica, Guatemala) in 2008–2012 were used to calculate incidence rates in 3 potential scenarios: 1. UNOP captures all cases in the country; 2. UNOP captures 90% of cases among children living in Guatemala City and 60% from all other departments; or 3. UNOP captures 60% of cases in the country. Population denominators were based on Census-2002. Crude and age-adjusted incidence rates (AAIR) (world standard population) per million children are presented for all cancers and leukemias.

Results

1,474 new cases were registered at UNOP during the study period. AAIR for all cancers in scenarios 1, 2, and 3 were 70.9, 108.1, and 118.2, respectively for males, and 54.1, 82.4, and 90.1, respectively for females. For leukemias, AAIR were 33.1, 50.4, and 55.1 for males, and 25.7, 39.6, and 42.9, for females.

Conclusions

In both sexes and for all cancers and leukemias, estimated AAIR in the 3 scenarios did not match GLOBOCAN-2008 predicted rates. These results point out to the need of establishing a population-based cancer registry in Guatemala to have accurate information on the burden of childhood cancer.

Survival rates of Childhood Cancer in South Africa

3.2

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Background

Childhood cancer is a relatively rare disease (1–10% of all cancers) but has a very high chance of survival.

The overall survival rates known and reported from developed countries are above 70%.

Survival rates of childhood cancer in developing countries are much lower and in most cases in Africa are not known.

The aim of the study was to look at survival of childhood cancers in 2 units in South Africa.

Methods

The study included all children (0–15 years of age) admitted with a malignancy between 1987–2011 at 2 units (Universitas Hospital in Bloemfontein and Tygerberg Hospital in Cape Town).

The protocols used in the units were identical and the histological diagnosis was confirmed in all cases.

Results

There were 3276 cases (1755 males, 1521 females)

The most common cancers were represented by leukemia (23.5%), brain tumors (19.5%), lymphoma (13%) and neuroblastoma (10%)

The overall survival was 51.6%: leukemia 48.4%, brain tumors 45.7%, lymphoma 62.6%, neuroblastoma 62.3% and retinoblastoma 46.7%.

The difference in the survival between the 2 units was insignificant.

A correlation with the ethnic group showed the highest survival in the white population 62.6%, followed by the colored group 53.2% and lastly by the blacks 48.0%

Conclusions

Surveillance of childhood cancer mortality should be used for health planning and as a base to monitor or to introduce strategies for awareness and treatment in Africa.

The Use of Hospital-Based Cancer Registries as a Source for National Cancer Registry of Ukraine 3.3

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Background

The National Cancer Registry of Ukraine (NCRU) collects information on all cancer cases. Since 2002 the whole territory of the country has been covered by the network of regional population-based cancer registries. At the same time, the network of hospital-based cancer registries has been established. In early 2012 the NCRU database contained over 3.5 million cases, while the network of 24 hospital cancer registries contained over 1 million records.

Methods

A significant number of patients receive treatment at the nearest dispensary, where usually both hospital and population registries are operating. The information stored in the hospital cancer registry is more complete and reliable than in the population registry. The data of hospital cancer registries are used for the primary registration of cancer cases as well as for the subsequent patient's follow-up. The use of linkage system is of great importance.

Results

Nearly 60%-90% of patients receiving treatment in an oncological dispensary are residents of the respective territory where population registry is operating. Application of the automated procedures of data transfer from the hospital registry to the population one reduces the time needed for the handling of the new record from several minutes to several seconds. It also reduces the probability of introducing mistakes caused by repeated input from paper documents.

Conclusion

The system of hospital cancer registries were developed for further exchange of data with the population cancer registries. The main advantages are: reduction of information loss, occurrence of errors, the costs of running the population cancer registries.

The Hospital-Based Cancer Registry: A Tool to Improve Quality of Patient Care 3.4

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Background

The Hospital-based Cancer Registry (CHR) of the Oncology Hospital of SOLCA Quito, began in 2000 as a need to evaluate the different processes that occurred in the care of their patients.

Methods

The CHR identify the positive cases of Hospital at different sources, removes duplicates, reviews medical record to collect variables related to: Patient Identification, Risk, Tumor Identification, Stage of disease at diagnosis, First course of treatments and patient follow-up. It performs quality control of data, analyzes the data and output results for the Hospital Administration and diverse research.

Results

The CHR improved the quality of medical records relating to the order and completeness increasing the percentage of stage in medical record. The time between processes was measured, which led to a decrease in the time of initiation of treatment. The demographic characteristics of the patients and clinical characteristics of the tumors were determined.

With follow-up of patients, we determined the abandonment percentage and its causes. The specific survival was established according to the anatomical sites and stage.

Since 2000, the CHR of SOLCA Quito provided annually to the Population Registry 38% of the cases diagnosed in the city.

Conclusions

The CHR has a key role in improving the quality and effectiveness of care provided by the Hospital to their patients; is a rich source of data for clinical research.

The CHR in hospitals in many cancer patients, supports the work of the population registries.

Central Hospital Cancer Registries: A Tool for Planning Cancer Care 3.5

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Background

Cancer is the second cause of death in the state of São Paulo, Brazil, with an increasing trend in incidence rates. These indicators point to the need to adopt control measures and structuring a regionalized and hierarchical network for diagnosis and treatment. This study aims to describe the applicability of data from a Central Hospital Cancer Registry (CHCR) on planning this network.

Methods

This is a descriptive study, which included cases from the above-cited registry, admitted for treatment in 2010. The distribution of cases as analyzed according to place of residence and place of treatment, for each one of the 17 Regional Networks for Health Care (RNHC) – that were created from territorial clippings to ensure integrity of care in a geographic area.

Results

50,182 cases were analyzed. In 9 RNHC, more than 95% of the patients received treatment in the region of residence. In all RNHC breast and prostate cancer were the most frequent tumor types among the patients who looked for treatment outside the region of residence, ranging between 8% and 32% across all RNHC, followed by colorectal cancer (7–19% of all patients who received treatment outside the region of residence). The referral of all patients to another regional network was observed in 2 RNHC, due to the lack of available specialized assistance in the same region.

Conclusion

Information from CHCR allows the identification of treatment needs, and should be used as a tool for planning, to warrant full and universal cancer care.

Hospital Cancer Registry in a new Institution: IREN SUR, 2009–2011 3.6

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Background

IREN SUR started its activities in October 2009, has since implemented the Hospital Cancer Registry. The objective of the study was to describe some of the data generated by the hospital cancer registry.

Methods

Methodology of cancer registry data collection, quality control and descriptive statistics.

Results

We recorded a total of 1409 incident cases of cancer. The median age at diagnosis was 61 ± 5.2 years, 59.1% of the cases were women and 40.8% were men. The most frequent cancer were cervical (15.9%), breast (10.3%), stomach (9.6%), gallbladder (6.5%) and non-melanoma skin (4.5%). 62% of cases were diagnosed in clinical stage (CS) III and 24% in CS IV. 39.2% of cases were diagnosed and initially treated at other institutions, 34.9% were diagnosed at IREN SUR, but only 26.3% were treated (whole or in part) at IREN SUR. 100% of the cases had quality control, 73.2% had histological confirmation and 1.6% were cases with no evidence of primary tumor.

Conclusion

The results obtained provide a basis for structuring the clinical development and research in this recently instituted healthcare service. Hospital Cancer Registry will support the improvement in cancer patient care and constitutes a tool for cancer control and clinical practice.

Cancer in Children and Adolescents: Results from the Italian Network of Cancer Registries (AIRTUM)

3.7

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Background

The Italian network of cancer registries (AIRTUM) (www.registri-tumori.it) includes 37 cancer registries covering a population of 11 million children and adolescents. AIRTUM data for age 0–19 years were analysed in collaboration with the Italian Association of Paediatric Oncologists and Haematologists (AIEOP).

Methods

Incidence rates and survival by sex, geographic area, age class and cancer site (ICCC-3) were calculated. Time trends between 1988 and 2008 were analysed using *joinpoint* models. Five, 10 and 15-years observed survival were computed using the period approach.

Results

In the period 2003–2008, 4 473 malignant tumors were recorded. Incidence rates were 164 and 269 cases per million in children (0–14 years) and adolescents, respectively. Limited geographical variations emerged. The significant increase in cancer incidence observed until the end of the Nineties in children (annual percent change: +3.2%) halted in 1997. Conversely, a continuing increase was observed in adolescent girls driven by thyroid cancer and lymphoma. In 2008 cancer mortality was one third than in the Seventies. Five-year survival for cases diagnosed in 2003–2008 was 82% for children and 86% for adolescents.

Conclusions

Indicators reported in this monograph show a general end to the increasing incidence trends recorded up to the mid Nineties with rare exceptions. Italian incidence rates were higher by 10–20% compared to Nordic countries and the SEER rates in the same period. Our results confirm enormous progress has been made in treatment over the past forty years in all age groups and, in particular, for rarer tumors and cancer types that have very poor prognosis.

Incidence Trends of Breast, Cervix and Gastric Cancer in Yucatan Mexico

3.8

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Objective

To examine the incidence trends of breast, cervix and gastric cancer for 2006 to 2011 using hospital-based data.

Methods

To standardize the use of CanReg-5 software according to the IARC guidelines we collected information from pathology and oncology departments of medical center of the National Institute of Social Security. Socio-demographic, clinical and histological data by using the ICD-O-3 (stomach cancer = C16, cervix uteri = C53, and female breast = C50) were capture in a database. Statistical analysis was performed by Chi²/Fisher's exact test; significance was established in $p \leq 0.05$ value.

Results

We identified 1,802 cases of cancer, 981 were breast (mean 55.2 yr), cervix 531 (54.9 yr) and 290 gastric cancer (mean 64 yr). For breast the histological ductal subtype was most frequent (82.3%), followed by lobular (9.1%); and for gastric cancer diffuse subtype (51.7%), intestinal (47.6%). In order to evaluate the association between ages with cancer, analysis was performed in older and younger than 60 years old, for breast cancer no association was found between age and cancer subtype ($p=0.188$), nevertheless gastric cancer was associated with higher risk for intestinal subtype ($p=0.029$) in male >60 years; furthermore for women at the same age risk was for diffuse subtype ($p=0.004$). Until now a subsample of cervix cancer had been analyzed (182 cases) and found that epidermoid subtype (81%) with 96.2% of invasive cancer type is the most frequent.

Conclusion/discussion

The most common subtypes of breast, cervix and gastric cancer were ductal epidermis, and diffuse subtype respectively. An effort of an adequate cancer registry must be continue.

The Moroccan Breast Cancer Registry (MBCR): Assessment of Breast Cancer Risk in Morocco

3.9

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Background

Breast Cancer is a multifactorial disease with strongly interacting risk factors including genetic susceptibility, environment and lifestyle. BC incidence varies between regions, within ethnic groups, and across environmental differences. We aim to conduct the first comprehensive risk assessment study in Morocco identifying and assessing local risk factor profiles and apply those findings to develop a Moroccan risk assessment algorithm.

Methods

We have conducted a comprehensive review and digitalization of over 2000 paper medical records to create the first Moroccan BC Registry(MBCR). The Registry includes 57 variables developed from an examination of 27 existing BC risk prediction algorithms. We identified 8 algorithms that cover the key likely Moroccan risk factors. A survey was designed and implemented for extending the registry and to initiate a nation-wide Moroccan BC Risk Assessment Program. RedCAP was used to create the MBCR and electronic version of the survey. A multidisciplinary team of genetic-counselors, biomedical-scientists, cancer-specialists, bioinformaticians was formed to conduct the study.

Results

Our review and assessment identified key risk factors for future data collection organized into: Demographics, Reproductive, Personal-Cancer, Family-Cancer, Personal-Medical History and Lifestyle. The survey will be used to recruit patients (cases) and controls to conduct the study.

Conclusion

This study will provide Moroccan health care systems with better information to detect and prevent breast cancer and will guide screening and preventive strategies tailored to local risk assessment. Results from this study will produce a web-based resource to collect and analyze data throughout Morocco, thereby benefitting the entire country's population across diverse backgrounds.

Importance of the HCR-HAC for the PBCR-Jahu

3.10

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Introduction

The PBCR-Jahu is located in the city of Jahu, São Paulo state, Brazil.

There is a reference hospital in the city (HAC) for cancer treatment covering a region of 208 cities and a population of 6.600.000 inhabitants. It has a Hospital Cancer Registry (HCR-HAC) that records 6.000 new cases/year of cancer and also a Population-Based Cancer Registry (PBCR-Jahu).

The HCR-HAC is the main source of information of the cancer cases for the PBCR-Jahu representing 76% of all the registered cases (including skin not melanoma).

Methodology

Comparing the cases with microscopic verification (MV), unknown primary location (C80) and diagnosis of unspecified malignant neoplasm (M8000); registered by the PBCR-Jahu, by the HCR-HAC and other 19 PBCRs installed in Brazil (PBCR-BRA); between January/2000 to December/2010.

Results

In the study period, the HCR-HAC registered 59,245 cases, the PBCR-Jahu, 6,758 cases and the PBCR-BRA 789,993 cases of cancer (including skin not melanoma).

The MV was 99.1% for the HCR-HAC, 96.8% for the PBCR-Jahu and 84.3% for PBCR-BRA. The cases of C80 for the HCR-HAC, PBCR-Jahu and PBCR-BRA, represented 2.4%, 2.6% and 3.9%, respectively. The percentage of M8000 cases were 0.9% for the HCR-HAC, 3.6% for the PBCR-Jahu and 13.1% for the PBCR-BRA.

Conclusion

The HCRs are sources of information essentials for the PBCRs. The quality of their data directly reflects in the quality of PBCRs data especially in geographic areas with specialized hospitals in cancer treatment and deployed HCR.

Trends in Incidence, Mortality and Magnitude of Lung Cancer in Brazil

3.11

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Background

Lung cancer was the most frequent cancer in the world and the leading cause of cancer death in males in 2008. In females, it was the fourth most common cancer and the second cause of cancer death. In Brazil, for 2013, it was estimated 17,210 new cases in men and 10,110 in women. In 2010 lung cancer was the main cause of cancer death in men and the second in women.

Methods

The incidence and mortality of lung cancer was analyzed from 11 Brazilian PBCR. All rates were age-adjusted by the World Standard Population. To describe incidence and mortality time trends, we carried out joinpoint regression analysis using the software Joinpoint Regression Program, Version 3.5.4. The AAPC of incidence and mortality rates from lung cancer were obtained.

Results

Incidence and mortality rates were similar in both sexes and revealed the high lethality of this cancer. In males, incidence trends of lung cancer decreased in the São Paulo (-7.2%) and increased in the Palmas (13.6%). Other cities showed stable trends. Mortality rate trends of lung cancer increased in Aracaju (+5.1%) and decreased in Porto Alegre (-1.3%). In women, the mortality trends were similar among the different Brazilian cities, showing an increase. A similar pattern was observed to incidence trends.

Conclusion

The incidence information from PBCR is important to monitor the magnitude of cancer burden and its trends especially for lung cancer in women. The PBCR information is essential to the assessment of cancer control programs and to implement prevention strategies.

Lost to Follow-Up and Cancer Survival among Hispanics and Asians in the United States

3.12

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Background

Cancer registration in the US is unique since 26% of cancer cases are actively followed-up through SEER. The remainders are passively followed-up (presumed alive if not matched in death linkages). Cancer survival among US Hispanics and Asians, who comprise 24% of the US population, has not been fully studied. Using both approaches to follow-up, we examined biases in survival estimates within these groups.

Methods

SEER data with follow-up to December 31, 2009 were used to compare survival estimates using both follow-up methods. Completeness of SEER active follow-up at five years post-diagnosis was assessed to understand the accuracy of cancer survival estimates for Whites, Blacks, Hispanics, and Asians.

Results

Passive follow-up overestimated survival compared to active follow-up. Differences were small among Whites and Blacks but were statistically significant among Hispanics and Asians. Completeness of active follow-up was uneven across racial-ethnic groups. Censoring was dependent on stage at diagnosis. Asians, Blacks and Hispanics with distant stage cancer were more likely to have lost follow-up than those diagnosed with localized/regional stage cancers (HRs 1.8, 1.7, 1.4 respectively, $p < 0.05$). The proportion of missed deaths was 3% for both Hispanics and Asians, but less than 0.5% among Blacks and Whites.

Discussion

Passive follow-up inflates survival statistics for Hispanics and Asians. With active follow-up, censoring is not random across race-ethnicity. Problematic death linkages with largely foreign-born populations among Hispanics and Asians overestimate survival, contributing to spurious survival differentials. Follow-up procedures should be revised to improve the accuracy of survival estimates for these growing US populations.

Responding to Restrictive Data Protection Regulations: The Highly Automated System of the NRW Cancer Registry

4.1

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Background

A Committee of the European Parliament has just published a draft report on General Data Protection Regulation. The major concern is that, in the future, identifiable health data could no longer be used without individual consent. The draft allows, however, the use of pseudonymised data without consent in the case of high public interest; this is similar to present regulations in Germany. In response to this, a cancer registry was established in 2005 for the state of North Rhine-Westphalia (EKR NRW) based on a new law that enforces mandatory cancer case notification by physicians, stipulates data transfer exclusively by electronic means and dictates the compulsory use of encrypted personal identifiers (PID) only for data transfer and storage.

Aim

Presentation of the system and evaluation of record linkage quality in the EKR NRW.

Methods

A random sample of 150,000 cancer registry records was drawn and plain text PID was obtained for each case. We compared the linkage results based on encrypted PID with a record linkage using plain text PID. Homonym errors (erroneous linking of records) result in underestimation, synonym errors (erroneously *not* linking) lead to overestimation of case numbers and survival times.

Results

The synonym error rate was 0,2% and the homonym error rate 0,015%. Projections to a larger database indicated that for a realistic size, the homonym error rate will be around 1%, the synonym error rate around 2%.

Conclusion

Despite very rigid regulations, the EKR NRW achieves error rates for the record linkage that are low and acceptable. Secondary data bases have been effectively be linked to the registry for research purposes.

A New Method to Extract ICD-O-3 Topography and Morphology from Pathology Reports

4.2

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Background

Automatic coding of Pathology reports (PR) especially for cancer diagnosis is an increasingly important priority for Cancer Registries (CRs). The aim of our study is to test a new automated algorithm for coding PR texts in comparison with other coding techniques, including manual coding.

Methods

We used a simple method based on an hierarchical text occurrence search. Hierarchies are based on the structure of the ICDO3 nomenclature. We performed two comparative analyses: the first, focused on coding speed, on 100.000 anonymous PR texts, the second based on more than 2.000 PR texts from five Italian CRs. The latter texts were independently coded by trained personnel and by an alternative algorithm (ALADAR.HR).

Results

Our algorithm shows significantly higher performance in terms of code speed. When compared to manual coding our approach shows quite similar performance in terms of accuracy of topography (87% vs 89%), morphology (92% vs 89%) sensibility (both 94%) and specificity (99% vs 98%).

Conclusion

Our simple hierarchical coding method showed high performance in terms of speed and, most important, was comparable to manual coding in terms of coding quality.

A Retrospective Observational Study of the Relationship between Family History and Survival from Colorectal Cancer

4.4

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Background

Although family history is well established to be a risk factor for developing colorectal cancer (CRC) much less is known about its impact on patient survival. This study aimed, to link CRC patient data from the National Study of Colorectal Cancer Genetics (NSCCG) to the UK's National Cancer Data Repository (NCDR), which is a resource based on national population-based cancer registry data, to examine the relationship between family history and the characteristics and outcomes of CRC.

Methods

All eligible NSCCG patients underwent a matching process to the NCDR using combinations of their personal identifier. The characteristics and survival of CRC patients with and without a family history of CRC were then compared.

Results

Of the 10,937 NSCCG patients eligible to be matched into the NCDR, 10,782 (98.6%) could be fully linked. There were no significant differences between those with and without a family history of CRC (defined as having at least one affected first-degree relative) in terms of age, sex, tumor stage at diagnosis, presence of multiple cancers, mode of presentation to hospital and surgical management although patients with familial CRC were more likely to have right-sided tumors ($P<0.01$). Five-year survival was significantly better in patients with familial CRC (HR 0.89 95%CI 0.81–0.98, $P=0.02$)

Conclusions

We have demonstrated that it is possible to robustly match patients recruited into the NSCCG into the NCDR and, by using this record linkage, enable genetic data to be related to CRC phenotype, clinical management and outcome. This study provides evidence that a family history of CRC is associated with a better survival after diagnosis of CRC.

Long-Term Thyroid Cancer Incidence Trends in Children, Adolescents and Young Adults in Belarus

4.5

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Background

The main health effect of radiation from the Chernobyl accident is the dramatic increase in thyroid cancer among persons exposed at young ages.

Methods

We have used the databases of Childhood Cancer Subregistry of Belarus and Belorussian Republican Cancer Registry to estimate thyroid cancer incidence in Belarus.

Results

Within 26 years of the Chernobyl disaster the number of new thyroid cancer cases has been increasing in people who were exposed in childhood. During the period from 1986 till 2011 we verified 3,540 thyroid cancer cases, from which 805 were children under 15 years old, 838 in teenagers (15–19 years), 814 and 1083 in adults 20–24 and 25–29 years old respectively. Crude incidence rates (within 1986–2011) were the following: 1.6 ± 0.06 per 100,000 children under 15 (with peak in 1995 – 4.0 ± 0.44); 4.3 ± 0.15 per 100,000 adolescents (with peak in 2001 – 10.1 ± 1.1); 4.2 ± 0.15 per 100,000 adults aged 20–24 years old (with peak in 2005 – 7.7 ± 0.9) and 5.52 ± 0.17 per 100,000 adults aged 25–29 years old (with peak in 2011 – 13.4 ± 1.3). The relative risk to develop thyroid cancer during 1986–2011 was 8 times higher in those who were younger than 6 years old at the time of disaster, compared with those who were between 7 to 18 years old (95% CI 6.82–9.07; $p<0.0001$).

Conclusion/discussion

An active continued monitoring with mandatory screening of the thyroid gland is needed for those who were born in the early 1980s in Belarus, especially in the areas most affected with radioiodine.

Quality and Sustainability of Cancer Registration in Latin America and the Caribbean: The Registries' Perception

5.1

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Background

900,000 new cancer cases were estimated to occur in 2008 in Latin America and the Caribbean (LAC), where high-quality cancer registration needs developing. Cancer registries are confronted with challenges throughout their existence. A cross-sectional study was performed to gain knowledge on perceptions about challenges and priorities which may lead to improved cancer registration in LAC, with the aim of informing the work of the future Regional Hub for Cancer Registration of the International Agency for Research on Cancer (IARC).

Methods

The Global Initiative for Cancer Registry Development, in collaboration with the International Association of Cancer Registries invited 110 cancer registries in LAC to complete a survey in 2012. Registry directors were asked to describe challenges facing their registries, and priority actions which could improve cancer registration in their country or region.

Results

Fifty-six (51%) registries responded to the survey: 43 from South America, 7 from Central America, and 6 from the Caribbean. Eight respondents (14%) did not address challenges; nine (16%) did not address priority actions. Challenges related to staff (52%), funding (34%) and lack of political support (25%) were most frequently reported. Staff training (39%) and financial support (21%) were the most frequent priorities identified.

Conclusion

These findings will inform the work of the IARC Regional Hub and have practical implications for governments and private institutions supporting cancer registration. Identifying the challenges facing cancer registries will help address issues of quality and sustainability, so that national cancer control interventions in LAC may be guided by reliable data.

Calculating Simplified Cancer Staging from Limited Information: A New Online Tool for Cancer Registries

5.2

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Background

Correct and consistent cancer staging is important for treatment planning and review of outcomes, including screening, new diagnostic technologies and survival. Staging rules are complex and complete staging is rarely achievable in limited resource settings. Where not all basic data of the patients' disease are available, an easily accessible and automated instrument to calculate TNM and stage groups, possibly with simplified groupings, would be of great value. The Northern Ireland Cancer Registry, the Global Initiative for Cancer Registry Development of the International Agency for Research on Cancer and the TNM Core Group of the Union for International Cancer Control (UICC) joined forces to develop such an instrument.

Methods

A web application to calculate cancer stage from the basic features of the disease was developed. Simplified stage groupings were also devised to enable coarser-grained classification of cancers.

Results

A pilot tool, accessed via a web page, is being tested by a group of registries across the world. The tool can currently stage four cancer sites: Breast, Prostate, Colorectal and Cervix. It calculates TNM, stage group and, where possible, two types of higher-level stage groups if the definitive, detailed group is unavailable. This tool is available at no cost for non-profit use.

Discussion and Conclusions

While testing is under way, users in 12 countries have already confirmed the usefulness and simplicity of a previous version of the tool. The data produced by the application should improve the availability, standardisation and comparability of cancer staging internationally for the benefit of cancer patients, clinicians and monitoring service professionals. Participants in the 2013 IACR conference will have the opportunity to test this tool.

The European Prospective Investigation into Cancer and Nutrition (EPIC) in Spain

7.1

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Background

EPIC is a prospective cohort of 521,000 participants enrolled from 23 centres in 10 European countries, including 5 centers from Spain (Asturias, Gipuzkoa, Navarra, Murcia, Granada). Barcelona is the Spanish-coordination center. The aim is to investigate the relationships between diet, lifestyle, genetic and environmental factors and the incidence of cancer.

Methods

41,438 healthy volunteers (15,630 men and 25,808 women) aged 29–70 years were recruited during 1992–1996 amongst blood donors and from the general population. Detailed information on diet, lifestyle, anthropometry and medical history was collected at recruitment. Blood samples were also collected and stored at local biobanks.

Follow-up of the cohort is based on record-linkages with the population-based cancer registries. Vital status and cause of death is updated through the Spanish National Mortality Registry.

Results

From the recruitment to 2009, the Spanish EPIC-cohort accumulated 535,044 person-years. 3,476 participants were diagnosed with cancer, including 533 breast, 209 lung, 361 colorectal, and 367 prostate cancers. 1,972 deaths were recorded. This cohort has made important scientific contributions to cancer aetiology research, such as: intake of fruit and vegetables and prevention of gastric adenocarcinoma, DNA adducts and increased risk of gastrointestinal cancers, and some others.

Conclusions

EPIC is preparing a new assessment of exposure (diet, lifestyle, and blood) in survivors to extend the follow-up other 10–15 years. The large number of incident cancers will allow addressing hypotheses into the aetiology and prevention of several common and rare cancers. Cancer registries have an important role in the follow up to detect new cancer cases.

Global Surveillance of Population-Based Cancer Survival (the CONCORD Programme)

7.2

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Background

Cancer causes 8 million deaths a year, and 16 million new cases a year are expected by 2020, two-thirds in the developing countries least equipped to cope. Even with optimal prevention, millions of patients will need treatment each year for the foreseeable future.

The CONCORD programme will establish global surveillance of cancer survival, and will provide standardised outcome metrics for comparison of the overall effectiveness of health systems.

Methods

More than 240 population-based cancer registries in 60 countries have registered to submit individual tumor records for adults (15–99 years) diagnosed during 1995–2009 to centralised quality control and analysis. Data are expected for 30 million patients with one of 10 malignancies: stomach, colon, rectum, liver, lung, breast (women), cervix, ovary, prostate and leukaemia, including leukaemia in children. Net survival will be estimated, corrected for background mortality by single year of age, sex, calendar year (and race) in each country or region. Survival will be age-standardised with international cancer survival standard weights. Population “cure” and avoidable premature mortality will be estimated.

Results

We will present a progress report on data receipt and quality control.

Conclusions

International inequalities in survival represent large numbers of avoidable premature deaths. Robust comparisons of survival trends and inequalities will prompt improvement of national health systems. CONCORD will measure progress toward the World Cancer Declaration goal of major improvements in survival by 2020.



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Poster Presentations

Data for Action: Initial Achievements of the Global Initiative for Cancer Registry Development (GICR)

G.1

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International Agency for Research on Cancer

Background

By 2030 over 60% of the global cancer burden is estimated to occur in developing regions, which are the least equipped to cope with this situation and where high-quality population-based cancer registration (PBCR) is lacking. GICR is a multi-partner initiative led by the International Agency for Research on Cancer (IARC), aiming to develop the capacity to produce reliable, high-quality information on the burden of cancer in less developed regions so that effective cancer control policies may be developed, implemented and evaluated.

Methods

The general principle is that of a stepwise development of registries, to raise individual countries to the next level of quality and availability of cancer registration within a given time period. The GICR strategy is implemented through Regional Hubs providing support, advocacy, consultancy and training for PBCR within their regions.

Results

To date three Regional Hubs cover Asia and Africa. A Regional Network Hub configuration has been developed for Latin America, to become operational in 2014.

Basic and advanced, language-specific regional training courses on epidemiology and cancer registration were held in Asia, Africa and South America. Web-based training complemented traditional teaching modalities. Further language-specific education material is being produced. New functionalities of the CanReg software were developed. Advocacy resources were released. Twinning schemes are being set up.

Conclusion

GICR's success will be measured by the increase in the number and quality of population-based cancer registries in developing countries, and ultimately in national cancer control interventions guided by reliable data. More information on <http://gicr.iarc.fr> in English, French and Spanish.

Pan-Canadian indicators Examine Disparities in Access to Cancer Care for Low income, Rural/Remote and Immigrant Populations

G.2

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In collaboration with the System Performance Steering Committee and Technical Working Group

Background

The Canadian Partnership Against Cancer's System Performance initiative, a collaboration with provincial/territorial partners, measures and reports on the quality of cancer control in Canada. Earlier reports show disparities in screening and cancer outcomes by income, geography and immigrant status but less is known about disparities in access to treatment. For the first time in Canada, we examine the impact of income, immigrant status, and rurality/remoteness on stage at diagnosis, access to radiation therapy and cancer surgery rates, among a suite of other indicators.

Methods

Information on stage of diagnosis and radiation therapy were obtained from the provincial cancer registries. Detailed methodologies were developed to ensure consistency of reporting across provinces. Indicators on cancer surgeries are from national, administrative hospitalization data. Indicators were examined by area-level measures of neighbourhood income quintile, geography (urban, rural, remote) and immigrant density.

Results

The study described is ongoing at the time of abstract submission, and results will be available for presentation at the conference. We will report on variations across populations in key system performance indicators in the diagnosis and treatment domain including stage of diagnosis (for breast, lung, colorectal and prostate cancer), radiation therapy utilization and wait times, and surgical rates for mastectomy, pancreatectomy and colostomy. The impact of distance from patient residence to a treatment centre will also be examined.

Conclusion

Findings will provide a wider understanding of the extent of disparities in the cancer system for these populations and can be used to inform quality improvement initiatives to advance cancer control.

The European Commission's Joint Research Centre: Towards a Comprehensive and Harmonised Cancer Information System

G.3

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Background

The European Commission has a long-term commitment to reducing cancer rates in Europe. Evaluation of measures implemented in realising this goal is critically dependent on accurate and comparable European cancer data allowing derivation of incidence, prevalence, cure, survival and mortality statistics. The Joint Research Centre (JRC), in its function as the European Commission's in-house science service, will support the implementation of a European Cancer Information System for further development and harmonisation of cancer data in Europe.

Methods

As part of the implementation process, since the end of 2012 the JRC has been active in supporting and facilitating the work and activities of the European Network of Cancer Registries (ENCR), the input of which will be vital for the European Cancer Information System.

Results

JRC now hosts the secretariat of the ENCR, and provides an active information-exchange infrastructure through a revamped web-site and newswatches, through training and competence exchanges, through promoting working groups and scientific discussion on cancer relevant topics as well as reporting of the current cancer patterns in Europe.

Conclusion/Discussion

The JRC therefore offers the European cancer registry community a platform for coordination of the entire process of data gathering, quality control, management, analysis, diffusion and access. Also, as part of the European Commission, the JRC is able to provide scientific support to all stages of the EU policy making cycle, and this dual link will be of key importance in helping define European cancer policy on the basis of accurate cancer information.

History and Development of the African Registry Network

G.4

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Introduction

Cancer is not rare in Africa. Nevertheless, there is considerable variation in the profile of cancer, even within the same region. The importance of cancer as a health problem underlines the need for systematic cancer control programme maximising scarce resources. Cancer registry data are essential components in planning and monitoring of such programmes. The African Cancer Registry Network (AFCRN) was formally inaugurated on 1st March, 2012, and succeeded and expanded the activities of the East African Cancer Registry Network (EARN). AFCRN aims to extend and improve cancer registration in the continent.

Objectives

AFCRN aims to improve the effectiveness of cancer surveillance in sub Saharan Africa by providing expert evaluation of current problems and technical support to remedy identified barriers, with long-term goals of strengthening health systems and creating research platforms for the identification of problems, priorities, and targets for intervention.

In September 2012, AFCRN partnered with and received funding from the International Agency for Research on Cancer (IARC) in the framework of its Global Initiative for Cancer Registry Development (GICR), to provide the activities of a “Regional Hub” for cancer registration in Sub-Saharan Africa

The role of a regional hub is in:

- providing technical and scientific support to countries;
- delivering tailored training in population-based cancer registration and use of data;
- advocating the cause of cancer registration in the region and facilitating setting up associations and networks of cancer registries; and
- coordinating international research projects and disseminating findings

Results

To date the network has expanded to 24 members since the establishment; AFCRN cancer registration consultants visited over 20 cancer registries in 15 countries and established detailed reports and recommendations; two advanced, two practical and one intermediate training course (French) trained 62 cancer registry staff from 18 African countries; funded two CanReg trainers to be trained in Lyon as well as consultancy visits on CanReg to several member registries; a model AFCRN annual report has been developed; participating(ed) in 7 international researches; in 3 international collaborations; financially supported over 10 cancer registries for their early establishment and/or enhancement development; numbers of publications been published.

Conclusions

The African cancer registry network has made enormous contributions in improving the quality of the data from the cancer registries in Africa. Since the establishment the magnitude of which the registries anticipate to participate as members is tremendous. The need for quality data for cancer control has been gradually recognized by local governments and international health organizations. Acting as a platform, the network enhanced the relationship among and opened many more research collaboration opportunities for African cancer registries.

THEME A

UTILITY OF POPULATION-BASED CANCER REGISTRIES IN THE EVALUATION OF SCREENING

No Improvement in Population-Based Survival of Stage IV NSCLC Despite Increased Use of Chemotherapy 1.A1

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Aim

Objective of this study was to investigate which factors were associated with the administration of chemotherapy for patients with stage IV non-small cell lung cancer (NSCLC), and their relation to population-based survival.

Patients and Methods

All patients diagnosed with NSCLC stage IV from 2001 to 2010 in the area of the Eindhoven Cancer Registry (n=4,091) were included. Logistic and Cox regression analyses were performed to evaluate chemotherapy use and survival, respectively.

Results

Overall, 44% of the patients received chemotherapy. Higher rates were found among younger patients (multivariable odds ratio (OR_{≤64_vs_≥75_years}) 1.9 (95%CI:1.6–2.2), in higher socioeconomic status (OR_{high_vs_low} 1.7 (95%CI:1.4–2.1)), patients without comorbidity (OR_{≥2_vs_0.6} (95%CI:0.5–0.7)), patients diagnosed in more recent years (OR_{2001–2003_vs_2010} 0.5 (95%CI:0.4–0.6)), having adenocarcinoma (OR_{squamous_vs_adenocarcinoma} 0.8 (95%CI:0.6–1.0)), and metastasis to bone (OR_{brain_vs_bone} 0.5 (95%CI:0.4–0.6)). Also a large hospital variation was observed, up to OR 2.2 (95%CI:1.6–2.9). Survival did not improve over time (median 19 weeks). One-year survival rates were 31% (median 35 weeks) for patients receiving chemotherapy and 8% for those not receiving chemotherapy (median 10 weeks). Prognostic factors were receipt of chemotherapy (hazard ratio (HR) 0.4 (95%CI: 0.4–0.5)), histology (HR_{other_vs_adenocarcinoma} 1.1 (1.0–1.2)) and grade (HR_{poor/undifferentiated_vs_well/moderate} 1.2 (1.0–1.4), HR_{unknown_differentiation_vs_well/moderate} 1.2 (1.0–1.4)).

Conclusion

The administration of chemotherapy was affected by hospital of diagnosis, age, and socioeconomic status. Despite increasing administration rates of chemotherapy, survival rates remained low. The role of both patient and doctor preferences in the administration of chemotherapy remains to be explored. There should be more attention for identifying subgroups of patients who benefit from chemotherapy.

Comorbidity in Lung Cancer Patients: Trends and Effect on Prognosis 1.A2

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Introduction

We evaluated the trends in prevalence of comorbidities in a cohort of unselected lung cancer patients. We also evaluated the influence of comorbidity on the prognosis of these patients.

Methods

All patients (n=21,535) diagnosed between 1995 and 2010 with lung cancer were included, identified from the population-based Eindhoven Cancer Registry, which also registers comorbidity.

Results

The prevalence of comorbidities increased with age from 59% to 75%, and multimorbidity (i.e. 2 or more concomitant diseases) increased from 26% to 46%. Especially cardiac diseases (9% in ≤59 to 37% in 80+) were more frequently seen. Among males, hypertension, cardiac and vascular diseases became much more common (11% to 26%, 19% to 32% and 12% to 25%, respectively). In females, rates of pulmonary diseases, hypertension, cardiac and vascular diseases and other malignancies also increased rapidly (20% to 27%, 14% to 24%, 11% to 17% and 7% to 16%, respectively). Patterns were similar in non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC). Presence of 2 or more comorbidities was associated with increased hazard of death in stage I-III NSCLC (HR≥2_comorbidities_vs_no_comorbidities 1.11–1.26) and limited stage SCLC (HR≥2_comorbidities_vs_no_comorbidities 1.22). The prognostic impact of specific comorbidities varied for different stages, with the strongest effect of hypertension in stage II NSCLC (HRhypertension_vs_no_hypertension 1.40).

Conclusion

Comorbidity among lung cancer patients is very common and multimorbidity affects survival in non-metastatic disease. The increasing burden of comorbidity in patients with lung cancer emphasizes the need for more focus on individualized medicine.

Five-Year Survival for Specific Cancer Sites among Saudis, 1994–2004 1.A3

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Background

Saudi Cancer Registry (SCR) is a population based registry covering 13 regions. Between 1994–2004, 88,574 cancer cases reported. Cancer affected 65,873 Saudis; 34,004 males and 31,869 females. SCR doesn't have direct access to vital statistics and have started collection of death certificates from 2005 onward and retrospectively. Data were analyzed to describe patterns of survival for 14th most common cancer sites.

Method

Cancer-specific survival rate was analyzed for 5,141 eligible patients, from 1994–2004. The 5-Years Overall Survival (OS) calculated using indirect access to the National Information Center (NIC). Patients with 10-digits national ID matching their complete names analyzed according to patient's vital status; a live or dead, and date of death. Survival period calculated from diagnosis date to death date. Kaplan-Meier estimator used to calculate the 5-Years OS and stratified by sex and periods; 1994–1999 vs. 2000–2004 for each cancer.

Results

Out of 15,484 cases, only 5,141 patients' correlated exactly the 10-digit national ID with names; 2,566 males (49.9%) and 2,575 females (50.1%). The highest 5-years OS rate was 90 for thyroid and 84.5 in Hodgkin Disease, while the lowest OS rate was 9 for lung and 10 in liver. Moreover, 64.9 for breast, 44.6 for Colo-rectal, 56.7 for NHL, 60 for leukemia, 10 for liver, 9 for lung, 20 for stomach, 39.8 for prostate, 44 for bladder, 74.5 for corpus uteri, and 49.5 for ovary.

Conclusion

This is the first Survival study in Saudi Arabia. Therefore, SCR should have direct access to NIC to facilitate more research.

Five Years Relative Survival Estimates for Leading Sites in Uruguay, 2002–2009

1.A4

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Background

This work communicates preliminary estimates of relative cancer survival for five leading sites in Uruguay. These results are extremely important regarding the developing of a National Cancer Control Program and a National Integrated Health System in recent years.

Methods

We have analyzed survival data for patients diagnosed from January 1st, 2002 to December 31th, 2009; and followed up to December 31th, 2010. Mortality data were provided by two official sources: Ministry of Public Health and Social Security Bank. Life tables were provided by the National Institute of Statistics. Ederer II and Hakulinen models were fitted. This first communication addresses the five leading cancer sites: Prostate, Breast (women), Lung, Colon & Rectum and Stomach. These sites takes account for half of all cancer deaths in Uruguay.

Results

The five year relative survival estimates (5YRS) for Lung was 8.5% - 8.8% (*) in men and 13.8% - 14.2% in women. Colon & Rectum 5YRS was 51.3% - 51.7% in men and 51.4% - 52.9% in women. Stomach cancer 5YRS was 18.4% - 19.1% in men and 22.1% - 23.0% in women. Prostate 5YRS was 80.8% - 82.2%; and for female Breast: 79.1% - 79.0%.

Conclusions

Breast and prostate cancer relative survival for the analyzed period are relatively close to Eurocare-4 average (*). Stomach, lung and Colon & Rectum cancer show poorer survival. Although these estimates must be confirmed for longer follow up periods represent key data for health policy planning. Geographical heterogeneities as well as social disparities deserve urgent analyses.

* Ederer II and Hakulinen estimates respectively.

Survival of Patients with Hepatocellular Carcinoma is Significantly Improving: A Swiss Population-Based Study

1.A5

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Background

During the last 20 years relevant diagnostic procedures and advanced treatments were progressively introduced in the management of hepatocellular carcinoma (HCC). Aim of this study is to assess up-to-date survival trends for HCC in southern Switzerland, a region with the highest incidence in Switzerland.

Methods

HCC diagnosed in 1996–2009 were selected by Ticino Cancer Registry. Cancer-specific survival (CSS) was performed through the Kaplan-Meier method according to the calendar period of observation: 1996–2000, 2001–2005, 2006–2009. Log-rank test was used to detect differences in survival curves. Simultaneous assessment of prognostic factors was performed by the multivariate analysis of the Cox proportional-hazards regression model.

Results

A total of 619 HCC were analyzed. There was a significant increase in the number of patients undergoing transarterial chemoembolisation (TACE), whereas patients undergoing curative and palliative supportive treatments remained unchanged ($p < 0.0001$). A shift to earlier stages was not observed. Significant differences in survival were observed according to age group ($p < 0.0001$), period of diagnosis ($p < 0.0001$), type of diagnosis confirmation (imaging versus microscopy, $p = 0.0035$), Barcelona-Clinic liver cancer stage ($p < 0.0001$) and treatment approach ($p < 0.0001$). The multivariate Cox model confirmed the significant increase of HCC survival with a higher risk of death for the period 1996–2000 (HR:1.32;95%CI:1.03;1.68) and 2001–2005 (HR:1.33;95%CI:1.05;1.67) (reference group: 2006–2009).

Conclusions

This population-based report describes a major increase of HCC survival to be associated with an increased use of TACE. Additional efforts should be made to decrease the HCC stage at diagnosis to allow an increase in curative treatments of HCC through active surveillance of cirrhotic patients.

Epidemiological Cancer Transition Associated with Socio-Economic Development in Pasto, Nariño Colombia

1.A6

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Background

In the Municipality of Pasto and contrary to other populations of Colombia, stomach cancer in men and the cervix in women are still major causes of morbidity and mortality due to cancer. The population of this town is distributed: 82% urban and 18% rural, with over 70% of its inhabitants of lower socioeconomic strata. These characteristics were the basis for the study about the association between socio-economic variables with the trend and distribution of cancer.

Methods

Through a population-based study of the period 1998–2008 were analyzed temporal variations and distribution patterns of cancer associated with socio-economic variables.

Results

An epidemiological transition of the most incidents tumors in Pasto was identified; stomach and cervical cancer decreased ($APC = -4.29$ and $APC = -2.05$), while, prostate and breast cancer increased ($APC = 1.27$ and $APC = 1.34$). This behavior was preserved in urban areas, whereas in rural areas was inverse.

The incidence of prostate and breast tumors has a significant relationship ($p\text{-value} = 0.01$ and 0.00) with place of residence (urban/rural) and tumors of the stomach and cervix with socioeconomic stratum ($p\text{-value} = 0.01$).

Discussion/ Conclusions

The study showed that there is an association between socio-economic variables and residence with incident cancers in the Municipality of Pasto and confirms the findings of other research. The epidemiological transition is explained by the development of the urban area of the municipality, which places the stomach and cervical cancer as diseases of the rural population and lower strata and that should be eligible for intervention for being highly preventable.

The Relationship between Cancer Survival and Ambient Ultraviolet B Irradiance in China

1.A7

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Background

Ecological studies in predominantly European populations have reported higher cancer survival in areas of higher solar ultraviolet (UV) B irradiation. One minus the mortality to incidence ratio (1-MI), however, can be used as a measure of survival. We analyzed the association between ambient solar ultraviolet (UV) B and MI in China.

Methods

National cancer registration data in 32 counties of China in 2004–2005 were used to estimate MI by age, sex and area. Contemporary satellite measurements of cloud-adjusted ambient UVB intensity at 305 nanometres were obtained from a NASA database and spatial kriging methods used to estimate the average daily irradiance in each county. We estimated excess mortality hazard ratios (HR) per 10 unit of UVB for the ten commonest cancer types by fitting a generalized linear model assuming mortality had a binomial distribution conditional on the sum of mortality and incidence.

Results

MI ratios for all cancers combined were inversely associated with ambient UVB in men and women, in urban and rural areas. Similar inverse associations were present for cancers of esophagus, stomach and bladder in both sexes together and breast cancer in women. They were present in urban residents for all major cancers except liver cancer, bladder cancer and breast cancer in women. For rural residents most HRs were < 1.0 but, with the exception of breast cancer, their upper 95% confidence bounds were > 1.0 .

Conclusion

Ambient UVB was significantly inversely associated with MI for all cancers together and four of ten cancer types. Solar UVB may increase survival from some cancers in China.

Bone Analysis of Cancer Incidence in Population-Based Cancer Registration in China

1.A8

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Background

To analysis the incidence trends and characteristics of China's urban and rural areas of malignant bone tumors.

Methods

According to the 32 tumor registries from 2003 to 2007 and part of the 1988 to 2007 malignant bone tumor incidence database., there are the city points 14 urban areas and 18 rural areas had a total population of 255,430,909. ICD-10 and ICD-O-3.were used in the tumor registries.incidence trends were applied to analyze the percentage change (PC) and the annual percent change (APC).

Results

From 2003 to 2007 the crude incidence rate of malignant bone tumors was $1.79/10^5$, with $1.72/10^5$, and $2.01/10^5$ observed in unban and rural areas,respectively. The age-adjusted rate in World standards was $1.40/10^5$, $1.34/10^5$ and $1.69/10^5$ in urban and rural areas, respectively. bone cancer accounted for 0.67% of all cancer incidence among the 24 incidence cases. From 2003 to 2007, bone cancer incidence decreased by 9.6 %, A 13.03 % decrease was observed in urban areas. Conversely a 4.06% increase was found in rural areas. From 1988 to 2007,only the bone tumor incidence in Shanghai decreased significantly (APC= 1.76, P = 0.042) among the incidence trends in various areas such as Shanghai, Beijing, Jiangsu Qidong, and Henan Linzhou.

Conclusion

The bone tumors incidence rate in rural areas in China is higher than that in urban areas and the countryside. An increasing incidence rate was observed in rural areas in contrast to the decreasing trend in urban areas.

Interval Cancer Rates in the First Years of the Irish Breast Screening Programme

1.A9

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Introduction

The Irish breast screening programme commenced in 2000, covering about 50% of the population and was extended to the rest of the country in 2007. Women aged 50–64 are invited every two years. This paper compares the incidence of interval cancer in the early years of the Irish programme to data from other population-based screening programmes.

Methods

Data on all women screened in 2000–2007 were linked to breast cancer registrations for 2000–2009. Cancers were classified as screen-detected or interval (diagnosed within two years of a negative screen).

Results

The incidence of interval cancer was 10.6/10,000 woman years at risk (wyar), 7.4/10,000 wyar in the first year after screening and 13.8/10,000 wyar in the second. Screen detection rate was 64.7/10,000 for initial screens and 40.1/10,000 for subsequent screens. The interval cancer incidence was 21.7/10,000 wyar for initial screens and 20.2/10,000 wyar for subsequent screens. The proportionate incidence of interval cancer in Ireland was 28% in the first year, rising to 52% in the second year after screening The ratio of interval to screen-detected cancers was highest for the oldest age-group.

Discussion

Breast cancer interval rates per women year at risk for the Irish screening programme were relatively high, but the ratio of interval to expected rates was close to the average for 10 other European programmes, reflecting the high background incidence rate and screen detection rate on Ireland.

Prevalence and Factors Associated with Non-Completion of the Screening Test for Cancer of the Cervix in an Area Covered by the Family Health Strategy, MG

1.A10

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Introduction

Cervical cancer is a serious public health problem worldwide. In Brazil, constitutes the third leading cause of mortality rates after corrections from ill-defined causes injury is a preventable through early detection of precursor lesions through Pap exam. The high coverage of women by examining screening can reduce the incidence rates of invasive lesion.

Objective

To evaluate the prevalence and factors associated with not performing Pap cervical cancer in women of the coverage area of a Unit of Primary Health

Methods

Cross-sectional epidemiological study recruitment household data collection conducted women aged 20 to 59 years. As data collection instrument used an extensive questionnaire that helped identify the profile and behavior of women. We calculated the prevalence ratio and confidence intervals (95%).

Results

We found a coverage tests on day 76.28% and as protective factors for the procedure a higher education level, regular physical activity, seek care at USF last year and have social support. The alcohol consumption was a risk factor for not performing the preventive

Conclusion

The finding of these factors allows the development of strategies and action directed fundamentas to improve the coverage of screening tests for cervical cancer.

Incidence and Clinico-Pathological Characteristics of Metachronous Contralateral Breast Cancer in the Canton of Zurich

1.A11

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Background

Since 1980, the Cancer Registry of Zurich and Zug has been collecting cancer data of all inhabitants of Canton Zurich. This analysis concentrates on the incidences and the characteristics of metachronous contralateral breast cancer (CBC) cases among females.

Methods

For the period 1980–2005, patients with metachronous CBC were analysed, allowing for a minimum observation period of five years. Patient and tumor characteristics were examined. Poisson regression was used to estimate incidence rates of metachronous CBC according to age at diagnosis, year of diagnosis and morphology.

Results

Of 17,654 patients with unilateral, invasive breast cancer 4.1% developed a second malignant tumor of the opposite breast. Median age at diagnosis of the first and second breast cancer was 56 (IQR 47–66) and 64 (IQR 54–74) years, respectively. The median time interval between first and second breast cancers was 5.6 years (IQR 2.8 – 10.2 years). Women younger than 50 years have a CBC crude incidence rate of 1,004 (95%CI 884–1,140) per 100,000 person-years and for women older than 50 the CBC incidence rate was 656 (95%CI 600–717). Incidence rate ratio of CBC for patients with lobular carcinoma was 1.37 (95%CI 1.09–1.73, adjusted by age and diagnosis year) compared to patient with other morphologies.

Conclusion

The results of our study are comparable to findings from literature. A reduction in the incidence of metachronous CBC, as is generally thought to be due to adjuvant therapies, is also seen in our data.

SEER Program 1988–2010: AJCC 6th Stage and TNM – Assessing Relevancy and Consistency over Time

1.A12

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Surveillance Research Program, National Cancer Institute

Background

Stage-specific population-based cancer incidence trends are important. Since 2004, the National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) Program collects extent of disease (EOD) information under the Collaborative Stage Data Collection System (CS) which maps one set of EOD to multiple staging systems including American Joint Committee on Cancer 6th edition (AJCC6).

Methods

Breast cancer EOD definitions and frequencies from eleven SEER registries for 1988–2003 were assessed for compatibility/comparability with T, N, M, and Stage categories (AJCC6) based on CS for 2004+.

Results

The 1988–2003 data were mapped to AJCC6 stage and TNM. Definitional differences and assumptions were documented and discrepancies resolved where possible. Some results include: 1) some subgroups of T, N, M were combined when stage was not affected (e.g., only N3 instead of N3a, N3b, N3c); 2) while one goal was to not make any changes to AJCC6 derived T, N, or M for 2004+, all distant lymph nodes had to be moved to N3 instead of M1 because the 1988–2003 data did not separate supraclavicular and distant nodes; 3) definitions of inflammatory cancer have changed over time; and 4) the TNM and stage-specific trends were fairly consistent over time.

Conclusion

Attempts to retrofit data to new definitions require compromise and assumptions. For SEER breast cancer, there are some changes in definitions over time but the effect on trends was small.

Evaluation of New Clinically Significant Factors in Collaborative Stage and AJCC 7th, SEER 2010 Diagnoses

1.A13

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Background

The National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) Program collects extent of disease (EOD) information under a joint project called the Collaborative Stage Data Collection System (CS). The EOD codes and other variables are mapped to different staging systems: American Joint Committee on Cancer (AJCC) 6th edition including T, N, M, and Stage, SEER Summary Stage 1977 and 2000, and SEER historic stage. In 2010, the system was expanded to collect other prognostic and clinically significant factors (SSF), suggested by AJCC 7th edition and the U.S. accreditation program's hospital cancer registry system.

Methods

2010 cases from 18 SEER population-based cancer registries were analyzed. DCO, autopsy, and some unstaged histology cases were excluded (<1% cases). Completeness and quality of detailed stage and site-specific factors (SSF) were examined for over 200,000 cases: breast (72,536), prostate (56,495), lung (48,315), colon (25,577), and rectum (10,150). Lab values were compared to test interpretation.

Results

In SEER, 20% of breast cases were stage 0 (in situ plus Paget disease) and 8% for colon and rectum. Percentages of unknown stage were low: breast (3%), lung (5%), colon (5%), rectum and prostate (7%). Examples of SSFs are: breast (nodes: IHC, MOL, # axillary; HER2 [8 data items], ER, PR); colon/rectum (CEA – lab value, interpretation, KRAS); lung (tumor nodules, visceral pleural invasion); prostate (PSA- lab value, interpretation). Gleason Score, a strong prognostic factor for prostate cancer, was present 34% overall and 87% for prostatectomy cases only.

Conclusion

Data analyses continue. Inconsistencies between lab values and interpretation may reflect inherent problems combining data from different labs using different test standards/assays. Analyses of SEER required SSFs for many cancers will appear in a 2014 journal supplement.

Cancer Incidence and Mortality in Izmir in 2005–2009

1.A14

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Background

In Turkey, despite the recent attempts to rearrange death certification system complying with the international standards, the mortality data has not yet been generated in the country. Here we present cancer mortality rates in Izmir, the very first from Turkey, besides incidence rates for 2005–2009.

Method

AAIRs and registry-based AAMRs (WSP) were calculated for 2005–2009 in Izmir. ICR database has been matched with the all death certificates in Izmir and national address-based population database for follow-ups.

Results

We pooled 52 857 cases and 25 177 deaths (31 317, 21 540 cases; 17 633, 7544 deaths for males and females respectively.

AAIRs* were 315.3 in men and 190.7 in women for all sites (exc.C44 but MM). The highest AAIR in men was for lung cancer (88.8) followed by prostate (41.0), bladder (27.2), colorectal (21.9), stomach (13.8) cancers. Among women highest rate was for breast cancer (45.8) followed by thyroid (19.2), colorectal (13.8), lung (10.0) cancers.

AAMRs* were 177.7 in men and 64.9 in women for all sites (exc.C44 but MM). AAMR in men was highest for lung cancer (77.6) followed by prostate (11.7), colo-rectal (11.2), stomach (11.0) cancers. Among women the rate was highest for breast cancer (8.1) followed by lung (7.9), colo-rectal (5.9) cancers

Conclusion

Registry-based mortality figures can lead bias to some extent. However considering the low levels of DCO cases (1.2% in 2008) in our database and lack of mortality statistics, we can use these figures for evaluating cancer care.

*AAIR, AAMR per 100000, WSP

Estimation of the Effect of Prostate-Specific Antigen (PSA) Screening on Prostate Cancer Incidence in Spain

1.A15

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Background

Prostate cancer incidence has increased dramatically in developed countries, principally because of the widespread use of prostate-specific antigen (PSA) from the early 90s producing an substantial overdiagnosis. The main objective is to estimate the additional number of men who were diagnosed with prostate cancer during the period 2003–2006 in Spain due to the use of the PSA test and to estimate the overall percentage of patients overdiagnosed in different age-groups and periods.

Methods

Invasive prostate cancer incidence data between 1981 and 2006 was provided by 13 Spanish Cancer Registries. As baseline period, 1986–1990 was used. The expected incidence rates of each year were estimated applying the APC of the 1981–1989 period to the expected incidence rates of each previous year. The observed incidence was obtained by applying to national mortality the estimates of the incidence-to-mortality ratios obtained from log-linear models adjusted for sex, age and registry. For each year, the number of additional diagnosed cases was estimated, applying the Spanish population data to the excess incidence rates.

Results

During the period 2003–2006, the use of PSA test caused 99.874 overdiagnosed prostate cancers in Spain which represents 40.1% of prostate cancers diagnosed in this period. By age, the proportion of overdiagnosed cases was: <60: 77%; 60–69: 60%; 70–79: 29%; 80+: 11%. By period, these proportions were: 20% in 1993–1997; 34% in 1998–2002 and 40% in 2003–2006.

Conclusion/discussion

As expected, overdiagnosis increased throughout the studied periods and was higher in the youngest age-groups. It represents a very important public health concern.

Epidemiology of Primary Brain and Central Nervous System Tumors in Korea, 2006–2010

1.A16

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Background

The purpose of this paper is to provide accurate nationwide epidemiologic data on primary brain and central nervous system (CNS) tumors diagnosed between 2006 and 2010 in Korea.

Methods

Data on primary brain and CNS tumors, including malignant and non-malignant, diagnosed between 2006 and 2010 were used from the Korea Central Cancer Registry. Crude and age-standardized rates (ASR) were calculated by year, gender, age, and histological type and their annual percent change (APC) were calculated in malignant and non-malignant primary CNS tumors.

Results

Total 43,782 patients diagnosed with primary brain and CNS tumors between 2006 and 2010 were included in this study. The brain and CNS tumors occurred in females more often than in males. The ratio of non-malignant to malignant was 3.7 to 1. The most common histologies over the study period were meningioma (33.7%), pituitary (18.8%) and nerve sheath, non-malignant and malignant (9.6%). The overall ASR of brain and CNS tumors during the study period increased from 12.4 per 100,000 to 15.7 (APC: 6.0%, $P < 0.05$). The ASR of non-malignant primary CNS tumors gradually increased (APC: 7.8%, $P < 0.05$), however, ASR of malignant tumors stayed stable (APC: 0.4%) during the study period.

Conclusion

Non-malignant brain and CNS tumors have increased during the study period. These increases may be progress in detection technique. Data from this study should provide valuable information regarding the understanding of primary CNS tumors epidemiology in Korea.

Prostate Cancer Patients' Perspectives on Quality-of-Care: their Care Experiences, Health-Related Quality-of-Life and Psychological Well-Being

1.A17

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Background

Cancer patients' experiences of care are increasingly recognised as a measure of quality-of-care. The extent to which these experiences impact on patient reported outcomes, such as health-related quality-of-life, is not well understood. The PiCTure 2 study aimed to assess the care experiences of men recently diagnosed with prostate cancer in Ireland and investigate associations between experiences and health-related quality-of-life and psychological wellbeing.

Methods

Men diagnosed with invasive prostate cancer (ICD10 C61) 5–20 months prior to study commencement were identified through the National Cancer Registry, Ireland, and invited to complete a questionnaire. The questionnaire was based on the Prostate Care Questionnaire (Baker et al. 2007), modified for Ireland and pre-tested using cognitive interviewing. Health-related quality-of-life and psychological wellbeing were assessed using the EQ5D-5L and DASS. The questionnaire was administered by post to 2,180 men during January–April 2013.

Results

More than 1500 completed questionnaires have been received (response rate=70%). Men's experiences will be compared by time since diagnosis, age at diagnosis, treatments received and socio-demographic characteristics. Factors which contribute to positive/negative experiences will be highlighted and the extent to which these are associated with health related quality-of-life (utility) and psychological wellbeing (depression, anxiety and distress) investigated.

Conclusions

Cancer registries provide a high quality, population-based, sampling frame for studies of patient experiences of care; such studies provide important evidence regarding quality-of-care from the patient perspective. If care experiences are associated with health-related quality-of-life and psychological wellbeing, this provides further rationale for initiatives to improve quality-of-care.

Descriptive Epidemiology of Prostate Cancer in Osaka, Japan: 1975–2010

1.A18

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Background

Since the 1990s, the PSA test was widely used in the world, incidence of prostate cancer increased drastically in many countries. The Japanese Task Force for prostate cancer screening supported by the government does not recommend the PSA test for population-based screening, due to the insufficient evidence to reduce mortality and relatively large harm. However, some municipalities provide prostate cancer screening for residents by the strong demand from related organisations. To examine the effect of PSA test, we monitored the trends in incidence, mortality and survival of prostate cancer in Osaka, Japan.

Methods

We analysed data from the Osaka Cancer Registry. We applied joinpoint regression model to identify the years when statistically significant changes in incidence/mortality trends occurred. We also monitored trends in 5-year relative survival.

Results

Incidence showed statistically significant increase in 1990–2006: 6.2% (95%CI: 5.3–7.1) per year, while mortality was stable in 1997–2010; -0.6% (-2.2–1.0). Although incidence for localised and regional metastasis patients increased drastically, incidence of distant metastasis was stable. Proportion of localised patients was doubled from 33% in 1975–77 to 68% in 2005–06. 5-year relative survival was also doubled from 42% to 85%.

Discussion

Remarkable increase of incidence can be explained mostly due to increase of localised patients. The improvement in survival was limited to the localised and regional metastasis cases, mainly due to lead-time bias related with PSA test. We need to monitor carefully the trends in cancer statistics of prostate to measure the effect of over-diagnosis by PSA test.

Trends in Incidence of Stomach Cancer in Korea, 1999–2010: Corrected Incidence using the Completeness Index

1.A19

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Background

The incidence rate of stomach cancer was stable during the last decade, despite a marked decrease in stomach cancer mortality during the same period in Korea. To gain more accurate incidence estimation, we corrected the numbers of stomach cancer incidence by adjusting the data completeness index by sex and age group.

Method

We analyzed data from the Korea National Cancer Incidence Database on cancer patients diagnosed with stomach cancers between 1999 and 2010. To obtain the corrected incidence rate of stomach cancer, Ajiki's completeness index was calculated. The estimated age-specific cancer incident cases were calculated by multiplying the original age-specific incident case by the inverse of the completeness index. Age-standardized rates (ASR) and annual percent change (APC) was used to explore the secular trend.

Results

The overall corrected ASRs for stomach cancer incidence decreased by 0.81% annually in men and by 0.98% in women from 1999 to 2010. The corrected ASRs were stable in males in their 40s, with increasing trends in females in the same age group, whereas corrected ASRs decreased significantly among patients over 50 years of age.

Conclusion

Given the decreasing prevalence of smoking, and *Helicobacter pylori*, the stable or increasing ASRs in young adults observed for stomach cancer could be due to an increase in cancer screening.

An Updated Report of the Trends in Cancer Incidence and Mortality in Japan

1.A20

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Background

The analysis of cancer trends in Japan has only been sporadically reported. We present a comprehensive report on the trends in cancer incidence and mortality in Japan using the most recent population-based data.

Methods

National cancer mortality data between 1958 and 2011 were obtained from published vital statistics. Cancer incidence data between 1985 and 2007 were obtained from high-quality population-based cancer registries of four prefectures (Miyagi, Yamagata, Fukui, and Nagasaki). Joinpoint regression analysis was performed to examine the trends in age-standardized rates of cancer incidence and mortality.

Results

All-cancer mortality decreased from the mid-1990s, with an annual percent change (APC) of -1.3% (95% confidence interval: -1.4, -1.3), while all-cancer incidence continually increased from 1985, with an APC of 0.7% (95% confidence interval: 0.6, 0.8). Major cancer sites, particularly the liver, colorectum, and lung (males), showed a pattern of increasing incidence and mortality rates until the mid-1990s, stabilizing or decreasing thereafter. Stomach cancer showed a long-term decreasing trend for both incidence and mortality, while female breast cancer showed a continuously increasing trend. The incidence of prostate cancer, particularly at the localized stage, rapidly increased between 2000 and 2003, while that of mortality decreased from 2004.

Conclusions

The analysis of cancer trends in Japan revealed a recent decrease in mortality and a continuous increase in incidence, which are considered to reflect changes in the underlying risk factors such as tobacco smoking and infection, and are partially explained by early detection and improved treatment.

Current Population-based Cancer Registration in the Philippines (2013)

1.A21

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- 5 Pharmaceutical Product Development Data Management
- 6 Eduardo Aboitiz Foundation - Metro Cebu Cancer Registry
- 7 Department of Health - CHD Davao Cancer Registry
- 8 Andres Soriano Foundation - Bacolod Cancer Registry

Background

There was no organized national population-based cancer registration system in the Philippines until late 2011 when the Department of Health requested the assistance of the Philippine Cancer Society.

Methods

An organizational/Training Workshop was held in Manila on December 2011 and consensus was reached between 5 registries to adopt common methods of active registration that conform to IARC/IACR recommendations.

Results

The following are the 5 Registries with their founding date, catchment area and population covered (2010 Census). *Philippine Cancer Society-Manila Cancer Registry* (1983; cities of Manila, Quezon, Pasay, Caloocan; 6,295,800). *Department of Health-Rizal Cancer Registry* (1974; the rest of Metro Manila and Rizal Province; 7,469,659). *Eduardo Aboitiz Foundation-Metro Cebu Cancer Registry* (1988; cities of Cebu, Mandaue, Lapulapu, Talisay and Naga plus 6 municipalities; 2,324,525). *Department of Health-CHD Davao Cancer Registry* (2002; Davao City; 1,449,296). *Andres Soriano Foundation-Bacolod Cancer Registry* (2000; Bacolod City; 511,820).

Conclusion/Discussion

All 5 Registries will limit the items of information to be obtained to those that are essential for calculating *incidence*, for period 2003–2012.

Cancer Risks in Different Areas of Bahía Blanca, Argentina, between 2003–2007

1.A22

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Background

Near Bahía Blanca (BB) city the petrochemical industry has grown dramatically in the last decade. There are two neighbourhoods located very close to the industry and their dwellers have claimed the possibility of increased cancer risk. Such districts are Ingeniero White (IW) and Villa Rosas (VR) The local government, in response to such a worrying claim, asked the Cancer Registry to study the problem and since 2005 we are monitoring the two areas and comparing them with the rest of the city.

Methods

The Cancer Registry follows the IARC rules and their data were accepted in CIV 8,9, and 10 Editions. The incidence rates were compared using the hypothesis test with a 95% significance.

Results

Comparing the main 16 localizations among men, significant differences were found in five (31.2%): stomach, bladder, prostate, all sites without C44 and lung resulting higher in the rest of Bahía Blanca than in the suspected neighbourhoods except lung cancer. Among women, significant differences were not found in 15 (94%), only breast cancer turned out to be significantly higher in the rest of BB than in Villa Rosas.

Conclusions

Various surveys performed in the 90' and the 2000' showed IW had a higher tobacco prevalence rate compared with other areas. A recent poll confirmed that fact. As tobacco use is recognized as the cause of 90% of lung cancer, this is the most probable explanation.

We conclude that there is not an increased risk of cancer in the neighbourhoods near the industry in this period.

High Tobacco Prevalence Rate in Ingeniero White Can Explain High Lung Cancer Incidence Rate

1.A23

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Background

Ingeniero White is a port neighborhood located 7 Km from Bahía Blanca city. The petrochemical industry is located very near and the neighbours have expressed their fear to have increased cancer.

Although the data did not confirm the supposed higher risk, between 1998 and 2002 we found a significant higher lung cancer rate in Ingeniero White than in the rest of Bahía Blanca.

We had previous data showing higher prevalence of smokers in Ingeniero White compared with other neighbourhoods. The 2003–2007 data again showed a significant higher lung cancer data in Ingeniero White compared with the rest of the city.

Methods

A poll was recently performed in Ingeniero White and Tiro Federal. We used a structured questionnaire in 437 homes in Ingeniero White and 343 in Tiro Federal, representing 1563 and 1054 people respectively.

Results

The prevalence of daily smokers was 33.2 in Ingeniero White and 23 in Tiro Federal; homes with smokers: 59,1 and 40; men prevalence: 40,3 and 29,8; women: 26,6 and 16,7 and homes where it is allowed to smoke 38,6 and 25,9 respectively, being all the differences highly significant.

Discussion/Conclusions

Surveys performed in the 90' and the 2000' had shown a higher prevalence of smokers in Ingeniero White compared with other areas of the city. It is scientifically accepted that tobacco use is the principal cause of lung cancer. The present survey shows that the differences in tobacco use prevalence persist and this is the more probable reason for the difference in lung cancer rate.

Cancer Incidence Rate Comparison Between Bahía Blanca-Argentina and two Rural Areas Between 2003 and 2007

1.A24

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Background

Located in the South West of the Province of Buenos Aires, Bahía Blanca (BB) is a city with 300,000 inhabitants. It has an important industrial settlement near the city center and close to two neighbourhoods. These have been the target of multiple concerns since it is well established among the local population that it has more cancer than other areas due to such industrial settlement.

Methods

We compared world adjusted incidence rates from Coronel Suarez (CS, 37,387 inhabitants) and Coronel Pringles (CP, 23,408), located 185 and 130 km from Bahía Blanca. Hypothesis test with a 95% confidence interval was used.

Results

Among males we compared: lung, colon-rectum, linfomas, melanoma skin cancer, urinary bladder, stomach, kidney, esophagus, pancreas: the differences were not significant. We found prostate higher in BB compared with CS; Leukemias higher in BB and CP than CS; non melanoma skin cancer higher in CS than in BB and CP

Among women we found melanoma and non melanoma skin cancer higher in CS than in BB and CP

Conclusions

Comparing 24 cancer localizations among both sexes we did not find significant differences in 19 (79.2%). Prostate and leukemias were higher in BB than CS, being leukemias higher also in CP.

Differences in diet or more intense screening between BB and CS could be suggested to explain the findings in prostate cancer and also differences to sun exposure in rural areas could explain the findings in CS.

The supposed influence of industry cannot be supported and demonstrated in this survey.

Trends in Cancer Incidence and Mortality in Aracaju, Sergipe, Brazil

1.A25

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Background

Population-based studies have been used to provide hypothesis about cancer etiology and the identification of risk factors. Data have been obtained through population-based cancer registry databases. The study aimed at describing trends in cancer incidence and mortality in the population of Aracaju, Sergipe from 1996 to 2007.

Methods

The methods used consisted of an ecological study of time trends using data from the Population-based Cancer Registry of Aracaju and from The Mortality Database for the State of Sergipe. Incidence and mortality rates were calculated, based on official population counts and estimates. Trends were calculated by the *Joinpoint Regression Program*, National Cancer Institute, USA.

Results

The results showed rising incidence and mortality rates during the period of study. Cancer sites showing the highest age-standardized rates were: prostate, lungs, oral cavity, stomach, and colorectum in males; and breast, cervix, thyroid, colorectum, and uterine body in females. The sites exhibiting the highest age-standardized mortality rates were: prostate, lungs, stomach, oral cavity, and liver in males; and breast, lungs, cervix, uterine body, and colorectum in females. Incidence trends showed a rising pattern in males, but for females, only for crude rates until the year 2001. Mortality trends showed a rising pattern only in males.

Conclusion

The features observed in the population studied showed similarities with the ones observed in high-income areas, but conversely showed, considering some cancer sites, such as cervix and oral cavity, the same pattern observed in low-income areas.

Age, period and cohort effects on mortality rates of stomach and colorectal cancer in Japan 1.A26

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Background

It is characteristic in Japan that mortality of stomach cancer is higher than that of colon cancer. Many studies have shown that cancer incidence is related to certain kinds of lifestyles, e.g. excess intake of salt and physical inactivity, in stomach and colon cancer.

Methods

Patients died with stomach and colon cancer were identified from vital statistics of Japan. Age at death was categorised into 5-year groups and period of death into 5-year periods. Birth cohort groups were calculated by subtracting the midpoint of the age group from the midpoint of the period. Poisson regression age-period-cohort (APC) modelling technique was used to estimate age, period and cohort effect trends in mortality of stomach and colon cancer.

Results

A steep peak of age-specific mortality rates in birth cohort was shown only in stomach cancer, but not in colon cancer. APC model revealed that period effect on mortality rates became smaller in stomach cancer, however, the opposite was observed in colon cancer.

Discussion

Japanese have experienced dramatic changes of lifestyles, which may explain the results of this study. Along this line, mortality of colon cancer is expected to increase and thus, a prevention programme needs to be encouraged in Japan.

Characteristics and Magnitude of Cancer in Arequipa's Population 2004–2007 1.A27

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Background

The registration area embraces a population of 950804 inhabitants. Quality control and validation was considered a trust level of 95% with 5% of error. Quality indicators used were percentage of cases with: unknown age, histological verification, death certificate only and mortality/incidence reason.

Methods

This report picks-up information of cancer cases during period 2004–2007, with descriptive and analytic methodology, which provides a cancer global vision in Arequipa's population.

Results

There were diagnosed 7689 new cases of cancer, incidence age standardized rate (ASR) was 228,00/100000; were men 3023 ASR(183,10/100000) and 4666 were women ASR(269,00/100000); being observed that cancer incidence is higher in women. The age groups with more cancer presentation was 55–74 years in both sexes (40,89%).

The group of 0 to 14 years representing 1,98%; has a different behaviour from the observed in adults, because in them predominate haematopoietic and nervous organs pathology, being men more affected.

Based on Pareto's principle represent 80% of all incident cases of cancer concludes that most cancers found correspond to 16 locations (ASR): breast (44,3/100000), cervix uteri (43,2/100000), prostate (37,8/100000), stomach (18,9/100000), non melanoma skin cancer (16,9/100000), lung (14,2/100000), gallbladder (10,7/100000), hematopoietic system (9,7/100000), liver (9,0/100000), non Hodgkin lymphoma (7,7/100000), ovary, colon, thyroid, unknown primary site, pancreas and brain/nervous. System. Between 2004–2007, Arequipa had 2838 deaths by cancer, with a mortality standardized rate of 80,5/100000.

Conclusion

It guides the investigation lines and evaluates the results obtained to improve the administrative and assistance management of Peruvian Health Institutions.

Impact indicators of Breast Cancer, Arequipa, Perú, 2004–2007

1.A28

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Background

Breast cancer is a common disease among women of child-bearing age and economically active, so it is necessary to have valid and reliable data about its impact on society. The objective of the study was to calculate the impact indicators of breast cancer (mortality, life expectancy and potential years of life lost).

Methods

Raw rates were found (RR) using as numerators the breast cancer cases collected by the RCPA and the person-years of the population at risk as denominators. Direct method was used to standardize the rates by age (ASR). Life expectancy was calculated with the modified method of Reed - Merrell and potential years of life lost (PYLL) were calculated with the PYLL index measurement.

Results

The mortality raw rate was 9.7/100 000py, being the seventh leading cause of cancer death in the population and the second in women. The mortality ASR was 9.9 / 100,000py. The difference between the life expectancy of women with breast cancer and the female population was significant (324.8 years, $p < 0.05$). PYLL, represented important social and economic losses to Arequipa's population adding 2225.0 years (between 15 and 65 years old) and consolidating a total economic loss of U.S. \$ 5 438 888.9.

Conclusions

The presented impact indicators of breast cancer provide a manageable volume of relevant and timely information that allows contrasting quantitative calculations with social values and interests around the disease, and giving it the priority among Arequipa health problems.

Cancer Incidence, trends and survival in Setif, Algeria 1986–2010

1.A29

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Setif Cancer Registry

Background

Cancer has become a serious public health issue in Algeria in the last years.

Methods

Setif Cancer Registry began in 1986 using actually Cancer 5 provided by the International Agency of Research on Cancer

From 2001 to 2010, the Setif Cancer Registry collected 10561 cancer. The incidences are nearly the same in both sexes. The crude annual incidence per 100,000 is 68.0 for men and 76.8 for women, so the standardized incidence rates were respectively 100.2 and 99.9 per 100,000 inhabitants.

In male, cancers of the lung, bladder, colorectal, nasopharyngeal, stomach and larynx are the commonly sites.

In female, cancer of the breast, colorectal, cervical, and gall-bladder are the first localizations.

Cancers of the child between 0 and 14 years represent 3.6% of all cancers in males and 2.6% of all cancers.

Results

From 1986 to 2010, among women, the incidence of breast cancer has increased dramatically in the last two decades, the standardized incidence rate has more than tripled, rising from 9.3 in 1986 to 49.2 per 100,000 in 2010. The incidence of cervical cancer has increased during the first decade since the standardized incidence rate has almost doubled in 12 years from 8.4 in 1986 to 15.9 per 100,000 population in 1998 and declined to 7.7 per 100,000 inhabitants in 2010. The incidence of colorectal cancer is increasing, the standardized incidence increased from 2.8 per 100,000 in 1986 to 11.4 per 100,000 in 2010. The incidence of thyroid cancer has increased, standardized incidence increased from 0.1 per 100,000 in 1986 to 6.4 per 100,000 in 2010. In male, the incidence of lung cancer increased steadily over the past two decades, the incidence rate increased from 11.2 to 20.7 per 100,000 from 1986 to 2010. Colorectal cancer increases over the last two decades, the incidence rate increased from 2.6 in 1986 to 11.6 per 100,000 in 2010. Prostate cancer rose from 2.1 in 1986 to 8.2 per 100,000 in 2010. The incidence of bladder cancer increases considerably over the last two decades since it fell from 2.6 in 1986 to 10.2 per 100,000 in 2010.

The results of the study Concord1 shows five years rates low compared to other countries. This low survival reflects the efficiency of the health system, failure of taking management of patients is related to the difficult access or no care.

Occurrence of Burkitt Lymphoma in the Ibadan Cancer Registry, Nigeria (2003–2012)

1.A30

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Background

The Ibadan Cancer Registry is a population based registry that documents cancers occurring in Ibadan and its environs. The population of this catchment zone in 2006 was 2,549,265, of which 1,230,266 were children/adolescents under 20 years old. Endemic Burkitt lymphoma (BL) is the commonest childhood malignancy in Ibadan. This study was done to update published data on BL in the IBCR.

Methods

Ninety-three cases of BL recorded in the IBCR between 2003 and 2012 were analyzed. Data extracted included age, sex, place of domicile, and anatomical site.

Results

Sixty-eight (73.1%) BL cases were domiciled in Ibadan, and 25 (26.9%) were non-Ibadan cases. Fifty three cases (57%) were histologically/cytologically diagnosed, while 40 (43%) were clinically diagnosed. Forty-four (47.3%) were females and 49 (52.7%) were males. Peak frequency of BL occurred in the 5–9 years age group and 88 (94.6%) of these patients were less than 20 years of age. The annual frequency of BL remained relatively steady during the study period. The crude incidence of BL in Ibadan in 2006 was 0.63 per 100,000. Sixty-four (68.8%) cases had jaw involvement, while fourteen cases (15.1%) had abdominal involvement.

Conclusion

The lack of recent population census figures hampers estimation of BL incidence. Even with these limitations, the information generated in this study is relevant to the monitoring of BL occurrence in the catchment zone. The observed data on BL should be of use to health care planners.

Trends of Incidence, Mortality and Magnitude of Colorectal Cancer in Brazil

1.A31

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Background

The colorectal cancer is the third most common cancer among men and the second among women worldwide. About 60% of cases occur in developed countries. In Brazil, for 2013, it is estimated 14,180 new cases of this cancer in men and 15,960 new cases in women. In 2010, colorectal cancer mortality was the fourth leading cause of cancer death among men and the third in women. In Brazil the mortality and incidence for colorectal cancer are growing up.

Methods

The incidence of colorectal cancer was analyzed from 11 Brazilian PBCR. All Incidence rates were age-adjusted by World Standard Population. To describe incidence and mortality time trends, we carried out joinpoint regression analysis using the software Joinpoint Regression Program, Version 3.5.4. The AAPC of incidence and mortality rates were obtained.

Results

This study showed that incidence and mortality rates increased in men, except at the cities of Sao Paulo, Recife and Salvador. The result for women is quite similar. The trends of incidence and mortality rates increased to Fortaleza (AAPC: Incidence +4.5%; Mortality +3.0%) and Goiânia (AAPC: Incidence +4.3%; Mortality +2.5%). The trends profile showed a predominant Increase of the incidence and mortality rates in both sexes.

Conclusion / Discussion

The PBCR information is essential to monitor the magnitude, burden and trends of cancer incidence. The mortality analysis complements cancer surveillance. These information will support all strategies of cancer control policies. For colorectal cancers this information will be useful to guide the early detection plan and evaluate the outcomes.

Impact of Chronic Lymphocytic Leukemia 2008 Reclassification in Cancer Registries

1.A32

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Background

Since the reclassification of chronic lymphocytic leukemia (CLL) in 2008¹, the diagnosis of CLL requires the presence of $\geq 5 \times 10^9$ B monoclonal lymphocytes/L in peripheral blood and a characteristic cell-surface phenotype of B cells. The presence of less than 5×10^9 B monoclonal lymphocytes/L in asymptomatic patients is defined as monoclonal B-lymphocytosis (MBL).

The incidence of CLL in Europe is approximately 4 cases per 100,000 inhabitants/year but could decrease after applying the new CLL diagnostic criteria. The aim of this study was to determine if the reclassification of CLL change incidence rates and trends.

Methods

Patients diagnosed with CLL during 1994–2008 in Girona were extracted from the population-based Girona Cancer Registry. European population standardized incidence rate (ASR_E) were estimated (new cases per 100,000 inhabitants/year). The estimated annual percent change (EAPC) was estimated using joinpoint analysis. Diagnostics of CLL were revised to verify the B lymphocytes count.

Results

A total of 500 CLL cases were diagnosed (297 men and 203 women) with an ASR_E of 4.25. A significant increase in incidence trends was found during 1994–2008, with an EAPC of 3.0% (0.4%; 5.7%).

After reviewing some clinical reports (n=17) we found 2 patients with MBL (11.8% of cases). These are preliminary results.

Discussion and Conclusions

After applying the new classification of CLL, we found some cases of MBL that were recoded as CLL. The total percentage of MBL registered as CLL will be presented in this congress. Some published papers indicated that approximately 50% of CLL diagnosed before 2008 are actually MBL.

Differences in Incidence Trends of Estrogen Receptor Positive/Negative Breast Tumors in the Girona Province, 2000–2009

1.A33

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Background

Expansion of mammography screening and variations in lifestyle risk factors have lead to changes in invasive breast cancer (IBC) incidence trends in several countries. Positive estrogen receptor (ER) cancers have better prognosis than negative ER tumors. The aims were to determine whether clinicopathological features differed among positive and negative ER, and to analyze IBC incidence trends according to ER status in the Girona province, 2000 – 2009.

Methods

Women diagnosed with primary IBC (n=3513) during 2000–2009 were extracted from the population-based Girona Cancer Registry. ER immunohistochemical status was collected from pathological reports. Clinicopathological features (histological grade, stage, age, mean tumor size and positive nodes) were compared among ER positive and negative tumors. The estimated annual percent change (EAPC) was estimated using joinpoint analysis.

Results

The proportions of ER positive, negative and unknown tumors were 70.5%, 18.4% and 11.1%. ER positive tumors correlated to a lowest histological grade, early stage, mean tumor size and mean positive nodes, and a higher mean age compared to ER negative tumors. IBC incidence showed a non-statistically significant EAPC of -1.0% (-2.2; 0.2). Women diagnosed with ER positive tumor showed an upward incidence trend of 1.6% (-0.2; 3.5) and ER negative tumors presented a significant EAPC of -6.0% (-8.6; -3.4).

Discussion and Conclusions

Differences in incidence trends in ER positive/negative tumors could be explained by changes in lifestyle risk factors as obesity. During the study period in Spain the percentage of overweight and obese women has increased. Also, changes in RE immunohistochemical assessment have to be considered.

Diagnosis and Treatment of Prostate Cancer in Mallorca

1.A34

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Background

1) To ascertain how many patients without symptoms are diagnosed of prostate cancer; 2) To know the distribution of prostate cancer patients by stage and treatment; 3) To compare the patients diagnosed with symptoms and those without regarding to stage and treatment.

Methods

Pilot descriptive study. We identified all cases of prostate cancer diagnosed at the Hospital Son Espases in Mallorca in 2011 through Mallorca Cancer Registry. Cases sent to Son Espases for treatment and non residents were excluded. Electronic hospital and primary health care clinical records were reviewed. Age, symptoms, PSA, data of diagnosis, TNM and treatments were recorded.

Results

We identified 123 cases. Average age at diagnosis was 66.4 years (SD: 7.7). 57.7% of patients were diagnosed without symptoms. Most cases were in localized stages: 32.8% stage I, 41.8% stage II, 16.4% in stage III and 9% in stage IV. Prostatectomy was performed in 56.1% of patients, radiotherapy in 12.2%, 29.3% received hormonotherapy and 0.8% chemotherapy. Only in 5.7% of cases, expectant treatment was chosen. Patients without symptoms were diagnosed in earlier stages than patients with symptoms ($p=0.006$): 38.6 vs 25% for stage I; 44.3 vs 38.5% for stage II; 15.7 vs 17.3 % for stage III and 1.4 vs 19.2 % for stage IV. No differences were observed between patients with or without symptoms regarding the treatment.

Conclusions

Patients diagnosed without symptoms represent more than half of cases of prostate cancer. Most of them are diagnosed at localised stages, although some receive aggressive treatments.

Including TNM & Stage in the Dataset of Cancer Registries

1.A35

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2 Hospital Son Espases Tumors Registry

3 Hospital Manacor Tumors Registry

Objective

To explore a strategy for collecting TNM and stage in population-based cancer registries.

Methods

A quality assurance framework was used. 2006 and 2007 invasive cases of all topographies and bladder cancer cases of any behaviour from the population-based Mallorca Cancer Registry were included. Cases from central nervous system, squamous and basocellular skin cancers and children cases were excluded. The method used could be described as: "If you see it, take it; if you could confirm it with clinical records, do it". We collected pathological or clinical TNM or stage from pathologic and oncologic reports.

Results

6,992 cases were registered. Stage was gathered in 7% cases (but in 31.7% of ovary cases, 24.2% of cervix, 44.2% of lymphomas). Clinical T was gathered in 14.6% cases (but 33% of lung cases, 51.3% bladder); pathological T was gathered in 30.7% of cases (but in 74.2% of colon, 48.7% rectum, 57.9% breast). Clinical N was gathered in 10.5% cases (but in 33.2% of lung, 28.8% rectum); pathological N was gathered in 27.4% cases (but 53.1% of breast, 72.7% colon, 47.3% rectum). Finally, M was gathered in 31.5% cases (but 59.8% of lung, 41.5% breast, 53.4% colon and 57.5% rectum).

Conclusions

Collection of TNM and stage is feasible for population-based cancer registries with limited extra-resources. The strategy employed has allowed us to set baseline from which to establish targets for improvement.

Trends in Incidence, Mortality and Magnitude of Cervix Cancer in Brazil 1.A37

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Background

Cervix Cancer is the third most common type of cancer among women worldwide. The cervix cancer incidence is approximately two times higher in Low- and Middle-Income Countries as compared to developed countries. In Brazil, for 2013, were estimated 17,540 new cases of cervix cancer. In reference on mortality information, in 2010, cervix cancer was the fourth leading cause of cancer deaths among women. In Brazil, after the implementation of cervix cancer control policies, is possible to see the decline of incidence and mortality rates for the most of cities analysed.

Methods

The incidence of cervix cancer was analyzed from 11 Brazilian PBCR. All Incidence rates were age-adjusted by the World Standard Population. To describe incidence and mortality time trends, we carried out joinpoint regression analysis using the software Joinpoint Regression Program, Version 3.5.4. The AAPC of cervix cancer incidence and mortality rates were obtained.

Results

The relationship between incidence and mortality rates are approximately three times. There was a decrease in the incidence rates for the majority of cities analyzed. The AAPC showed that there is a declining predominance of incidence and mortality rates. The bigger decline was observed to the city of Curitiba (AAPC incidence: -9.4%; mortality -7.9%).

Conclusion / discussion

To monitor the magnitude, burden and its trends of incidence cancer is very important use the information from PBCR, especially to evaluate the cervix cancer control programs. The time series trends are especially relevant to surveillance, evaluation and to planning cervix cancer control strategies.

Variation in "Standard Care" for Breast Cancer Across Spain: A Multicentre High-Resolution Study 1.A38

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Background

Breast cancer is the most common cancer and cause of cancer death in women. The aim was to compare adherence to standard care for breast cancer in women diagnosed in 10 Spanish population-based cancer registries in the mid-2000s.

Methods

A total of 3,468 women with a primary, invasive, breast cancer diagnosed in 2004–2005 were included. Information on morphology, stage, hormonal receptors, chemotherapy, radiotherapy and surgical treatment was collected from clinical records. We analysed breast-conserving surgery plus radiotherapy (BCS+RT) in T1N0M0 tumors, chemotherapy in tumors with nodal involvement (N+) and endocrine treatment for tumors expressing oestrogen-receptors (ER+). Logistic regression was used to estimate the odds of women T1N0M0 being treated with BCS+RT (vs. any other surgical procedure, with or without radiotherapy) by cancer registry, adjusted for age.

Results

T1N0M0 breast cancers represented 31% of the tumors; 16% were diagnosed as T2–3N0M0 and 27.5% as N+. Late stage tumors were 9.9% of all tumors. Overall, 66% of women with T1N0M0 received BCS+RT; 77% of N+ received adjuvant chemotherapy and 86% of ER+ received endocrine treatment. Stage distribution and treatment patterns varied across registries. Relative to Castellon, the odds of women with T1N0M0 receiving BCS+RT were higher in most of the cancer registries, except in Cuenca, even after adjustment for age. The highest odds were found in Granada and Navarra. Moreover, older women (70–99 years) had lower odds than women aged 50–69 years.

Conclusions/Discussion

Differences in breast cancer care among the Spanish geographical areas were found, even if clinical guidelines are available.

Funding

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Incidence and Mortality Trends of Female Breast Cancer in Brazil 1.A39

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Background

Breast cancer is the most frequently cancer and the leading cause of cancer death in females worldwide. About half of the breast cancer cases and 60% of the deaths are estimated to occur in developing countries. In Brazil, for 2013, it was estimated 52,680 new cases. In 2010, breast cancer was the leading cause of cancer death in females (12,705). Despite of developed countries already showed descendent trends, in Brazil, at several cities the breast cancer incidence and mortality remains growing up.

Methods

The incidence of breast cancer in women was obtained from 11 Brazilian PBCR. All Incidence rates were age-adjusted using the World Standard Population. To describe the time trends of incidence and mortality, it was carried out joinpoint regression analysis using the software Joinpoint Regression Program, Version 3.5.4. The AAPC of incidence and mortality rates from breast cancer were obtained.

Results

It was observed differences in the trends of breast cancer incidence and mortality rates. The breast cancer incidence increased in the cities of Porto Alegre (+3.6%), Goiania (+3.0%) and João Pessoa (+3.8%) and decreased in other cities. In contrast, death rates have been decreased in Jaú (-10.0%), Sao Paulo (-1.6%) and Salvador (-3.9%) and increased in João Pessoa (+7.2%).

Conclusion / Discussion

Incidence information produced by PBCR is essential to monitor the cancer burden and its trends especially for breast cancer in women. The information of PBCR are also very important to evaluate the breast cancer control programs and to guide cancer policies.

Age-Period-Cohort Analyses of Breast, Cervical and Prostate Cancer Mortality Rates in Central and South America

1.A40

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International Agency for Research on Cancer

Background

Breast, cervical and prostate cancers were the most commonly diagnosed cancers diagnosed in Latin American countries (LAC) in 2008. We estimated the effects of age, period and birth cohort on trends in cancer mortality for those three cancer sites in six LAC using age-period-cohort (APC) modeling.

Methods

APC analyses were applied to mortality rates for breast, cervical and prostate cancer for 1983–2008 obtained from the World Health Organization's database. Data were available for Argentina, Chile, Colombia, Costa Rica, Cuba and Mexico. Age-specific mortality rates for the birth cohorts and periods were estimated. Rates were plotted and fitted using a generalized linear model.

Results

Cervical cancer mortality rates steadily declined among women born after the 1940s except in Cuba. The risk of death rapidly increased with age until 45–50 years. The risk of cervical cancer death began to decline in the mid-1990s. The risk of breast cancer mortality increased with age. Breast cancer mortality rates increased in older age groups but started to decline in younger age groups in the past decade. An age effect was strongest in the prostate cancer model. The risk of prostate cancer mortality peaked in the mid-1990s, except in Cuba, and was highest in cohorts born between 1930 and 1940.

Conclusion

Female breast and cervical cancer mortality rates were high but began to decline over time, except in Cuba. Age effects were dominant for all 3 cancer sites. These results could aid the evaluation of cancer control activities and guide future cancer control planning.

Impact of Hospital Surgical Volume on Breast Cancer Outcome: A Population-Based Study in The Netherlands

1.A41

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Background

For breast cancer there is still much debate on the association between hospital surgical volume and outcome. The aim of this study is to determine to what extent the yearly surgical hospital volume determines the risk of death in breast cancer patients.

Method

Women diagnosed with primary invasive breast cancer who underwent breast surgery in the period 2001–2005 were selected from the Netherlands Cancer Registry. Hospitals were grouped by their annual volume of surgery. Cox proportional hazard models were performed including gender, age at diagnosis, morphology, grade, pT, positive lymph nodes, year of diagnosis and socio-economic status (SES) as covariates. Follow-up was complete until 1st February 2012.

Results

In total 55,743 patients were selected. Hospitals were grouped by volume of surgery: <75 (n=19), 76–100 (n=30), 101–150 (n=29), ≥150 (n=23). Patients had a tendency to a 6% higher risk of death in low volume hospitals (<75 vs ≥150; HR 1.06, 95%CI 1.00–1.12, p=0.052). Patient and tumor characteristics like age (HR 1.05, 95%CI 1.05–1.05) and SES (lowest vs highest; HR 1.11, 95%CI 1.06–1.16), grade (low vs high, HR 1.80, 95%CI 1.70–1.91), pT (1–2 cm vs 2–5 cm; HR 1.47, 95%CI 1.41–1.53), and a higher number of positive lymph nodes (0 vs >10; HR 3.30, 95%CI 3.10–3.51) influenced death to a larger extend than surgical volume.

Conclusion

In the Netherlands, surgical hospital volume influences risk of death only marginally, and far less than patient and tumor characteristics. In future, even more comparable risk of death between hospitals is expected.

Sequential Surveys for the Activities of Population-Based Cancer Registries in Japan, 2004–2013

1.A42

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Background

Cancer registration system in Japan has been made some progress recently. From technical aspects, research groups supported by the Ministry of Health, Labour and Welfare made substantial contribution to this progress. The Japan Cancer Surveillance Research Group in the 3rd-term Comprehensive 10 year Strategy for Cancer Control was launched in 2004 and played fundamental roles, such as setting and disseminating standards, collecting data to estimate national incidence and conducting sequential surveys.

Methods

Questionnaire surveys on the activities of population-based cancer registries were conducted to all 47 prefectures in 2004, 2006, 2009, 2011 and 2013 (planned). All 47 prefectures responded to the survey.

Results

Number of prefectures operating population-based cancer registries increased 34, 32, 35, 45 and 47 in 2004, 2006, 2009, 2011 and 2013, respectively. Out of those with operating registries, 3%, 31%, 77%, and 91% registries used standardized registration form (25 items defined by the research group) in 2004, 2006, 2009 and 2011. Proportion of those with DCO% < 25% increased from 30% (2004) to 51% (2011), but those with conducting survey for prognosis to estimate survival did not change (47% in 2004 and 47% in 2011).

Conclusion/Discussion

We observed some progress on promoting standardization and improving quality for population-based cancer registries during 2004–2013 in Japan.

Thyroid Cancer Trends in Women: Costa Rica, from 2000 to 2011

1.A43

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Background

- IARC: Increased incidence of CT in women in some countries worldwide.
- National Institute of Health (NIH), “increase the risk of CT: Ages between 25 and 65 years, female gender and more.
- Costa Rica:
 - 436 CT cases per year in women and 9 deaths.
 - In 2008–2010 the incidence rate increases to 4th place.

Methods

- Descriptive Study
- Sources:
 - RNT: cases
 - CCSS: hospital discharges
 - INEC: mortality, population
- Calculations:
 - Adjusted incidence and mortality rates per 100,000 women, direct method.
 - Proportional mortality
 - % of expenses
 - AVPP

Results

- In 2000 the CT ranked were fifth in women
- Fourth place in a row.
- The 85.66%: CT Women
- 7.63% women cancer cases are CT
- 92.36% biopsy confirmed
- 89% between 25 to 69 years.
- San Jose has the highest rate.
- 9 women dead
- 2.2% lethality
- AVPP: 0.3 years per each/10.000 women.
- 8.59% expenses of cancer in women correspond to CT
- 98.53%: expenses between 20 years and over
- Average stay 6.9 days, high costs.

Discussion / Conclusion

- The CT is occupying important places for consecutive years.
- There is a poor research in the country on this topic.
- It presents a similar behavior of what literature says.
- There are some determinants that need to be evidenced through research.
- It is recommended to promote research using information from the RNT. Regional investigations raise counseled by the IARC.

Corpus Uteri Cancer Incidence and Mortality in Selected Chinese Areas in 2009

1.A44

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Background

Corpus uteri cancer epidemiological trends have changed recently in some Chinese areas. This study is to analyze its incidence and mortality in 72 Chinese areas in 2009.

Methods

Corpus uteri cancer incidence and mortality data of 72 Chinese areas in 2009 came from Chinese National Centre for Cancer Registration and were analyzed.

Results

There were 2,916 corpus uteri cancer new cases in 72 Chinese areas in 2009. It was the 9th female most common cancer, its incidence world age-standardized rate (ASR-W) were 4.70/100,000, while urban and rural ASR-W were 5.53/100,000 and 2.79/100,000 respectively during the period. Top three incident areas whose ASR-W were 12.50/100,000, 9.21/100,000 and 7.90/100,000 respectively all are urban and developed areas. Bottom three incident areas whose ASR-W were 0.0/100,000, 0.43/100,000 and 1.17/100,000 respectively all are rural areas. There were 642 its death cases in above areas in 2009, its death ASR-W was 0.96/100,000, urban and rural ASR-W were 0.98/100,000 and 0.90/100,000 respectively. Top three death areas whose ASR-W were 5.28/100,000, 3.70/100,000, and 3.63/100,000 respectively all are rural areas. Obvious difference existed between its age-specific incidence and mortality rates. Its incidence age peak was at 55–59 age groups, while mortality peak was at 80–84 age groups.

Conclusions

Although corpus uteri cancer incidence was at high level in 72 Chinese areas in 2009 especially for urban and developed areas, its death rates were relatively high in rural areas.

Oral Cavity Cancer Incidence and Survival in Korea

1.A45

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Background

The purpose of this study is to describe squamous cell carcinoma of oral cavity incidence rates and relative survival rates trends in Korea.

Methods

Cancer incidence data using from the Korea Central Cancer Registry (KCCR) during 1999–2010, age-specific incidence rates and age-standardized rates per 100,000 population and annual percentage change (APC) were calculated for oral cavity squamous cell carcinoma by gender for age groups (<30, 30–59 and 60+ year). Survival was examined for cases diagnosed during 1993–2010 and followed up to 2011.

Results

The ASR of oral cavity cancer was 1.47 and 0.57 per 100,000 males, females, respectively (M/F ratio: 2.6). The ASR of oral cavity increased from 1.46 in 1999 to 1.58 in 2010 and the APC was 1.0% ($p < 0.05$) in males. The ASR of females increased from 0.47 in 1999 to 0.88 in 2010 and APC was 5.3% ($p < 0.001$). Significant increases were seen in tongue cancer (4.5%) among oral cavity cancer. The male- to-female rate ratio was observed decreasing 2.51 in 1999 to 1.57 in 2010. The 5-year relative survival rates increased from 41.9% to 58.4% an increase of 16.5% in males and from 50.7% to 64.7% an increase of 14% in females. Survival was higher in females (61.0%), than males (52.1%) during 1993–2010.

Conclusion

The most remarkable finding of this study was the significant increase SCC of oral cavity cancer incidence both sexes. Our research findings will also provide valuable information for planning of cancer control strategy.

Cancer in Quito: Incidence and Mortality Trends, 1985–2008

1.A46

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3 National Cancer Registry (Quito) Registrar

Background

The Cancer Registry has information 24 years, since 1985. It is one of the oldest registries and stable in Latin America.

Methods

Information sources are a) pathology laboratories, cytology and hematology of public health systems and private of Quito b) hospital discharges c) death certificates provided by the Institute of Statistics and Census (INEC). Collection is active, with removing duplication and systematic quality control. Invasive malignancies are analyzed except non-melanoma skin-.

The population at risk was obtained from the censuses of 1982, 1990, 2001 and 2010 and their inter-census projections (INEC). We calculated incidence rates and standardized mortality.

An analysis of joinpoint was made to observe trends and temporal variations and determined the Annual Percentage Rate of adjusted rates in each of the segments found.

Results and Conclusions

There was decline in incidence and mortality rates of “infectious agents related cancers” cervical cancer and stomach cancer. Breast and colon-rectum Were increased. Surprise the significant increase in thyroid cancer in women. In lung cancer there was a slight increase among women and in men the incidence values are stable.

Clinical Stage Distribution in Childhood Cancer Cases in Belarus

1.A47

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Background

Long-term survival in pediatric cancer patients is markedly improved in Belarus since the 1990s. Except new treatment strategies, the interpretation of the excellent survival results in childhood cancers may be influenced by the percentage of distribution of clinical stages.

Methods

Clinical stage distribution of pediatric cancer cases according to ICCC-3 diagnostic groups (except groups I, III, V, Xa and XIb) was analyzed using data of Childhood Cancer Sub-registry of Belarus.

Results

During two periods: 1999–2004 and 2005–2010, we detected 19,9% and 22,4% stage IV of cancer cases in children (0–14 years old) and 16,7% and 15,9% in adolescents (15–19 years old), respectively. During 1999–2004 the most often stage IV in children with malignancy was diagnosed in group VIII - 34,1%, in group IV - 32,9% (except IVS cases), in group VI - 24,2%, in group II - 14,9% and in group IX - 13,1%; in adolescents in group IX - 33,3%, in group VIII - 24,6% and in group II - 8,6%. During 2005–2010 the cases with stage IV were identified in group VIII - 38,6%, in group IV - 31,9% (except IVS cases), in group IX - 16,9%, in group II - 15,6% and in group VI - 13,6% in children; and in group IX - 26,3%, in group VIII - 23,1%, in group II - 12,1% in adolescents.

Conclusion/discussion

We couldn't find the reduction in childhood cancer cases, diagnosed at stage IV during last 12 years in Belarus. We concluded that it is necessary to decrease the proportion of late diagnosis if we want to improve outcomes in childhood cancers.

The Epidemiology of the Childhood Acute Lymphoblastic Leukemia in the Republic of Azerbaijan

1.A48

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Background

Acute lymphoblastic leukemia (ALL) is the most common childhood malignancy. This study is the first to characterize the incidence of ALL in children (0–14 years old) and adolescents (15–19 years old) in the Republic of Azerbaijan. Newly diagnosed cases of ALL and demographic data were collected from the Ministry of Health and State Statistic Committee of the Republic of Azerbaijan.

Methods

The age-specific incidence rates (IR) were calculated by age and gender, all rates are listed per 1,000,000 population. The joint point regression model was used to detect trends over the time and annual percentage change (APC).

Results

A total of 418 children and 28 adolescents with ALL were diagnosed during 1998–2008 years. Male/female ratio was 1,7 in children and 0,86 in teenagers. The IR of ALL were 17,0 per million children (21,6 per million boys and 15,9 per million girls) and 2,9 per million adolescents (2,4 per million boys and 3,4 per million girls). The increasing trend was detected for children and adolescents during 1998–2008 years with APC 3,4% per year and 0,22% per year, respectively.

Discussion

The estimated IR of the acute lymphoblastic leukemia in the Republic of Azerbaijan is much lower then in Europe (according to ACCIS project), which means that ALL case statistics is incomplete. Population-based cancer registry is mandatory in order to accurately describe different types of childhood cancers.

THEME B

THE IMPORTANCE OF CANCER REGISTRIES IN THE DESIGN AND FOLLOW-UP OF CANCER CONTROL PROGRAMS AND THE QUALITY OF CARE

GIS-Based Methods to Investigate Local Cancer Cluster: An Application to Cancer Registry Data

2.B1

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Introduction

Cancer Registries (CRs) are involved in the evaluation of local cancer clusters; in Italy, the ISS-AIRTUM project investigates cancer incidence in polluted areas (SIN). Geographic analysis tools based on GIS systems are developed to account for high variability in small areas and bias due to misclassification of exposure.

Materials and Methods

The study focuses in two SIN areas. The first belongs to the Umbria Region (105.018 inhabitants), the second SIN (1.314.222 inhabitants) is in the Campania Region. In both areas, we used a geolocation method based on Google Map API for whole resident population addresses (2001–2009). Standardized incidence rates (SIRs) and trends were calculated for user defined shapes.

Results

We evaluated internal quality indices to assess data completeness and quality comparison indices that permit the comparison of geolocalized data to age stratified official populations. The completeness of georeferencing procedure was about 97% and quality indices were close to 1 in both areas. Umbria SIRs (C00-C99) ranged from 132 to 80 (APC -6.1*) for males and from 146 to 88 (APC -2.1) for females.

Discussion

Population georeferencing was successful in both study areas. For the smallest administrative data (i.e. census tract), the comparison between georeferenced data and data from ISTAT showed an excellent agreement. Some variability was found in residence stability. The Multidirectional Optimum Ecotope-Based Algorithm and traditional scan statistic (SaTScan) will be presented.

Clinico-Pathological Characteristics of Cutaneous-Melanoma in the European Country with the Highest Incidence: A Population-Based Study, 1996–2011

2.B2

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Background

Aim of the present study is to assess the incidence trend of cutaneous-melanoma in Southern Switzerland, a region with the highest incidence rate and a pure opportunistic screening strategy reaching 35% of the population at risk.

Patients and Methods

All invasive and in-situ incident cases occurred in 1996–2011 were retrieved from the Ticino Cancer Registry. European age-standardized incidence rates were computed by period of diagnosis, Breslow thickness and histological types. Trends were measured as the annual percentage change (APC) and the corresponding confidence interval (95%CI).

Results

A total of 1464 patients had a diagnosis of cutaneous melanoma, 1230 invasive and 234 in-situ. Invasive cases were categorized as: superficial-spreading-melanoma (55.7%), nodular-melanoma (10.0%), lentigo-maligna-melanoma (5.5%), melanoma-not-otherwise-specified (25.2%) and other-types (3.6%). Incidence rate of invasive melanoma rose from 17.4 per 100'000 inhabitants in 1996–2003 to 20.6 in 2004–2011, with an overall APC of +2.1% (%95CI:-0.8;+5.1;p=0.15). The increasing incidence trend was observed for superficial-spreading-melanoma (APC=+2.9%;%95CI:-1.1;+7.0;p=0.14) and thin melanomas (i.e.≤1.00mm) (APC=+3.4%;%95CI:+0.2;+6.7;p=0.04), whereas we detected a descriptive growing incidence for thick melanomas (APC=+2.1;%95CI:-1.4/+5.8;p=0.22).

Conclusions

The present study highlights first an increase of incidence trend of superficial-spreading-melanoma and thin melanoma, as possible consequence of secondary prevention measures; second a lack of decrease of nodular-melanoma and thick melanoma, phenomenon that could explain the

lack of expected mortality reduction. These results suggest that in Southern Switzerland there is room for additional public health efforts; particularly, primary and secondary prevention campaigns targeted at specific populations could additionally reduce melanoma mortality.

In Search of Current Professional Practice in the Cancer Registry Field

2.B3

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- 1 National Cancer Registrars Association
- 2 Professional Examination Services

Background

In January 2012, National Cancer Registrars Association's Council on Certification spearheaded a scientific research study to define the role of the Cancer Registrar. The Job Analysis (JA) is an essential component of any credentialing program. The JA provides the body of knowledge, skills and abilities that define the profession and to distinguish it from related professions.

The Council on Certification developed and conducted this JA study to describe the important tasks, knowledge and skills required for competence in the cancer registry profession. By linking exam content to the elements of the JA, NCRA's credentialing program accumulates the necessary evidence supporting the professional certification examination is both role-related and content-valid.

Methods

The online survey was disseminated from June 14 through July 6, 2012 to a representative sample of 2000 North American records from NCRA's database. The survey received 683 responses (34.6%).

Results

The review of the results led to updated test specifications for the CTR examination. The proposed new specifications allocate specific percentages of test questions across six domains of practice: Data Collection (Case Finding, Abstracting, Follow-up, Survivorship & Outcomes); Data Quality Assurance; Analysis and Data Usage; Operations & Management; Cancer Committee and Conference; Activities Unique to Centralized Registries.

Conclusion/Discussion

The specifications include the job tasks and knowledge bases that received survey ratings high enough that were judged to have met a reasonable threshold for inclusion. The results of the survey serve as the bases for the testing program whose purpose is to assess the competence of cancer registry professionals.

Effectiveness of Viral Hepatitis Therapy in Taiwan: A Population-Based Study

2.B4

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Background

In the past decades, chronic infection of hepatitis B virus (HBV) and hepatitis C virus (HCV) was endemic in Taiwan, where more than 90% of the adult population has been infected with HBV or HCV. Chronic viral hepatitis may progress to chronic liver diseases (CLD) and hepatocellular carcinoma (HCC). The Bureau of National Health Insurance has launched the national program for the therapy of chronic hepatitis B and C since 2003. The antiviral therapy has been reported to suppress HBV/HCV replication and lead to a significant decrease in the risk of developing end-stage liver diseases including fibrosis and HCC. The effectiveness of the antiviral therapy program needs to be assessed.

Methods

Profiles of National Cancer Registry and Death Certification Registry were used to derive incidence of HCC and mortality of CLD and HCC from 2000 to 2011. The age-sex-adjusted incidence and mortality of HCC (ICD-O-3 code C220/ ICD-9 code 1550 and 1552) and mortality of CLD (ICD-9 code 571) of adults (30–69 years old) were compared using Poisson regression models before and after the implementation of chronic viral hepatitis therapy program in 2003.

Results

The age-sex-adjusted rate ratio (95% confidence interval, p-value) decreased from 2000–2003 (reference period before therapy program) to 0.78 (0.76–0.80, $p < 0.001$) for CLD mortality, 0.75 (0.74–0.77, $p < 0.001$) for HCC mortality, and 0.86 (0.85–0.88, $p < 0.001$) for HCC incidence in 2008–2011. There was only 3–6 percent reduction in incidence and mortality of HCC and 8 percent reduction in CLD mortality from 2000–2003 to 2004–2007. A more significant reduction in incidence and mortality of end-stage liver diseases (11–19 percent) was observed from 2004–2007 to 2008–2011.

Conclusion

Chronic viral hepatitis therapy programs are effective to reduce the risk of chronic liver diseases and HCC.

Cancer Risk Perception and Potential Cancer Hazard in Two Irish Communities

2.B5

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Introduction

Suspected cancer clusters create considerable public anxiety, and workload for those charged with their investigation them. As few clusters are objectively confirmed, reasons why communities incorrectly perceive themselves at increased risk of cancer are worthy of study. We report on two small Irish communities with similar cancer risk, one of which was identified in media reports as exposed to a cancer hazard. Our aim was to explore if this potential hazard affected cancer risk perception and if this was accompanied by a desire for more or better information on the implications.

Methods

Objective cancer risk in both communities was measured using data from the National Cancer Registry data. A questionnaire on cancer risk perception, cancer anxiety level, information adequacy, and level of interest in local cancer rates was administered to a random sample of the population in the two communities.

Results

163 questionnaires were completed with an 82% response rate in the community with the potential hazard and a 60% in the other. Cancer risk perception was significantly higher in the “hazard” community, as was level of interest in local cancer rates and perception of the inadequacy of information to assess the hazard. At individual level, risk perception in both communities correlated with information adequacy and level of interest.

Conclusions

Cancer risk perception is elevated in the presence of an environmental hazard, resulting in a discrepancy between real and perceived levels of cancer risk. Cancer risk perception relates to information adequacy, and level of interest in local cancer rates.

Profile of Cervix Cancer in Brazil Based on Information from IntegradorRHC: A Preliminary study

2.B6

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Background

Cervix cancer is the second cancer most frequent among women in Brazil. It is the same profile in the hospital morbidity network in women, according to information from the national consolidation data tool from hospital-based cancer registries (HBCR), the IntegradorRHC.

Methods

Descriptive analysis study was carried on to describe characteristics of the population with cancer and the profile of hospital care, based on information from HBCR sent to IntegradorRHC.

Results

Population study includes 70.715 women with cervix cancer from 2000–2010 and for first treatment in the hospital. The group showed lower educational level (71% had incomplete elementary school or no education) and advanced tumor staging (III and IV - 37%). In situ tumors were observed in 19% of the cases. The median time between diagnosis and treatment was 28 days for patients without previous diagnosis and 80 days for patients with diagnosis. The average annual risk of early deaths (until 365 days after the first appointment) was 6% (SD=9,1).

Conclusion

The differences observed for interval time of diagnosis and treatment and early mortality, it could be associated with the high prevalence of advanced disease status, reflecting difficulties of access to cancer care for treatment of these women. The higher index of advanced tumor staging could be consequence from the lower educational level of this population.

Surgeon and Hospital Caseload Increase the Risk of Reoperation After Breast-Conserving Surgery: A Population-Based Study **2.B7**

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Background

Breast-conserving surgery (BCS) is increasingly used for breast cancer treatment. One of the disadvantages of BCS is the risk of re-operation, which is associated with additional costs to the woman, health service and society. In women who underwent BCS initially, we aimed to quantify re-operation rates and the effect of surgeon and hospital caseload in the risk of having subsequent (i) BCS and (ii) total mastectomy(TM).

Methods

From the National Cancer Registry Ireland, we identified 8318 women that initially had BCS(2002–2008). Of these 17.3% had one or more subsequent re-operations. 62.0% underwent subsequent TM. Multivariate logistic regression was used to measure the association of surgeon and hospital caseload with re-operation by (i)BCS or (ii)TM, adjusting for significant socio-demographic and clinical variables.

Results

Surgeon and hospital volume were strong predictors of subsequent TM but not of BCS after adjustment for socio-demographic and clinical variables. Women having surgery in low-volume hospitals had the risk of having TM significantly increased compared to women undergoing operation in high-volume hospitals performed by a high-volume surgeon, despite surgeon volume(ORs for surgeon volume in low-volume hospitals: high-volume: 1.74, 95%CI: 1.04, 2.91; intermediate: 1.80 95%CI: 1.32, 2.45; high: 2.32, 95%CI: 2.32, 95%CI: 1.82, 2.96).

Conclusions

The results of this study show the variability between different healthcare scenarios and suggest that better outcomes can be achieved. The study period corresponds to a transitional setting, coinciding with the implementation of specialised breast clinics and the results constitute a baseline to evaluate the implementation of this strategy in breast cancer care.

Breast Cancer Among Young Women: Clinical Characteristics and Treatment Trends in a Population-Based Study **2.B8**

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Background

Breast cancer (BC) is the commonest non-skin cancer among women in Ireland. Incidence among young women (YW) (<40 years-old) is very low, but international evidence shows that they tend to be diagnosed with more aggressive disease. The aim of this study was to compare tumor characteristics at diagnosis among YW and those aged > 40, and to describe treatment trends among YW.

Methods

BCs in Ireland between 2002 and 2008 were identified from the National Cancer Registry database. Stage, grade, treatment, deprivation level, smoking status, marital status and area of residence were compared using logistic regression models. Subtype analysis was carried out using a subset of cases (2006–2008) for which this information was available. Trends in treatment receipt were analysed using joinpoint analyses and reported as annual percentage changes (APC).

Results

Among 16,551 incident BC cases 1013 were diagnosed among YW (6%). YW had a significantly higher risk of being diagnosed with high grade tumors (OR: 1.62, 95%CI: 1.40, 1.87), nodal metastases (OR: 1.49, 95%CI: 1.29, 1.71), luminal B tumors (OR: 1.91, 95%CI: 1.45, 2.53) and triple negative BC (OR: 1.46, 95%CI: 1.07, 1.99). During 2002–2008 a significant decrease in breast conserving surgery was observed among YW (APC:-4.5, 95%CI: -7.9,-1.1). Radiotherapy receipt decreased significantly, by 2.6% annually (95%CI: -5.1, -0.1), and chemotherapy receipt remained high(83% for this period).

Conclusions

YW were diagnosed with more advanced and more aggressive disease compared to their older counterparts, and surgical treatments became less conservative overtime. Further analyses are necessary to evaluate the impact of treatment changes on survival.

Time Trends in Malign Melanoma Incidence in Izmir

2.B9

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2 IARC

Background

Malign Melanoma (MM) is not amongst common cancers in Turkey. Considering potentially high sun exposure, we aimed to find out if there is an increasing trend in MM incidence in Izmir.

Method

Age Standardized Incidence Rates (ASIRs per 100,000) were calculated for 1066 (568 men, 498 women) MM cases from the Izmir Cancer Registry database for the period 1993–2009. Annual Percent of Change (APCs) of rates were analyzed by JoinPoint regression analysis.

Results

ASIRs were 0.6 and 1.7 in men, 1.1 and 1.1 in women for 1993 and 2009 respectively. The incidence rates showed increasing trends both in men and women significantly in 1993–2009 period. The APCs are 5.6 ($p=0.01$) for male and 3.7 ($p=0.01$) for women.

Conclusion

Despite the low incidence rates of MM in Izmir historically, the incidence rates showed increasing trends both in men and women significantly. This increase should lead to put preventive programs on agenda.

Avoidable Cancer Mortality in Switzerland and Neighbouring Countries

2.B10

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Background

Avoidable mortality is a concept based on a selection of causes of death considered to be amenable to medical care or health policies serving as an indicator of the effectiveness of health care services. This study aims to evaluate achievements of medical care and health policies in Switzerland and neighbouring countries by analysing time trends in avoidable cancer mortality.

Methods

Preliminary analyses are based on mortality data and population estimates from the Swiss Federal Statistical Office. 3-year age standardized mortality rates (ASMRs) (European standard) were calculated for the population aged less than 75 years, covering the time period 1996–2010 and the following groups of cancer deaths: 1) avoidable through primary prevention, 2) avoidable through early detection and treatment, 3) avoidable through improved treatment and medical care, and 4) remaining cancer deaths.

Results

Comparing the time-period 1996–1998 and 2008–2010, cancer mortality has been decreasing continuously over time. ASMRs for *causes avoidable through primary prevention* decreased from 109.7 to 87.8 per 100,000 person-years in males, but increased from 27.2 to 33.3 in females. ASMRs for *causes avoidable through early detection and treatment* were reduced from 6.0 to 5.2 (males) and from 47.8 to 37.5 (females). For *causes avoidable through improved treatment and medical care*, ASMRs declined from 8.4 to 6.9 (males) and 4.8 to 3.7 (females).

Conclusion

Avoidable cancer mortality amenable to primary prevention showed an increasing trend in females, indicating that there is a need to put more effort towards gender-specific primary prevention, i.e. anti-smoking campaigns targeting girls and women.

Breast Cancer in Cuba

2.B11

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Breast Cancer is a health problem in Cuba because of high incidence and mortality rates. Based on the data provided by the National Cancer Registry for the period 1990–2007, age specific rates, crude and world adjusted rates (ASWR) were calculate using the direct method. The distribution in percentile of ASWR by province was used to show the geographical distribution. A trend analysis of incidence and mortality since 1990 was performed using jointpoint regression.

An annual average of 2 600 new cases were diagnosed in the last years, with a rate of 46.8 cases per 100 000 inhabitants. The highest risk group was that of 60 years or older, which represents 52% of all the diagnosed cases, with around 1000 new cases and a rate of 164.5 for every 100 000 women. There is an increasing trend for incidence with a 2% annual average change (95% Confidence Interval, 1.5–2.7). Most of the Breast cancer cases are diagnosed in localized stage. Nevertheless no change is observed in the proportion of cases diagnosed at advanced stage but difference in the stage distribution by province was observed. A decreasing mortality trends is observed in the last years as well as improve in overall survival.

Results

This results could be associated with the introduction of guideline for diagnosis and treatment in whole country. Actions for improve outcome in breast cancer have shown promissory results. Actions based in secondary prevention are doing taken into account geographical incidence

Is it Possible to Reduce Cancer Mortality in Cuba by 2015?

2.B12

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Cuba exhibits a distribution of the cancer mortality similar to that shown by the developed countries. From 1989, actions to reduce the incidence and mortality have been developed through the National Cancer Control Program. However, the planned goals have not been achieved.

Objective

A study was performed to estimate the potentially avoidable deaths for the main cancer localizations in Cuba. The evaluation was done to identify gabs and was placed according to different scenarios and it was based on the suppositions of achieving certain actions that they have been successful in other countries. The distribution for clinical extension, the survival, the mortality/incidence index and the age mortality specifies rates of Cuba, United States and Europe were compared and analyzed for any situation.

Results

Between 2000 and 2007 a relative increment of 25% was observed in the cancer deceased with 0.4% of annual increment in the mortality rates. A total of 23700 deceased were predicted for the 2015 and a possible reduction of 1400 deaths caused by lung cancer, 1180 for prostate cancer, 605 for breast cancer and 405 for colon assuming different scenarios. The main gabs by cancer site were identified and described based on a model of different scenarios short, medium and long term.

Vision of Cancer in Antioquia 2000–2010

2.B13

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Registro Poblacional de Cáncer de Antioquia

Background

The Cancer Registry of Antioquia (APCR), Colombia - South America Cancer Information System of the Secretariat Regional Health and Social Protection, created in order to know the trend of cancer in the territory.

Methods

New cases of invasive cancer diagnosed during the period 2000–2010 from the department of Antioquia, in a population of 6,221,817 inhabitants and 85 related institutions. The population and mortality data were obtained from the National Department of Statistics (DANE). We estimated crude rate of morbidity, and mortality rates by age and sex.

Results

the period 2000 - 2010, 90,754 new cases were collected, excluding non-melanoma skin with histologically verified cases correspond to 61%, but this average annually has increased from 48% in the first years of operation to 68 % in 2010. The anatomic locations with the highest number of cases were: breast cancer with 13,749 cases, 8,991 prostate cancer cases, cervix 5,863 cases, 5,753 cases stomach, colorectal and lung 5,733 cases with 5,569 cases.

Conclusion

The cancer registry work shows the importance of management, continuous and comprehensive project to ensure data quality (increase coverage, directly in the source verification and diagnostic confirmation by histology).

In this period, there have been major changes as are: decreased invasive cervical cancer and persistence in the incidence of breast cancer.

Hematological Malignancies among Children and Adolescents in Uruguay 2001–2010

2.B14

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Background

Uruguay faces strong changes regarding recent and sharp agro-industrial development. It is important to draw children onco-hematological profile at the beginning of the 21st century in order to track changes and alert on changes.

Methods

We have analyzed all data from every hematological malignancy registered in the Uruguayan Cancer Registry in patients aged 0 to 19 years for the period 2001–2010. The information was checked by the Centre of Pediatric Hemato-Oncology. We calculated age standardized incidence (ASIR) and mortality rates (ASMR). We studied incidence and mortality trends along the decade. We described survival using Kaplan Meyer method. We described the geographical pattern based on the nineteen administrative regions in which the country is divided.

Results

We worked on hematological 584 (43,4%) cases out of 1346 cases of cancer in younger than 20 years. The ASIR was 5.76 cases per 100.000. (Leukemias 3.70, Lymphomas 1.96, other 0.096). Incidence rate resulted higher in the 15–19 group (6.32 vs. 5.97 among 0–4, 5.66 in 5–9, 5.01 in 10–14 and 6.32 among 15–19). Incidence shows an increasing trend whilst not significant along the decade. ASMR in the same period was 1.41 deaths per 100.000 (Leukemia 1.05, lymphoma 0.36) resulting in a M/I ratio of 0.25 (leukemias 0.288, lymphomas 0.19). Five year survival was 81% for all patients. No geographic clustering was found.

Conclusions

Incidence of leukemias and lymphomas in Uruguayan children is comparable to most industrialized countries. Mortality continues to trend downward as in the last decades of the 20th century, showing similar figures to developed countries.

Nationwide Assessment of HPV in Cancers: Implications for Vaccine Impact in the US

2.B15

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Background

Systematic surveillance to determine the type-specific prevalence of human papillomavirus (HPV) in United States (US) cancers is needed to estimate the impact of current (16/18) and proposed (31/33/45/52/58) HPV vaccines.

Methods

The Centers for Disease Control and Prevention partnered with seven US population-based cancer registries to obtain archival tissue from invasive anogenital and head and neck cancers for HPV testing (n=2,670). Demographic, clinical and pathological data were evaluated by anatomic site and HPV status. We used current US cancer registry data and the relative contributions of the HPV types to estimate the number of cancers that could be prevented by HPV vaccine.

Results

HPV DNA was detected in cervical and anal cancers (91%), vaginal cancers (75%), oropharyngeal cancers (70%), vulvar cancers (69%), penile cancers (63%), oral cavity cancers (32%), and laryngeal cancers (21%). Removing HPV 16/18 from the population potentially prevents 38,000 cancers including the majority of cervical (66%), anal (79%), oropharyngeal (60%), and vaginal (55%) cancers as well as many penile (48%), vulvar (49%), and some oral cavity (22%) and laryngeal (8%) cancers. An additional 4–18% (8,000) of these site-specific cancers may be prevented by the future vaccine. For most cancers, younger age at diagnosis was associated with higher HPV16/18 prevalence. HPV 16/18 distribution was similar across racial/ethnic groups with the exception of lower prevalence among African Americans with oropharyngeal cancers.

Conclusions

The impact of current and future HPV vaccines on US cancers can be monitored using population-based cancer registries.

Survival of AYAs with lymphoma/leukemia treated at pediatric versus adult facilities in Osaka, Japan

2.B16

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Background

Cancer incidence in adolescents and young adults (AYAs) is 1.25 times more than those less than 15 years of age, and lymphoma and leukemia account for about 40%/30% of the cancers among 15–19/20–29 years old. It is reported that AYA patients who have a pediatric cancer will probably benefit from expertise of a pediatric oncologist, at least in the form of consultation. We investigated differences of survival for lymphoma/leukemia focusing the facility type where diagnosis and treatment took place.

Methods

We identified 242 AYA patients diagnosed with lymphoma/leukemia during 2001–2005 from Osaka Cancer Registry. We sent a questionnaire to obtain information on the treatment facility type and protocols. Cumulative survival was estimated using the Kaplan-Meier method. The prognostic factors were evaluated through Cox proportional hazards regression model during 5 years after diagnosis.

Results

Answer to the questionnaire was obtained for 212 cases. The survival for lymphoma/leukemia was 76.9%/52.3%, and the survival tended to decrease with the increasing age. After adjustment for age, sex and the type of malignancies, patients treated at adult facilities had a higher risk of death than patients treated at pediatric facilities.

Conclusions

As also of special importance is the facility type where diagnosis and treatment took place, developing a cancer resource network between pediatric and adult facilities will help to lead to better survival among AYAs.

Socioeconomic Inequalities in Cancer Survival, Osaka (Japan), 1993–2004 2.B17

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Background

Long-term recession of Japan economy during the 90s led to growing social inequalities whilst health inequalities appeared. The 2007 National Cancer Control Program targeted “equalisation of cancer medical services”, but no system to monitor health inequalities was established. We aimed to measure the socioeconomic inequalities in cancer survival in Japan.

Methods

We analysed nine common invasive, primary, malignant tumors diagnosed in 1993–2004 and registered by the population-based Cancer Registry of Osaka Prefecture (population 8.8 million). An ecological socioeconomic deprivation index, divided in quintile groups, was linked to the patients according to their area of residence at time of diagnosis. We estimated net survival by sex, deprivation group and period of diagnosis (1993–96/1997–2000/2001–04). Change in survival over time, deprivation gap in survival, and change in deprivation gap were estimated at one and five years after diagnosis using variance-weighted least square regression.

Results

Survival improved for most cancers at one year and for half of them at five years. Survival was generally lower in more deprived groups. The widest deprivation gap in one-year survival was observed in men for stomach and in women for ovary. At five years, inequalities were largest in men for stomach, colorectum and prostate, in women for ovary. Deprivation gap in survival hardly changed during the study period.

Conclusion

A general improvement in survival was observed in Osaka without any widening of the inequalities in cancer survival during 1993–2004, shortly after the economic recession. Longer-term impact of the recession will be investigated.

Filling the Gaps: Back-Calculation of Lung Cancer Incidence 2.B18

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Background

Data on lung cancer incidence provide important information of the burden of the disease. Often, incidence data are estimated by cancer registries. However, these registries might only cover parts of the country (50% in Switzerland). On the other hand, mortality data, obtained from death certificates, might be more comprehensive. Back-calculation models allow estimation of incidence by linking subgroup-specific survival with mortality.

Methods

Mortality and incidence data from the Cancer Registry of St. Gallen-Appenzell (SGA) were used to estimate lung cancer survival probabilities. Bayesian back-calculation models were developed to estimate incidence from survival distributions and lung cancer deaths. The latter was extracted from the national mortality database which is maintained by the Federal Statistical Office (FSO). The proportion of miss-reported cause of death in the FSO data was calculated from the SGA cancer registry data and considered in the analyses. A gamma autoregressive process was adapted for the incidence parameter and survival was assumed to follow a mixed Weibull distribution. Conditional autoregressive models were employed to provide gender-specific smoothed maps of age standardized incidence ratios.

Results

Validation comparing observed and estimated incidence for cantons with cancer registries indicated good model performance. Smoothed maps of lung cancer incidence for females showed higher estimates in the urbanized regions, while for males a rather homogeneous distribution was observed.

Conclusion

The proposed models improve earlier methodology and are important not only in mapping the spatial distribution of the disease but also in assessing temporal trends of lung cancer incidence in regions without registries.

Childhood Cancers in South Africa: Analysis of Six Years of Pathology Data

2.B19

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Background

Childhood cancers are under diagnosed in South Africa, especially among children under one year who are born at home, and poor children living in rural areas far away from the nearest hospital. The situation is much different in urban areas where transport and specialist services are accessible.

Methods

All new childhood cancers (0–14 years old) reported from 2000 to 2005 in the South African Cancer Registry were analysed. In total 4082 cases were included. Data was analysed by: year, age group, population group and specific type of cancers, morphology, and incidence rates by year and average rate.

Results

The most common condition was leukaemia, with precursor cell lymphoblastic leukaemia constituting 86.9% of the lymphoid leukaemias. Myeloid leukaemia cases 90% were acute form. Leukaemia average rates over the six year period was 8.81 per 100 000. Lymphoma average rate was 6.5, followed by kidney cancer rate 5.35; brain with CNS rate 4.53, eye cancer rate was 3.16, followed by the connective tissue, and bone cancers. The last three cancers were female genital organs; skin, and primary site NOS made up the rest of the ten top cancers in children.

Conclusion

Patterns observed in South Africa are different than those published internationally. Reporting of childhood cancers in South Africa must be improved; more childhood oncology specialists are needed.

Epidemiology of Pediatric Brain Tumors in the United States

2.B20

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Background

The Central Brain Tumor Registry of the United States (CBTRUS) database contains the largest aggregation of population-based data on the incidence of all primary brain and CNS tumors (BT) in the United States. We used these data to describe the current epidemiology of pediatric BT in the United States between 2005 and 2009.

Methods

Using BT data from 49 population-based cancer registries belonging to the Centers for Control and Prevention National Program of Cancer Registries and the National Cancer Institute SEER program, we calculated incidence rates 0–14 years by histologic groupings highlighting variation by diagnostic confirmation and location. Using SEER, we calculated survival rates by histologic groupings.

Results

Overall incidence rate was 4.97/100,000. The most commonly occurring histologies were Pilocytic astrocytoma (PA) (0.87/100,000), Embryonal tumors (ET) (0.78/100,000) and Glioma malignant, NOS (GM) (0.70/100,000). These histologies accounted for 46.5% of all pediatric BT tumors. The majority of GM cases were diagnosed radiologically (75.47%, as compared to 2.27% of PA and 0.81% of ET). Of GM located in the brain stem or cranial nerves (73.6%), 84% were diagnosed radiologically. 5 year survival for PA, ET and GM was 97.1%, 71.2%, and 57.6% respectively.

Conclusions

Compared to PA and ET, GM demonstrates significant heterogeneity of diagnostic confirmation, most likely because of tumor location. The use of a large population-based dataset allows for determination of at risk populations despite the relative rarity of these tumors and assists in developing recommendations for improvements in reporting.

Cutaneous Melanoma in Childhood and Adolescence in Argentina, 2002–10 **2.B22**

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Background

Cutaneous melanoma in childhood is a rare event. The aim of this study is to describe melanoma incidence and characteristics in children and adolescent in Argentina.

Methods

Data were obtained from two registries: Argentine Cutaneous Melanoma Registry (RAMC) and the Argentinean Oncopaediatric Registry (ROHA). Breslow was divided into: ≤ 1.00 ; 1.01–2.00; 2.01–4.00 and > 4.00 mm. Incidence rates for 0–14 years were calculated for 2002–05, 2006–10 and for 15–19 years for 2002–10. Rates are expressed as new cases per million youth and mondial standardized. Populations were provided by INDEC

Results

49 melanoma cases in children <15 years and 40 cases in adolescents 15–19 years (73% in the 10–19 age group). In situ lesions: 12.5%. Excluding in situ, Breslow range was 0.4 to 10.0 mm. Both in children and adolescents localization differ between sexes. The age-standardized incidence rates for children fewer than 15 and were: 0.54 for the period 2002–10, 0.41 for 2002–05 and 0.63 for 2006–10. Rate ratio 2006–10 vs 2002–05 was 1.5. The age-standardized incidence rate for those aged 15–19 in 2002–10 was 1.3.

Conclusion/Discussion

The distinct localization according to sex matches with the total aged distribution. Presence of lesions up to 7mm agrees with a reluctance to accept melanoma diagnosis in children. With a collaborative work of two registries, we archive a high completeness of registration in the 0–14 age group. Completeness for 15–19 years may be less. The increased incidence in 2006–10 suggests a better diagnosis in recent years.

Results of Treatment of Childhood Leukemia according to ALLIC BFM 2002 Protocol in Slovak Republic **2.B23**

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Background

Our study presents the results of treatment patients with acute lymphoblastic leukaemia (ALL) from year 2002 to 2012 according to ALLIC BFM protocol in Slovak republic.

Patients and Methods

A total of 260 patients were treated: 88 girls (33.8%) and 172 boys (66.2%). Children with mean age 6 years were from 3 Slovak centers: Bratislava (n=121), Košice (n=86), Banská Bystrica (n=53). The diagnosis of ALL was established on the FAB classification, standard flow cytometric immunophenotyping, FISH and PCR. Response to treatment was evaluated by cytomorphology according a non-MRD-based criteria (age, WBC at diagnosis, early treatment response, the genotype of leukemia) on days 8, 15, 33.

The Results

Patients were stratified into 3 groups: SR (n=90), IR (n=142) and HR (n=28). With median follow-up of 51 months we have evaluated: event-free-survival (EFS) 80% and overall survival 86%. EFS according the risk groups was 86%, 81% and 45% in SR, IR and HR group, respectively.

Conclusion

Compared to the previous study ALL-BFM 95 the treatment outcome of children with ALL in the Slovak republic improved (from 5 y-EFS 70% to 80%).

Epidemiology of Peripheral T-Cell Non Hodgkin Lymphoma in four French Regions

2.B24

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Background

Because peripheral T-cell lymphomas represent rare and heterogeneous disease whose classification changed over the years, epidemiological data from population-based registries are scarce.

Methods

Cases diagnosed between 1980 and 2009 with peripheral T-cell lymphoma (PTCL, 9702/3), Angio-immunoblastic T-cell lymphoma (AITL, 9705/3) and Anaplastic large cell lymphoma (ALCL, 9714/3) in 4 French counties have been collected. Incidence by entities, sex, age and geographical areas was calculated. Vital status was updated at 01/01/2011. Crude and net survival were studied respectively by Kaplan Meier and Pohar estimators. Covariables effects were studied using the Esteve's model. Treatment strategies were described.

Results

444 cases were registered (PTCL: 46%; AITL: 24%; ALCL: 29%). Age-standardized incidence rates were respectively 0.37, 0.24 and 0.09/100,000 person/year in Côte d'Or and 0.24; 0.08, 0.22 in Gironde. All 3 entities were more frequent in men than in women with a sex ratio ranging from 1.15 to 2.1 according to geographical area. Median age was 67 y-o for 9702/3, 72 for 9705/3 and 49 for 9714/3. The median crude survival was close to 1 year in PTCL and AITL but was 4.5 years in ALCL. 5-year net survival was 40% in PTCL, 37% AITL and 70% in ALCL. Survival was comparable in male and female whereas 5-year survival was lower in elderly patients.

Discussion/Conclusion

Site specific registries with long term follow-up are efficient to produce accurate and detailed epidemiological information on rare diseases such as PTCL, AITL and ALCL in European countries.

Does Radiation Treatment of Prostate Cancer Increase Rectal Cancer Risk? The Perfect Storm

2.B25

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Background

Prostate cancer (PC) is the most common male cancer. Most PCs are localized at diagnosis and are candidates for radiation, prostatectomy (SURG), other treatments, or active surveillance. Data were from three California SEER registries that encompass the statewide population.

Problem

Radiation treatment of localized PC exposes peri-rectal tissue to ionizing radiation that may increase rectal cancer hazards.

Methods

Localized prostate cancers diagnosed from 1988–2005 were assessed for rectal cancer proportional hazards >5 years following diagnosis of localized PC that had been treated with any radiation (AnyRT), external beam radiation therapy (EBRT), brachytherapy (BT), EBRT+BT, or no radiation+no SURG (NoRT+NoSURG), *versus* SURG. Adjusted covariates included 4 categories each for age and race/ethnicity; socioeconomic status (SES) quintiles, and diagnostic year.

Results

251 rectal cancers occurred among 61,162 PCs treated with AnyRT, while 222 of 57,620 men that had received PC SURG, also developed rectal cancer. The age-, race/ethnicity-, SES- and year of diagnosis-adjusted rectal cancer proportional hazards ratio (HR) for AnyRT/SURG was 1.44, with 95% confidence interval limits (95%CI) from 1.18–1.75. The HR for EBRT/SURG was nearly identical to AnyRT/SURG, with a weaker association for BT/SURG (HR_{BT/SURG}=1.22; 95%CI=0.78–1.89) and the strongest for EBRT+BT/SURG (HR_{EBRT+BT/SURG}=1.53; 95%CI=0.97–2.40). The NoRT+NoSURG *vs.* SURG rectal cancer HR was 1.13; 95%CI=0.88–1.46.

Conclusion/Discussion

Findings confirm increased rectal cancer hazards among localized PCs treated with AnyRT and EBRT modalities, *vs.* SURG. Higher HR for, arguably, higher radiation exposure modalities (EBRT+BT>EBRT>BT>NoRT+NoSURG) suggests this finding may be direct. Findings demonstrate the role of cancer registries for evaluating cancer control quality/safety.

Lifestyle Cancer Risks in Jordan

2.B26

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Background

Though mechanisms still unclear, evidences show several dietary and lifestyle factors are likely to have a major influence and impact on the risk of developing cancers like colon, breast and others. Rapid population growth, adoption of cancer associated lifestyle choices like tobacco smoking, lack of physical activity and westernization diet habits are to blame.

Methods

Jordan cancer registry data of 56475 cancer cases registered from 1996–2010 were obtained and analyzed for this study and based on the result of the third behavioral risk factors survey done by the ministry of health, Jordan 2007.compared rates to regionally and internationally.

Results

The incidence rate showed an increase among males with (PC 6.9%) while females showed an obvious increase with (PC15%). Major cancer sites among males were lung and bronchus, colorectal, urinary-bladder. In the female breast, colorectal, leukemia.

Lung cancer with ASR 15.3/100000 was top among males till 2001then colorectal with ASR 14/100000 was first. lung incidence was stable with (PC 17%) colorectal marked increased trend with (PC79.2%) in females colorectal (PC61%) breast in females with ASR42/100000 increased markedly with (PC46%). ASR all cancers (males 123.8) (females123) /100000.

Conclusion/Discussion

Alterations in the cancer incidence not likely to be due to changes in the extent of ascertainment of the data collection or sources, comparing cancer epidemiology of Jordan with others would offer a chance to assess and dot out cancer related risk population is exposed to. So the differences would be attributed to the extent of changes of lifestyle and eating habits, smoking, lack of physical activity.

Profile of Hospital Cancer Registry in 20 Years of Collecting Data – General

2.B27

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The Erasto Gaertner Hospital (HEG), located in Curitiba (PR) has Cancer Hospital Registry (RHC) since 1990, and has the collection and recording of cases uninterrupted since its database is closed until the year 2009, but is in the process of closing the year 2010.

This paper presents data from 1990 to 2009, for the variables that were common in the three moments of RHC hospital Erasto Gaertner, 90a99 (own system), 00a04 (own system) and 05a09 (SisRhc system), which amounted to 43,196 sheets tumors. No work will be shown the behavior of key variables in the three groups already described and total 20 years. Emphasizing that the volumes presented are only eligible cases RHC, where they represent 57% of the cases.

NO work will be shown the profile of cases by sex, age, provenance, Clinical Staging, Treatment Held, Preliminary treatment, and survival among other when comparing the data every 5 years. The 10 most frequently topographies this period represented 75.7% of the 43,196 cases.

The database of the Cancer Hospital Registry for the period 1990 to 2009 will be presented in graphs and tables whose variables when confronted by period shows their behavior. Topographies found in some remarkable developments in accordance with the changes recommended by the Ministry of Health.

Multidimensional Analysis of Cancer Morbidity and Mortality and Socio-Economic Variables in Argentina

2.B28

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Introduction

In Argentina, cancer is the second leading cause of mortality. While the relationship of cancer to social inequalities is known, there are no recent publications linking social-economic condition and accessibility with cancer morbidity and mortality.

Objective

To determine the relationship among cancer morbidity and mortality in Argentina with social-economic indicators and risk factors, and to show the usefulness of multidimensional descriptive methods for analyzing secondary bases.

Methods

Ecological design. Mortality and morbidity were worked in separate models. The unit of analysis was the province in mortality model and geographic areas of cancer registers in morbidity. Active variables were socio-economic and accessibility indicators as unsatisfied basic needs, urbanicity, drinking water and sewer, accessibility of services, illiteracy, alcohol, tobacco and unhealthy diet. The mortality model included variables related to quality data. As illustrative variables were introduced mortality and morbidity rates of selected cancers. All data were obtained from official sources. It was performed a principal components analysis with subsequent classification using SPADN v4.01.

Results

Urbanicity, ageing, and better socioeconomic indicators were associated with increased mortality from breast and lung cancer, and with increased morbidity from colorectal and bladder cancer in men and breast, lymphoma and ovarian cancer in women. The morbidity and mortality from cervix cancer was associated with worst socioeconomic variables and accessibility. Prostate cancer was not related to the studied variables in any model.

Conclusion

Multidimensional analysis is useful for complex epidemiological approaches integrating cultural and social elements involved in the development, prognosis and mortality by cancer.

Patients Profile from Brazilian National Cancer Institute with Head and Neck Cancer (ICD C00-C14)

2.B29

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Background

Head and neck cancer occur in multiples anatomical regions and sub-regions with different causes and natural history, distinguishing HIV infection, alcohol and tobacco consumption, and synergism of both. In Brazil, for 2013, it is estimated 14,170 new cases of oral cancer.

Methods

5,372 cases with histological confirmation in topographies C00-C14 ICD-O/3, seen at INCA, were analyzed in the period from 2000 to 2008 and classified as analytical cases by Hospital Based Cancer Registry.

Results

77.7% male, 73.4% aged over 50 years; 62.8% white, 72.0% with less than 9 years of *schooling*, 54.1% married, 52.1% with family history of cancer; 72.2% reported use of alcohol and 81.7% tobacco, 62.1% arrived at the hospital with advanced disease (stages III and IV). The treatment was preferentially radiotherapy (44.4%), surgery (17.1%) and combined treatment (33.1%). The five-year follow-up showed 12.7% alive, 60% died and 27.3% lost of follow-up.

Conclusion

The distribution of cases follows what is described in the literature, predominantly in men older than 40 years and exposure to risk factors, alcohol and tobacco. Despite its location with easily visibility, most patients reach advanced stage, which explains the large number of treatments with radiotherapy alone. The control of risk factors and early diagnosis can have a positive impact on disease course.

Trends in Basal Cell Carcinoma Incidence Rates in Granada (Spain) 1985–2009

2.B30

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Background

The incidence rates of UV-induced skin cancers, including Basal Cell Carcinoma (BCC), are increasing worldwide and are becoming a major public health concern. Only few cancer registries record BCC.

The aim was to describe trends of BCC incidence rates in Granada during 1985–2009, by sex, age and site.

Methods

Incidence data was obtained from the Granada Cancer Registry (Southern Spain) covering about 900,000 inhabitants.

All incident cases histologically confirmed BCC (ICD-O-3 codes: M8090/3–8110/3 and C44) diagnosed amongst the population residing in the province of Granada during 1985–2009 were included.

Trends in European age-standardized incidence rates were calculated using log-linear regression models (Joinpoint regression), which estimates the annual percentage changes (APCs). Results are presented by sex, age groups (<40, 40–64, 65 years or above) and site (lip, head and neck, trunk, upper limbs, lower limbs and other sites).

Results

A total number of 14,657 first histologically confirmed BCCs were diagnosed in Granada during 1985–2009. BCCs were more frequent in men (56%) and more commonly diagnosed in the head-neck region (76%).

The overall BCC incidence rate increased significantly in men (APC=+3.4%) and women (APC=+4.4%). This significant increase was observed for all sites, though incidence rates by site differed between both sexes.

The trend increased significantly in all age groups but more markedly among the youngest.

Conclusions/Discussion

Trend in BCC incidence rates is rising overall, in both sexes and all anatomical sites and ages in Granada. New primary preventive non-melanoma skin cancer strategies are needed to control BCC incidence rates.

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Individual Risk Profiling for Breast Cancer Recurrence: Towards Tailored Follow-Up Schemes

2.B31

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Background

Breast cancer follow-up is not tailored to the risk of locoregional recurrences in individual patients or as a function of time. The objective of this study was to identify prognostic factors, and to estimate individual and time dependent locoregional recurrence risk rates, in order to tailor follow-up for the individual patient in terms of intensity and duration.

Material and Methods

Prognostic factors for locoregional recurrence were identified by a scoping literature review, field expert consultation, and stepwise multivariate regression analysis based on 5-years of population data from the Netherlands Cancer Registry from women diagnosed with breast cancer in the Netherlands in 2005 or 2006 (n=17762). Inter-patient variability was elucidated by examples of five-year risk profiles of average, medium, and high risk patients, whereby six-month interval risks were derived from regression estimates.

Results

Eight prognostic factors were identified: age, tumor size, multifocality, gradation, adjuvant chemo-, adjuvant radiation-, hormonal therapy and triple negative receptor-status. The mutual weights of the contribution to the local regional recurrence risks were determined. Risk profiles of the low-, average-, and high risk example patients showed non-uniform distribution of recurrence risks (2.9%, 7.6%, and 9.2% respectively over a five year period).

Conclusions

Individual risk profiles differ substantially in subgroups of patients defined by prognostic factors for recurrence and over time as defined in six-month time intervals. To tailor follow-up schedules, decrease anxiety in patients and to optimise allocation of scarce resources, risk factors, frequency and duration of follow-up should be taken into account.

Childhood Cancer in Uruguay at the Beginning of the 21st Century 2.B32

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Background

Uruguayan Cancer Registry works since 1992 collecting data from the whole country. It has full details of childhood cancer through collaboration with the Center of Pediatric Hemato-Oncology. In 2001, a report describing incidence and prevalence of childhood malignancies was published describing 1992–1994 incident cohort. This poster is an update of childhood cancer features in Uruguay for the period 1996 to 2010.

Methods

Data from the Uruguayan Cancer Registry regarding incidence and mortality of children (ages 0 to 14) for the period 1995–2010 was analyzed. Age standardized incidence rates (ASIR) and age standardized mortality rates (ASMR) were calculated. Trends were analyzed using log linear regression models with Joinpoint Regression Program.

Results

Data from 1290 were included in the analysis. The overall ASIR was 11.37 (girls 10.18, boys 12.52). Age specific rates were higher among children aged 0 to 4 years: 13.13 vs. 10.06 in the 5–9 group and 10.49 in the 10 to 14 group. The most frequent malignancy group was the haematological one 41.9% (leukemia 29.8%, lymphoma 11.9%) followed by central nervous system tumors (18.6%), sarcomas 8.5%. ASMR in this period was 3.71 (M/I ratio 0.33) showing a significant decrease between 1996–2000 (ASMR=4.2) period and 2001–2005 (ASMR=3.30), but no significant difference was found between 2001–2005 and 2006–2010 (ASMR=3.56) periods. Mortality showed a decreasing but not significant trend (APC=-1.21); that becomes significant when prior years are included in the analysis (1992–2010)

Conclusions

As happens in most countries, incidence of children cancers is increasing steadily while mortality shows a significant decrease reaching in 2006–2010 the half that in 1992–1994. Nevertheless mortality trends seem to have reached a plateau in the last decade.

Sequential Surveys for the Activities of Population-Based Cancer Registries in Japan, 2004–2013 2.B33

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Background

Cancer registration system in Japan has been made some progress recently. From technical aspects, research groups supported by the Ministry of Health, Labour and Welfare made substantial contribution to this progress. The Japan Cancer Surveillance Research Group in the 3rd-term Comprehensive 10 year Strategy for Cancer Control was launched in 2004 and played fundamental roles, such as setting and disseminating standards, collecting data to estimate national incidence and conducting sequential surveys.

Methods

Questionnaire surveys on the activities of population-based cancer registries were conducted to all 47 prefectures in 2004, 2006, 2009, 2011 and 2013 (planned). All 47 prefectures responded to the survey.

Results

Number of prefectures operating population-based cancer registries increased 34, 32, 35, 45 and 47 in 2004, 2006, 2009, 2011 and 2013, respectively. Out of those with operating registries, 3%, 31%, 77%, and 91% registries used standardized registration form (25 items defined by the research group) in 2004, 2006, 2009 and 2011. Proportion of those with DCO%<25% increased from 30% (2004) to 51% (2011), but those with conducting survey for prognosis to estimate survival did not change (47% in 2004 and 47% in 2011).

Conclusion/Discussion

We observed some progress on promoting standardization and improving quality for population-based cancer registries during 2004–2013 in Japan.

Head and Neck Cancer Survival in Patients from the Brazilian National Cancer Institute

2.B34

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Brazilian National Cancer Institute

Background

The incidence of head and neck cancer in Brazil is one of the highest in the world and are associated with alcohol consumption, smoking, sun exposure, local trauma and exposure to viruses. For the year 2013 has been estimated to 14,170 new cases in Brazil.

Methods

Cohort study among 3,528 patients with head and neck cancer with histopathological confirmation in the hospital HCI/INCA, diagnosed from 2000 to 2005, was carried on to determine the probability of overall and stratified survival at 60 months (PS60), calculated using the Kaplan-Meier, according to variables related to the patient and the tumor.

Results

The overall PS60 was estimated at 30% and ranged from 65% in stage I to 16% in stage IV. This probability among women was estimated at 45% and 26% among men, 44% in non-drinkers and 24% to drinkers, 49% in nonsmokers and 26% smokers. Nasopharynx, tonsil and mouth presented the highest PS60, 41%, 40% and 37% respectively, for the other topographies were estimated PS60 less than 20%.

Conclusion

These data are in agreement with other authors who found low survival rates also associated with large time evolution of lesions to the demand for health services, indicating the need for reducing the exposure do risk factors and early diagnosis in this population.

Increased Nodal Yield in Colon Cancer: Node Positivity Rate Increase in PT1 Stage

2.B35

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Background

Few data are available on the effect of increasing lymph node yield after resection for colon cancer on metastasis-positive node rates.

Patients and Methods

9115 patients resected for stage I-III colon cancer diagnosed in the southern Netherlands in 2000–2010 were included. Trends in nodal evaluation and node positivity were analyzed. Multivariate logistic regressions were used to assess determinants of adequate nodal evaluation (≥ 12 lymph nodes examined) and node positivity. Cox regression was used to discriminate independent risk factors for death.

Results

Overall, the proportion adequate nodal evaluation increased from 13.2% to 55.5% ($p < 0.0001$), whereas the proportion node positivity remained unchanged (37.8%). In pT1 patients, proportion of node positivity increased from 5.1% to 12.1% ($p = 0.004$). Node-positive patients more often received adequate nodal evaluation (adjusted $OR_{N+_{vs}N0}$ 1.22; 95%CI 1.10–1.35). A more extensive nodal evaluation was associated with node positivity (adjusted $OR_{\geq 12LN_{vs}1-8LN_{s}}$ 1.26; 95%CI 1.12–1.42). Elderly were less likely to have node-positive disease (adjusted $OR_{70-79years_{vs}<50years}$ 0.72; 95%CI 0.58–0.90). Risk of death was correlated with number of nodes evaluated for node-negative patients ($HR_{\geq 12LN_{s}_{vs}1-8LN_{s}}$ 0.64; 95%CI 0.56–0.72) and for node-positive patients ($HR_{\geq 12LN_{s}_{vs}1-8LN_{s}}$ 0.61; 95%CI 0.54–0.69).

Conclusion

In stage I-III colon cancer patients, the number of lymph nodes evaluated has increased between 2000 and 2010, without an increase in the overall proportion of node positivity. However, we detected a higher proportion of patients with pT1 stage who had lymph node metastasis. This finding stresses the importance to keep striving for adequate nodal evaluation to avoid unjust withholdment of adjuvant treatment and prognostic information to patients.

No Association between Volume and Outcome after Colorectal Cancer Surgery in Southern Netherlands 2.B36

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Background

Uncertainty remains whether hospital volume is associated with surgical outcome and survival in colorectal cancer (CRC).

Methods

Patients who underwent resection for primary CRC diagnosed between 2008–2011 in southern Netherlands were included (n=5655). Hospitals performing <130 resections/year were classified 'low volume'; hospitals performing ≥130 resections/year 'high volume'. Differences in surgical approach, circumferential resection margins (CRM), anastomotic leakage and 30-day mortality between hospital volumes were analysed using Chi² tests. Expected proportions anastomotic leakage and 30-day mortality were calculated using multivariable logistic regression. Crude 5-year overall survival was calculated using Kaplan-Meier curves. Cox regression analyses were used to discriminate independent risk factors for death.

Results

Five hospitals were classified high volume; five hospitals low volume. 23% of patients with locally advanced rectal cancer (LARC) diagnosed in a low volume center was referred to a high volume center. Patients with colon cancer underwent less laparoscopic surgery and less urgent surgery in low compared to high volume hospitals (10% versus 32%, p<0.0001, and 8% versus 11%, p=0.003, respectively). For rectal cancer, rates of abdominoperineal resections versus low anterior resections, and CRM were not associated with hospital volume. Crude and adjusted rates of anastomotic leakage, 30-day mortality, and survival did not differ between hospital volumes.

Conclusion

In southern Netherlands, low volume hospitals deliver similar high quality surgical CRC care as high volume hospitals in terms of CRM, anastomotic leakage, 30-day mortality and survival, also after adjustment for casemix. However, this excludes patients with LARC since a substantial proportion was referred to high volume hospitals.

Hospital Variation in Type of Adjuvant Chemotherapy for Patients with Stage III Colon Cancer 2.B37

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Purpose

To assess which factors determine whether platinum-based chemotherapy (PCT) is administered to patients with stage III colon cancer.

Patients and Methods

1113 patients who underwent resection for primary colon cancer stage III diagnosed in the Southern Netherlands between 2008–2011 were included. Differences in patient and tumor characteristics between patients receiving PCT, nPCT or no chemotherapy were analysed using Chi² tests. After stratification by age group, crude and adjusted proportions of patients receiving PCT and nPCT were calculated for each of 10 hospitals. Multivariable logistic regression analysis was conducted to assess the influence of several patient and tumor characteristics and hospital on the administration of PCT among the subgroup of patients treated in adjuvant setting.

Results

Among patients aged <70 years, 70–74 years and ≥75 years, 87%, 66% and 24% respectively received adjuvant chemotherapy. Large hospital variation in the addition of oxaliplatin could be noted, ranging from 73%–96% for patients aged <70 years, from 50%–100% for patients aged 70–74 years, and from 8%–100% for patients aged ≥75 years. Older patients and patients with T1 stage were less likely to receive PCT (adjusted OR_{≥75years_vs_<70years} 0.02, 95% CI <0.001–0.58 and adjusted OR_{T1_vs_T3} 0.17, 95% CI 0.05–0.62). Patients from two hospitals were less likely to receive PCT (adjusted OR_{G_vs_C} 0.36, 95% CI 0.14–0.89 and adjusted OR_{H_vs_C} 0.34, 95% CI 0.13–0.87, respectively).

Conclusion

The decision to withhold platinum-based chemotherapy does not only depend on predictable factors such as age, but also on hospital. The impact of hospital variation on outcome remains to be established.

Institutional Variation in Prostate Cancer Care

2.B38

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Introduction

To visualize the institutional variation of care for prostate cancer, we published a factsheet on the diagnosis and treatment of prostate cancer in the hospitals in the South of the Netherlands in 2012. In 2013 we will publish a new factsheet on the diagnosis and treatment of prostate cancer, based on the most recent data from the cancer registry.

Methods

Data of patients diagnosed with prostate cancer in the period 2009–2011 were retrieved from the population-based Eindhoven Cancer Registry (ECR). Variation in diagnosis and primary treatment of prostate cancer was analyzed and anonymously presented for the 9 hospitals within the region of the ECR.

Results

The number of annual diagnosed prostate cancer patients varied between 106 and 212 per hospital. The percentage of patients diagnosed with a cT1c tumor varied between 28% and 45% in 2011. Overall, 33% of the patients with a cT1c tumor underwent a prostatectomy, this however varied between the hospitals from 9% to 55%. The total annual number of performed prostatectomies varied between the 7 and 137. In the period 2009–2011 there was a large variation between the hospitals in the percentage of patients that underwent a lymph node dissection during a prostatectomy for a cT2 tumor (12%–86%).

Conclusions

There is a considerable institutional variation of primary care for prostate cancer in the South of the Netherlands. The results of the factsheet will be discussed in a meeting with clinicians, which will probably result in a reduced institutional variation and subsequently improved quality of care.

Large Variation in the Utilization of Liver Resections in Colorectal Cancer Patients with Liver Metastases

2.B39

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Background

Most patients with synchronous metastases from colorectal cancer have incurable disease. Patients with synchronous colorectal liver metastases (SCRLM) can, however, potentially be cured with resection of primary tumor and resection of the liver metastases. Studies have suggested that up to 40% of the patients with SCRLM should potentially be candidates for resection of the liver metastases.

Methods

Data on patients with SCRLM without metastases in any other organ, diagnosed in the period 2004–2011, were extracted from the population-based Eindhoven cancer registry ($n=1441$). We investigated institutional variation in the utilization of SCRLM resections. Kaplan-Meier curves and Cox-regression were used to assess overall survival.

Results

In the period 2008–2011 the proportion of patients with SCRLM that underwent a liver resection varied between 6% and 33% according to the hospital in which the patients were diagnosed. Overall median survival was 8 months for patients who underwent no resection, 17 months for patients who only underwent a resection of the primary tumor and 55 months for patients who underwent a resection for both the primary tumor and the liver metastases. Cox-regression showed a hazard-ratio of 0.30 for patients who underwent a liver resection after adjustment for gender, age, location of primary tumor, period of diagnosis, number of comorbidities and chemotherapy.

Conclusion

Although it is well known that patients with SCRLM who have undergone resection of the liver metastases have a large survival benefit. There still seems to be an underutilization of this potentially curative therapy in some hospitals in the region.

Prognosis and Value of Adjuvant Chemotherapy in Stage III Mucinous Colorectal Carcinoma 2.B40

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Background

Colorectal mucinous adenocarcinoma (MC) is reported in 10–15% of cases with colorectal cancer and has been associated with impaired prognosis compared to non-mucinous adenocarcinoma (NMC). Response to palliative chemotherapy is poor, but the benefit of adjuvant chemotherapeutic treatment has never been assessed in large patient groups. This study analyzes overall survival of mucinous colorectal cancer patients and efficacy of adjuvant chemotherapy in terms of survival in patients following radical resection for mucinous colon cancer.

Methods

27,251 unselected patients diagnosed with colorectal carcinoma between 1990 and 2010 were extracted from the Eindhoven cancer registry. Patient and tumor characteristics were compared univariately. Cox-regression was used for multivariate analyses of overall survival.

Results

MCs were found in 12% (N=3,052) of colorectal tumors with a different distribution compared to NMC, with only 24% located in the rectum and 54% in the proximal colon. NMCs were more often classified as stage I disease. After adjustments for covariates, mucinous histology was associated with a higher risk of death only when located in the rectum (HR=1.28; 95%CI 1.17–1.40). Multivariate regression analysis showed similar response to adjuvant chemotherapy for stage III MC and NMC patients.

Conclusions

Based on histological appearance and clinicopathologic features MC may be considered a distinct entity with a predominant right sided location. Mucinous histology has no impact on prognosis, except when the tumor is located in the rectum. There is no difference in the efficacy of adjuvant chemotherapy between MC and NMC. Therefore, current adjuvant treatment recommendations should not take histology into account.

The Evaluation of the Mesothelioma Epidemic in Slovenia

2.B41

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Background

Mesothelioma is a rare cancer except in workers in asbestos industry and in populations exposed indirectly by living next to asbestos sources. The fabrication of asbestos-based products in Slovenia reached its peak between 1970 and 1980 and was ceased after 1998, but the population is going to be exposed further on by built in asbestos-containing material and by asbestos dumps. The mesothelioma latency period could reach 50 years. All this combined suggest mesothelioma epidemic is on the rise in Slovenia.

Methods

The temporal trends and geographical variation of mesothelioma burden in Slovenia are assessed by analysing incidence data from the population based Cancer Registry of Slovenia. The mesothelioma maps produced from the patients' residence geographical coordinates are judged towards the map of Slovenian major asbestos-deprived locations.

Results

There were only five mesotheliomas registered from 1950 to 1970. In the next 40 years the crude and age-standardized incidence annually grew for 7.9% and 7.2% respectively. In the period 2005–2009 there were 1.5 cases per 100,000 inhabitants; 2.3/100,000 in male population. In maps the mesothelioma clusters manifest around known asbestos sources predominately in years 1980–1990, in the first and the last observed ten-year periods the geographical distribution is more uniform.

Conclusions

The data from our long existing population based cancer registry give a good insight into the on-going mesothelioma epidemic in Slovenia. The observed rising number of new cases, not only in the manufacturing areas, will certainly be observed also in the future.

Childhood Cancer Survival in the Republic of Belarus: The 25-Year Progress

2.B42

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Background

Treatment success in childhood cancers has steadily improved around the world. The chances of survival improved significantly for all tumors, although there are marked differences between various diagnoses.

Methods

The overall survival (OS) rates estimated for children (under 1, 1–4, 5–9, and 10–14 years) with cancer in different periods of diagnosis according to ICCC diagnostic groups were analyzed. The data of the continued follow-up (until Dec 2012) from childhood cancer subregistry of the Republic of Belarus were used.

Results

The worst results were shown in 1986–1990, as five-year OS in infants was 35%, in children aged 1–4 years – 34%, 5–9 years – 44% and 10–14 years – 46%. The five-year OS increased in infants from 44% in 1991–2000 to 70% in 2001–2010 years; in children aged 1–4 years from 58% in 1991–2000 to 76% in 2001–2010; in age groups 5–9 years and 10–14 years from 68% and 75% to 79% and 76%, respectively. The significant improvement was shown for a wide range of diagnostic groups, but mainly due to acute lymphoblastic leukemia in children aged 1–4 and 5–9 years (group Ia ICCC-3, from 30% and 27% in 1986–1990 to 72% and 71% in 1991–2000 and 90% and 88% in 2001–2010, respectively). The increasing trends in survival rates in children under 1 year can be explained by more earlier diagnosis of neuroblastoma in infants.

Conclusion/discussion

The survival analysis clearly demonstrates the increase in survival during the past 25 years. The best results are obtained for acute lymphoblastic leukemia.

Conclusion

Patterns observed in South Africa are different than those published internationally. Reporting of childhood cancers in South Africa must be improved; more childhood oncology specialists are needed.

THEME C

HOSPITAL-BASED REGISTRIES' CONTRIBUTION TO POPULATION-BASED CANCER REGISTRIES

Gender Differences Related to Prognostic Factors for Oral Cancer

3.C1

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Background

Oral cancer is a public health problem in Brazil and the question about differences to prognostic factors between man and women remains unanswered. The aim of this study was to verify gender differences related to prognostic factors of patients diagnosed with oral cancer and surgically treated at a single institution in a 5-year period.

Methods

A total of 480 eligible patients with squamous cell carcinoma in the oral cavity retrieved from the database of Hospital Register of Instituto Nacional do Cancer (INCA) were included in the study. Survival analysis was computed by Kaplan-Meier (KM) method. Adjusted Hazard Ratio (HR) were estimated using Cox proportional hazard regression model. Regression model was performed separately for males and females and both were adjusted for age, education and metastasis.

Results

KM revealed that males with medium age ($p=0.05$), initial clinical ($p=0.02$) and pathological stage ($p=0.01$) that underwent surgical treatment ($p=0.01$) had higher survival. Among females, patients with tumors at gums ($p<0.001$), surgical treatment ($p<0.001$) and initial pathological stage ($p=0.01$) showed better survival. Multivariate analysis indicated that poorly differentiated tumors (adjusted HR: 2.85, 95%CI: 0.96–8.45) and local metastasis (adjusted HR: 2.17, 95%CI: 1.43–3.29) in men meanwhile only local metastasis (adjusted HR: 2.44, 95%CI: 1.22–4.88) in women were associated with higher risk of death.

Conclusion/Discussion

Hospital-based Cancer Registries can provide information on cancer survival and offer important keys to evaluate cancer care and implement oncology centers.

Assessment of Guideline for Cancer Registration: Application of the RE-AIM Framework

3.C2

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Background

The purpose of this study is to grasp the level of implementation 'Gangwon Cancer Registration Guideline' developed for improving the quality of cancer registration data applying the RE-AIM framework as the assessment tool.

Methods

We developed 'Gangwon Cancer Registration Guideline' for the worker responsible for the cancer registration in Gangwon Province, Korea since 2010. We conducted an Internet survey from Mar. 25, 2013 to Apr. 07, 2013 and analyzed them to assess the implementation level of the guideline by applying the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance framework), which is an assessing mean of public health program.

Results

83.0% of all respondents in *Reach* answered there was no problem in the accessibility. *Effectiveness*, 68.0% of them answered the implementation was more helpful in the quality of business than before and 77.0% of them answered they gained the exact knowledge. In *Adoption*, regarding the adoption environment, 98.9% of them answered there was no problem in the adoption environment of user will as a positive expected effect. In *Implementation*, regarding the expected implementation intention, 85.7% of them answered they had the intent to implement the developed guideline. In *Maintenance* 26.4% of them answered they implemented it over for 6 months.

Discussion

We confirmed 'RE-AIM framework' is useful tool for assessing the implementation level of guideline. We expect to contribute to the improvement of cancer registration quality for the users as a 'knowledge translation' by development and dissemination of useful guideline.

Correlation Between Time to Diagnosis and Stage for Mexican Children with Malignant Solid Tumors and Lymphomas 3.C3

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Background

Little is known concerning the correlation between the “time to diagnosis” (TD) and the stage at diagnosis (SDg) for children with solid malignant tumors and lymphomas (SMT). We determined such correlation in Mexican children with SMT.

Methods

We analysed 1545 cases of Mexican children with SMT registered between 1988–2008. Each case of SMT was classified into group and subgroup, following the International Classification of Childhood Cancer. The correlation (r) between TD and the SDg was estimated by using the Spearman statistic. Similarly, for each group and subgroup of neoplasm, the median TDs, grouped by the stage at diagnosis, were compared.

Results

The overall correlation between TD and the SDg was negative ($r = -0.08$; $p = 0.001$) and the median TDs of Stages I and II were higher (80 and 96 days, respectively) than those of Stages III and IV (67 and 77 days, respectively) ($p < 0.001$). A positive correlation was found only for retinoblastoma ($r = 0.18$; $p = 0.04$). For the remaining groups of tumors, the correlations were negative, with the correlation being statistically significant only for lymphomas taken as a group

($r = -0.12$; $p = 0.03$); non-Hodgkin subgroup ($r = -0.21$; $p = 0.008$); and soft tissue sarcomas ($r = -0.19$; $p = 0.01$). Median TDs of Stages I and II were generally higher than those for Stages III and IV.

Conclusions

The negative correlation between the TD and SDg in children with SMT is possibly due to the rate at which individual tumors develop, which is associated with the biological behavior of the tumor.

Profile of Cervical Cancer Care at Reference Hospital in Pará, Brazil 3.C4

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Background

Despite advances in cancer treatment, Pará state/Brazil has only one public service center for high complexity cancer care which serves about 2.600 new patients per year. This study aimed to analyze the profile of cervical cancer care at reference hospital in Pará/Brazil, from 2001 to 2009.

Methods

Study was retrospective with quantitative approach, in descriptive form. Analysis was performed from database of Cancer Hospital Registry of reference hospital in Pará, from 2001 to 2009.

Results

During analyzed period, reference hospital in Pará attended about 23,800 patients with cancer, of whom 20.5% were cervical. Age groups most affected were between 40–49 years old (27.7%). Level of education in 50.4% of cases was elementary. Married state was declared in 60.5% of cases and 46% had habitual consumption of tobacco. 72% of patients reached hospital with confirmed diagnosis, without begun specific therapy for tumor. Histological basis was predominant for diagnostic conclusion (98%). 37% of patients reached hospital at stage II and 20% of cases had no staging informed. By the end of first treatment year, 40% of patients had disease stabilization, whereas 15% hadn’t received recommended treatment or death occurred before beginning treatment.

Conclusion

Data show that women with cervical cancer have low socioeconomic level. Reference hospital receives patients with confirmed diagnosis by histology of the primary tumor. Large number of cases had remained stable, because therapy began at stage II. This study concludes that is necessary to encourage educational activities to prevention, early diagnosis and treatment of cervical cancer.

Epidemiological Trends of Colorectal and Breast Cancers in the Mixed Population of the Cayman Islands 3.C5

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Background

Cayman Islands have a population of 52,000 with 155 nationalities with half of this population having native Afro European and Afro Caribbean ancestry. No specific cancer related data is available as cancer registry still in the infancy stage as it was initiated in 2010.

Materials and Methods

Retrospective study of Colorectal and Breast cancers during 2003–2012.

Results

Colorectal and breast cancer incidences remained constant. A total of 59 cases of colorectal carcinomas were diagnosed, approximately one case/ 9000 people/ year. Male to female ratio was 1: 1.2. Youngest was twenty six (26) years of female. Most of the cases were seen in 8th decade (n=13), but were equally distributed from 5th-9th decade. 56 were of conventional adenocarcinoma with spectrum of differentiation. A total of 129 breast malignancies were diagnosed in the study period, approximately one case/4000/ people/ year. All but one was seen in females. Youngest was 28 years of female. The incidence was increased steadily from 4th -7th decade and later on declined. Ninety-three were conventional infiltrating ductal carcinomas.

Discussion and Conclusions

The study yielded much fascinating information, in contrary to what was assumed in this region. The trend of both incidences remained constant throughout the last ten (10) years. Whilst colorectal carcinomas incidence remained as expected, alarming large numbers of breast malignancies was more than what was assumed. A larger study looking into the different data of these malignancies is essential; in this regard development of cancer registry to the next level is utmost urgent.

Previous Pap Test Histories and Cervical Cancer: Case-Control Study in Rio de Janeiro State, Brazil 3.C6

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Background

Pap test is still the main tool for cervical cancer screening in most parts of the world, and this hospital-based case-control study aimed to estimate the association between previous Pap test histories and cervical cancer diagnosis in the Baixada Fluminense, Rio de Janeiro State, Brazil.

Methods

The sample consisted of 152 histologically confirmed cases and 169 controls from the same hospital as the cases selected from 2007 to 2010. The analysis was conducted according to a model in three hierarchical levels considering sociodemographic characteristics (distal level), sexual/reproductive and lifestyle factors (intermediate level), and previous Pap test histories (proximal Level). Odds ratios (OR) and respective 95% confidence intervals (95% CI) were calculated using unconditional logistic regression.

Results

History of three or more Pap testing was associated with an 84% reduction in cervical cancer risk (OR = 0.16; 95% CI: 0.074; 0.384) comparing with non-screened women, and after adjustment by marital status, age at first sexual intercourse, number of sexual partners, and parity.

Conclusions

The results highlight the importance of preventive gynecological examination for reducing the risk of cervical cancer, and emphasize the need to increase adherence to the guidelines of the Brazilian Program, besides identifying and scheduling women that have proven reluctant to submit to cervical cancer screening.

Geographical Variation in the Incidence of Retinoblastoma in Guatemala: An Exploratory Study **3.C7**

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Background

Retinoblastoma is a rare tumor, corresponding to 3% of all cancers in children under 15 years of age. However, high incidence rates have been described in some Latin American countries, where it might be more frequent than neuroblastoma in children under 5. This study was designed to describe the retinoblastoma incidence in Guatemala using data from a referral center in the country as a proxy.

Methods

All new retinoblastoma cases registered at the Hospital Cancer Registry from UNOP (Unidad Nacional de Oncología Pediátrica), during the period 2008–2012 were used to calculate expected incidence rates based on the assumption that UNOP captures 90% of the retinoblastoma cases in the country. Population denominators by age group, sex, and department were based on Census 2002. Crude and age-adjusted incidence rates (AAIR) (world standard population) per million children were calculated.

Results

132 new cases were registered at UNOP during the study period. Among males AAIR ranged between 1.9 (Escuintla) and 13.5/million (Quiché) and no cases were observed in the departments of Alta Verapaz, Solola, and Zacapa while for females rates ranged from 3.8 (Chiquimula and Solola) to 15.5/million (Retalhuleu). No cases were observed for females living in the departments of El Progreso, Escuintla, Jutiapa, and Sacatepequez.

Conclusions

High incidence of retinoblastoma is observed in Guatemala, where it corresponds to 9% of all tumors with a large geographical variation. Additional studies are necessary to explore ethnic variation, as well as possible associations with environmental factors and parental lifestyle exposures.

Gunma Cancer Registry after the Enactment of Prefectural Ordinance for Cancer Control Promotion **3.C8**

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Background

Gunma Prefecture has a population of about 2 million people. The Gunma Cancer Registry was initiated in 1994. In 2003, the number of cases notified to the Gunma Cancer Registry was 3,406 and the number of morbid cases was 6,078, with the rate of DCO registrations being 61%.

Methods

In May 2005, the Coordinating Council for the Gunma Cancer Registry was established and commenced operations in Gunma Prefecture to improve the accuracy of a population-based cancer registry. In June 2006, the Cancer Control Act was enacted in Japan, and since then hospital-based cancer registries of regional cancer treatment centers have been mandated. In this study, we evaluated the changes in the Gunma Cancer Registry after the enactment of the Prefectural Ordinance for Cancer Control Promotion in December 2010.

Results

The number of cases notified to the cancer registry became 18,340 in 2012. In 2012, we conducted a retrospective survey on the cases of the year of 2009 and found that the rates of DCN and DCO were 18.3% and 6.5%, respectively. We achieved the goal of reducing the rate of DCO to less than 10% by 2013.

Discussion/Conclusion

The accuracy of the Gunma Cancer Registry was rapidly improved. Furthermore, the Prefectural Ordinance for the Basic Resident Register was amended to allow for the use of the Basic Resident Register Network System for outcome surveys in March 2013. We plan to conduct an outcome survey on a yearly basis in the future.

The Burden of Cancer Registration in a Resource Limited Country: Limitations and Challenges

3.C9

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Cancer registration has always met with difficulty in Nigeria. Most cancer cases go unreported as patients seldom present in hospitals. When they do they go unrecognized and are missed and in most cases records are not filled or documented. This accounts for duplication of efforts in an attempt to keep data by different clinicians who are suspicious of each other. An attempt to unify data in a cancer registry is always met with suspicion except you can reassure clinicians that it is of the utmost good of all concerned. The poster presents the difficulties, challenges and the limitations experienced in the Ife Ijesha cancer registry to keep up-to-date data of cancer registration that will be universally accepted by all. The limitations and difficulty of access to needed funds is also highlighted in a resource limited environment.

THEME D ELECTRONIC SOURCES

Tumor Mortality and Associated Risk Factors: Neuquén Province 2001–2010

4.D1

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Background

Although cancer is not a new disease, the epidemiological changes have occurred in recent decades, epidemiological transition, has repositioned it as a main death cause, taking a leading role in current health situation analysis.

A large percentage of cancer deaths can be prevented through measures which address risk factors such as inadequate food intake, overweight, physical inactivity, and tobacco and alcohol control. Preventive measures as Pap and mammography in women for example, are important as well.

Methods

A descriptive quantitative study about cancer deaths was carried out. Crude and adjusted rates and confidence intervals were calculated as well as associated risk factors were analyzed.

Results

Since 2000 Tumors are the leading cause of death in Neuquén. During the 2000–2010 period crude rates ranged between 110 and 174 per 10,000 inhabitants. Furthermore, Neuquén's adjusted rates outweighed Patagonia region and Argentina rates.

Breast cancer is the leading cause of deaths related to cancer in women in Neuquén. Similarly tumors of trachea, bronchus and lung are in the top position among men. In relation to risk factors, low intake of fruits and vegetables, high physical inactivity, a decrease in consumption of tobacco and alcohol was observed. An increase in the prevalence of obesity in women as well as increased prevalence of mammography and a slight decrease in Pap are other major findings.

Discussion

Tumors are a priority issue in Neuquén Province. Programs and interventions related to control cancer keep working and improving as well as Cancer registry. According to the findings research, the promotion of proper nutrition and increased physical activity should be strengthened.

The tumor registry is a key element in order to provide incidence data for a complete analysis of this event.

REDECAN: The Population-Based Cancer Registries Network of Spain

4.D2

Marà José Sánchez

on behalf of REDECAN: Albacete, Asturias, Basque Country, Canary Islands, Comunitat Valenciana (Childhood), Ciudad Real, Cuenca, Girona, Granada, La Rioja, Mallorca, Murcia, Navarre, Tarragona, Zaragoza, and Spanish National Childhood Cancer Registries

Background

Spain has 16 regional population-based cancer registries (PBCRs) which cover nearly 30% of the population of the whole state. The Spanish Network of Cancer Registries (REDECAN) was created in November 2010 integrating PBCRs and RNTI (Childhood National Cancer Registry).

The aim is to strengthen the role of the Spanish PBCRs and of the RNTI as a main element of the cancer information system in order to contribute to the surveillance and control of cancer in Spain. Some specific objectives are:

- To contribute to the comparability, the standardization of the registration systems and the quality of data of the Registries.
- To give support to new PBCRs and training to the staff of all registries.
- To provide population-based epidemiological information on cancer in Spain.
- To carry out cooperative research studies.

Methods

A Board of Directors establishes the network rules. Some working groups have been set up on cooperative projects, education and training, comparability and quality of data, common database, demography, national estimates, web page and others.

Results

Three education and training courses have already been held. The methodology to calculate the national incidence estimates has been defined. Two cooperative projects and the creation of a common database are in progress.

Conclusion

After the good experiences of the two first years, it is expected that REDECAN will achieve an important role in the surveillance and cancer control in Spain, being the reference in population based cancer information.

Automated Linkage of a Large Secondary Database with an Epidemiologic Cancer Registry in Germany

4.D3

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Background

To study if anti-diabetic medications relate to cancer risks we regularly link a large data base of diabetic participants from a structured disease management program (DMP) with the population based cancer registry (CR) of the German state North Rhine-Westphalia: the D-2-C cohort study.

Methods

The study includes over 50 000 participants aged 40–79 years at the time of first enrolment to the DMP between June 2003–July 2008. Personal identity data (PID) in the CR and DMP are encrypted with dedicated software applications: PID components are dissembled, standardized and supplemented with phonemes to prepare for an automated probabilistic record linkage. Standardized incidence ratios (SIR) are calculated based on the person-years contributed by DMP participants per 5-years age band, using the general resident population as the reference.

Results

The electronic processing time of the automated record linkage procedure in 2012 took about two days and only 2% of unclear record matches had to be resolved manually. There were 2,034 first invasive cancer cases identified arising from 163,738 person-years. We found, for example, that cancer risk in general was not raised in diabetics while pancreatic cancer risk was significantly raised mainly in the first year after DMP enrolment, especially for patients with a recent diabetes diagnosis, indicating probably reversed causality.

Conclusion

Data from a large external data base are regularly and effectively linked with the CR. Encrypted data will be used in the future for other research purposes, for example, the evaluation of breast cancer mortality in the national mammography screening program.

Characteristics of the Cancer Incidence in Gyeongnam for 3 Years (2008–2010): Comparing Korean Cancer Registry Data

4.D4

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Background

This study was conducted to investigate the characteristic and trend of the cancer incidence and related risk factors in Gyeongnam provincial area and compare with Korean national cancer registry data.

Methods

We measured age standardized incidence rates (ASRs) of overall cancers and most common cancers in Gyeongnam provincial area using regional cancer registry data and compared those to national cancer registry data.

Results

The overall ASRs per 100,000 in Gyeongnam provincial area were 276.8, 288.5, 289.1 from 2008 to 2010 respectively and lower than national ASRs which were 286.8, 299.4, 304.8 at same period. The male ASR was slightly higher than national level, while female ASR was much lower than national level. The ASRs of gastric cancer, hepatic cancer and lung cancer in Gyeongnam were higher than national level, but the ASRs of colon cancer, breast cancer and thyroid cancer were lower than national level persistently.

Discussion

The characteristics and trends of cancer incidence in Gyeongnam area were different from overall Korean level. The higher incidences of stomach, liver and lung cancers would be related with excessive intake of salt, raw river fish, alcohol and high smoking rate in this area. The lower incidences of colon, breast and thyroid cancers could be attributed partially to higher intake of dietary fiber and low screening rate of breast and thyroid. Further research is required to find more accurate risk factors of common cancers in Gyeongnam provincial area.

Economic Impacts Associated with the Diagnosis and Treatment of Cancer of Elderly Patients at Lop Buri Cancer Hospital

4.D5

Dhanoo Lawbundis

Lop Buri Cancer Hospital, Department of Medical Services,
Ministry of Public Health

Lop Buri Cancer Hospital has been providing diagnosis and treatment of cancer during the year 2010 to 2012 in seven major categories:

1. Diagnostic services
2. Chemotherapy
3. Radiation Therapy
4. Body Interventional Radiology
5. Nuclear medicine services
6. Surgical services
7. Clinical services on the digestive system.

It is found that the number of patients younger than 60 years is 18,872 patients. The number of patients aged 60 years or more is 9,075 patients, 48.09 percent. Expenses in patients younger than 60 years is 408,533,897.80 baht and the expenses in patients aged 60 years or more is 246,119,012.25 baht, 60.24 percent. Increasing in both the number of aged patients and the amount of money needed for the diagnosis and treatment.

The chemotherapy is the highest total value of 409,588,276.25 baht, 62.56 percent. Radiation therapy is the second most 108,422,100.00 baht 16.56 percent and the third is the diagnostic radiation services, 96,651,990.00 baht, 14.76 percent. Clinical services on the digestive system value is 2,638,130.00 baht, 0.40 percent.

The diagnosis and treatment of cancer in the aged patients tend to increase every year, both the number of patients and the value of the diagnosis and the treatment. This trend will increase as the number of aged people increases in the future.

The state should establish policies to reduce the cancer in all age group of the population. The very early is education and knowledge about cancer. Screening and Diagnosis of the cancer at the early stage are to be done. The early and effective treatment of the cancers is essentials. Economical impact of cancer diagnosis and treatment are to be considered because of more advanced expensive diagnostic equipments and chemotherapy are developing.

Five years of Cancer Incidence in 12 Central Provinces of Thailand (2003–2007)

4.D6

Dhanoo Lawbundis

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Ministry of Public Health

Lop Buri Cancer Hospital affiliated with the National Cancer Institute, Department of medical Services, The Ministry of public health is responsible for all 12 provinces: Lop Buri, Ang thong, Sing Buri, Chainat, Sara Buri, Chaiphaphum, Nakhon Sawan, Uthai Thani, Kamphaeng Phet, Phichit, Phetchabun, and Suphan Buri with a population totally of 7867, 309 people (from the National Statistics Office, 2012).Lop Buri Cancer Hospital is responsible for prevention and treatment all cancers found in the 12 provinces.

In male, top 5 most common cancers are: 1. Liver cancer 2. Lung cancer 3. Colorectal cancer 4. Head and Neck cancer 5. Cancers of the digestive system. In female, top 5 most common cancers are 1. Breast cancer, 2. Cervical cancer, 3. Liver cancer 4. Lung cancer 5. Colorectal cancer.

Cancer registry (Hospital based) was started collection from 1997. Population based cancer registry was collected from 1999. Complete collection of Cancer Registry in all of the provinces has been done since 2009.

Age-Standardized Incidence Rates(ASR) of 12 Central Provinces are reported. In male, Lop Buri is the most, ASR = 161.6, Petchabun, Chaiphaphum are the second and the third ASR = 125.7, 125.3 respectively, Suphan Buri is the last ASR = 78.8. In female, Lop Buri province is also the most, ASR = 156.9. Sing Buri and Nakhon Sawan are the second and the third, ASR = 131.5 and 101.9 respectively. Suphan Buri is the last ASR = 59.4.

Liver Cancer, in male, Chaiphaphum is the most, ASR = 51.8. Petchabun and Lop Buri are the second and the third, ASR = 36.9 and 31.6, respectively. Uthai Thani is the last, ASR = 15.2. In female, Chaiphaphum is also the most, ASR = 17.4. Lop Buri and Phetchabun are the second and the third, ASR = 11.5 and 10.0 respectively. Phichit is the last, ASR = 4.8.

Colorectal Cancer, in male, Lop Buri is the most, ASR = 14.8. Ang Thong and Nakorn Sawan are the second and the third, ASR = 12.6 and 9.2, respectively. Chaiphaphum is the last, ASR = 2.8. In female, Lop Buri is also the most, ASR = 9.5. Nakhon Sawan and Phetchabun are the second and the third, ASR = 7.4 and 6.8 respectively. Chaiphaphum is the last, ASR = 1.9.

Lung cancer, in male, Lop Buri is the most, ASR = 26.9. Petchabun and Sara Buri are the second and the third, ASR = 23.8 and 21.9 respectively. Phichit is the last, ASR = 14.3. In female, Lop Buri is the most, ASR = 10.2. Nakhon Sawan and Phetchabun are the second and the third, ASR = 8.0 and 7.6 respectively. Uthai Thani is the last, ASR = 4.2.

Breast Cancer in female, Lop Buri is the most, ASR = 27.8. Sara Buri and Nakhon sawan are the second and the third, ASR = 21.4 and= 21.2 respectively. Chaiphaphum is the last, ASR = 5.7.

Cervical cancer, Lop Buri is the most, ASR = 22.8. Sara Buri and Sing Buri are the second and the third, ASR = 18.3 and 16.2 respectively. Chaiphaphum is the last, ASR = 5.3.

The Moroccan Breast Cancer Registry (MBCR): Risk factor patterns among Moroccan women with breast cancer

4.D7

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Background

Breast Cancer incidence varies between regions, within ethnic groups and across environmental differences, necessitating the local study of risk factor profiles. The Moroccan population, compared to those of other countries in the MENA-region, suffers from a higher incidence rate of invasive BC potentially attributable to unique local factors. We carried out a retrospective study in order to address the epidemiological and management strategies for breast cancer patients in our patient population.

Methods

We have conducted a comprehensive review of over 2,000 paper medical records covering the years 2008–2010. Of those, 2000 medical records BC patients were digitized to create a database pertaining to demography and risk factors those has been catalogued to : Demographics, Reproductive, Personal-Cancer, Family-Cancer, Personal-Medical History and Lifestyle; a long with tumor histological type , receptor status and the treatments underwent.

Results

Mean age of our female breast cancer patients was found to be lower compared to the western world, with an average difference of one decade. Mean age at menarche was 14 years-old; mean age at menopause is 44 years-old. 27% of the patients were from a rural background and had a longer duration of symptoms compared to urban patients. Lump in the breast was a dominant symptom. Familial breast cancer was uncommon. Left sided breast cancer was slightly preponderant. The most common histology was infiltrating duct carcinoma.

Conclusion

This data had helped us building a survey had its adapted to our population taking into account our patients population specificities for a preventive aims.

The New ROR-Sul Platform: An innovative Tool for Cancer Research and Practice

4.D8

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Background

In an effort to fulfil a need on cancer-related information, the South regional Cancer Registry (ROR-Sul) was created in 1988 and regulated by Law.

This is a population-based cancer registry that ensures the active surveillance of all residents from the continental South region and Madeira Island, around 4.8 million inhabitants (4 regions that account for nearly half the country).

The ROR-Sul was developed as a network, but currently (since 2008) the new platform is a step ahead, since it is based on a record-linkage system integrating information from various independent data sources. There are essentially three types of information being linked, allowing for an overall picture of the case: patient identification (integrating information from the citizens' card updated every fortnight, e.g. name, age, date of death), diagnostic data (e.g. case definition, pathology results; where all classifications used follow the ENCR recommendations), and treatment data (including surgery, radiotherapy, and chemotherapy; originating from 3 independent databases). This system now allows for a case to be monitored longitudinally.

Confidentiality is not compromised, since there are levels of access defined according to the user profile and information circulates in a private network. This allows clinicians to see the case as a whole with the most up-to-date information, while allowing him to register his own information. The central processing information ensures it is permanently available for research purposes.

Mortality Trend for Immune System Correlate Tumor in Southern Italy Hyperendemicity Area of HCV Infection

4.D9

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Background

In metropolitan area of Naples hepatitis C virus infection has a prevalence rate about 10%. HCV is a RNA virus that cannot be integrated with the host genome, it exerts its oncogenic potential indirectly by contributing to the modulator effects of the host immune system. HCV is associated with immune system cancer. To provide updated information on mortality trends in metropolitan area of Naples from NHL and Multiple Myeloma and for comparative purpose we considered mortality data from 1988 to 2009.

Methods

Mortality data extracted from National Death Certificates by age, gender, residence and cause of death were made available by ISTAT; all cancer deaths were re-coded according to the Tenth Revision of ICD (X ICD). Age-adjusted mortality rates were calculated by gender and cancer site. Cancer mortality trends between 1988 and 2009 were analyzed by joinpoint regression model. The World population was used as standard in the joinpoint analyses. Cancer mortality trends were quantified by APC and corresponding 95% confidence interval (CI).

Results

For NHL, APC increases significantly among women (APC=+2.0% 95% CI +0.2; +3.7) but it was not significant in men; while in the elderly (65+) the APC increases significantly among men (APC=+1.4% 95% CI +0.3; +2.6). For Multiple Myeloma the APC increases either among women and men (APC=0.7% 95% CI -1.1; +2.7 and APC=+1.2% 95% CI -0.3; +2.7, respectively).

Conclusion

For NHL our results are in contrast with Italian mortality data. The high prevalence of HCV in the metropolitan area of Naples may contribute to explain the increase in cancer mortality rate for NHL.

Mortality Trends for Liver Cancer in the Naples Area: Comparison with Italian and European Data 4.D10

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Background

Over the last decades mortality trends for hepatocellular carcinoma (HCC) have been downwards in Italy and France. In Italy there are higher mortality rate in southern, where many studies evidenced high HCV prevalence. To provide updated information on trends mortality we considered data from 1988 to 2009.

Methods

Mortality data extracted from National Death Certificates by age, gender, residence and cause of death were made available by the ISTAT. Age-adjusted mortality rates were calculated by gender. Cancer mortality trends between 1988 and 2009 were analyzed by joinpoint regression model. The World population was used as standard in the analyses. Cancer mortality trends were quantified by annual percent change (APC) and corresponding 95% Confident Interval (CI).

Results

In the Areas of Naples, between 1988–1993 in men, APC increased sharply by +7.4%/year (95% CI +4.0; +11.0) and decreases slightly by -2.3%/year (95% CI -3.0; -1.7) during the period 1994–2009. Among women, APC declined for the whole period 1988–2009 by -2.5%/year (95% CI -3.1; -1.8). A large variability in liver cancer trends was observed according to gender

Conclusion

The trends observed for liver cancer mortality rates in Area of Naples between 1988 and 2009 were generally not consistent with those reported over a comparable period of time in Europe and Italy. Our data confirm the persistent high mortality for HCC in the metropolitan area of Naples because of the epidemic infection of HCV, even if the recent a decline, with more favorable trend for women, explained, at least in part, by the widespread knowledge of the most common risk factors of HCV infection.

The Use of Electronic Sources to Estimate Potential Misclassification and Guide Automatic Registration: A Novel Method 4.D12

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Background

Hospital Discharge Records (HD), Pathology reports (PR) and Death Certificates (DC) are the primary electronic sources for Cancer Registries (CRs). Historical HD and PR are also useful to identify prevalence. We aim to measure possible causes of data sources misclassification (inclusion of prevalent and non-eligible cases). Moreover, we aim to build a site-specific model that can guide automatic and manual cancer registration.

Methods

We used a cohort of patients with unique tumor diagnosed in 2000 using five Italian CRs. We collected all HD, PR, DC “produced” by this cohort up to 2010. We projected the cohort emission to estimate the HD, PR and DC emitted during the calendar year 2000 by historical 1991–2000 cohorts. We projected in the same way the possible misclassification of data-sources using CR data, and we modelled the probability that a CR correctly identify prevalent cases according to the entity of historical archive.

Results

Overall, electronic sources produce similar amount of incident and prevalent patients (prevalent to incident ratio: 96%). A six-year length historical archive reduce potential error to 5%. If we fix the maximum threshold for prevalence misclassification to 5% the optimal length of the historical archive reduced to 3 years in lung cancer but grows to 8 for bladder cancer. An isolated HD refers to prevalent patients in 30% of cases.

Discussions

We defined a new method for measuring the error related to automatic registration from electronic sources according to site and to the entity of historical database.

THEME E

ROLE OF NCI IN THE DEVELOPMENT OF CR

(Round Table)

THEME F

THE IMPORTANCE OF BIOBANKS IN THE SURVEYS OF CANCER REGISTRIES (EPI)

Immunohistochemical Profile and Clinical-Pathological Variables in Breast Cancer

6.F1

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Background

To describe the main characteristics of women with breast cancer, according to the immunohistochemical profile.

Methods

We analyze a hospital cohort of women diagnosed with breast cancer between 2003 and 2005 and treated at a referral center for cancer care in Juiz de Fora, MG, Brazil (n = 601). Only 397 women who had complete immunohistochemistry analysis were selected. To define the groups according to the immunohistochemical profile, estrogen and progesterone receptors, Ki-67 cell proliferation index, and overexpression of human epidermal growth factor receptor 2 (HER2) were considered. According to the different phenotypes, five subtypes were defined: luminal A, luminal B HER2 negative, luminal B HER2 positive, triple negative, and HER2 overexpression.

Results

Most patients were white (80.7%) and post-menopausal (64.9%), with mean age of 57.4 years (± 13.5). At diagnosis, 57.5% had tumor size ≥ 2.0 cm, and 41.7% had lymph node involvement. The most common subtypes were luminal B - HER2 negative (41.8%) and triple negative (24.2%). In the luminal A subtype, 72.1% of patients were post-menopausal, while the highest percentage of premenopausal women were observed in the luminal B - HER2 positive and triple negative subtypes (45.2% and 44.2%, respectively). A higher frequency of tumors > 2.0 cm and lymph node involvement was observed in triple negative and HER2 positive subtypes.

Conclusion

This study allowed the distribution assessment of the main clinical and pathological characteristics and those related to health services in a cohort of Brazilian women with breast cancer, according to the immunohistochemical tumor subtypes.

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