

• REPORT FROM SCIENTIFIC CONFERENCE IN PUERTO RICO •

Report of the 2011 University of Puerto Rico- MD Anderson Cancer Center Conference entitled “Population-Based Studies in Hispanics: Methodological Issues in Cancer Research”

An interdisciplinary conference entitled *Population-Based Studies in Hispanics: Methodological Issues in Cancer Research* was held on August 25-26, 2011 at the Marriot Courtyard Hotel in Isla Verde, Puerto Rico (PR) under the U54 grant infrastructure, a Partnership for Excellence in Cancer Research between the University of Puerto Rico (UPR) and the MD Anderson Cancer Center (MDACC). One of the supporting units of this grant is the Biostatistics and Bioinformatics Core (BBC), led by Dr. Erick Suárez (UPR-Medical Sciences Campus [MSC]) and Dr. Kenneth Hess (MDACC) which has as one of its main objectives mentoring and training investigators in research design and statistical methods. This year the BBC, in collaboration with another supporting unit of grant, the Training Program (led by Dr. Ilka Ríos, UPR-MSC), organized this conference with the following aims: 1) to describe the most recent cancer investigations in Latin-American countries, Spain, and the United States (US) using population-based studies in cancer-related research in the Hispanic communities, 2) to discuss relevant methodological issues raised during the conduct of population-based studies of cancer among Hispanics, and 3) to discuss different approaches used in population-based studies in the Hispanic communities in measuring the health disparities in cancer research. This conference included 16 presentations in four sessions over two days. A total of 150 participants attended the conference, with 30 students from different institutions of PR and 20 faculty members from PR and Mexico receiving a scholarship to cover the registration fee. This article summarizes the various speakers' presentations which included specific methodological issues in the areas of epidemiological design, criteria for cancer diagnosis, inclusion/exclusion criteria, sample size and statistical power, data collection procedures, internal and external validation of study results, clinical impact, and translational medicine, among others.

The speakers of the first day of the conference were:

Eduardo Franco, MPH, DrPH, is a Professor in the Departments of Oncology and Epidemiology & Biostatistics and Director of the Division of Cancer Epidemiology at McGill University, Canada. His talk was entitled *Knowledge gaps and research priorities for cervical cancer control in Latin America: An update*. Different public health and medical issues were discussed including the burden of cervical cancer, the role of human papilloma virus (HPV) in cervical cancer,

HPV epidemiology, the role of pap cytology, HPV testing in screening, the role of molecular markers, and physico-optical methods in screening.

Ana Patricia Ortiz, PhD, is an Associate Professor of Epidemiology and Biostatistics at the Department of Biostatistics and Epidemiology of the Graduate School of Public Health (GSPH), UPR-MSU and a researcher at the UPR Comprehensive Cancer Center (UPRCCC). Her talk was entitled *Cancer disparities in Puerto Rico: What have we learned from epidemiologic research?* The main conclusions of the presentation included that 1) cancer disparities exist in Puerto Rico, particularly by socio-demographic characteristics, and that 2) understanding the determinants of health disparities in this population is important for the development of cancer prevention and control strategies (1-5).

María A. Hernández-Valero, DrPH, is an Instructor in the Department of Health Disparities Research at The University of Texas MDACC. Her conference was entitled *Methodological issues to consider in studies measuring genetics instability among populations residing in rural areas far from the laboratory sites*. Dr. Hernández focused her presentation on an important large research project named *From Mother to Child: A Mexican-American Environmental Health Study*.

Gilberto Ramos-Valencia, DrPH, is Chair of the Department of Biostatistics and Epidemiology at the GSPH, UPR-MSU. His talk was entitled *“El Estudio Continuo de Salud en Puerto Rico”*. Dr. Valencia identified and discussed the major methodological issues in the planning and field work of the largest health survey ever conducted in Puerto Rico.

Sergio Muñoz, DrPH, is a Professor of Biostatistics of the Faculty of Medicine at the *Universidad de la Frontera* in Temuco, Chile. His talk was entitled *Advantages and disadvantages in the application of multilevel models in complex sampling designs for population studies in cancer*. Dr. Muñoz highlighted research questions that can be addressed with multilevel models for individuals nested within clusters, explained the characteristics of the model for different levels, and identified different computer programs and approaches that can be used to analyze data using multilevel models.

Leonelo Bautista, MD, MPH, DrPH, is an Associate Professor of Epidemiology at the Department of Population Health Sciences of the School of Medicine and Public Health, University of Wisconsin at Madison. His talk was entitled *The*

Latin American Studies of Obesity (LASO): Methods and Findings. The LASO constitutes a multinational initiative that combines data of obesity and cardiovascular diseases from population-based studies of 11 Latin American countries (6).

Danuta Rajs, MD, MS, is the Former Head of the Department of Health Statistics and Information of the Ministry of Health of Chile. Her talk was entitled *Research and data quality in health registries*. Dr. Rajs' presentation was focused on the errors that can occur in data collection, methods to validate the integrity of population-based cancer registries, and the contribution of automation in registration tasks and production of information recognizing that a health information system mainly depends on the personnel.

Juan Pablo Casas, MD, PhD, is a Professor of Epidemiology in the Department of Biostatistics and Epidemiology at the London School of Hygiene and Tropical Medicine. His talk was entitled *Use of Mendelian randomization to improve causal inference on environmental exposures*. Dr. Casas discussed how to capitalize on Mendel's second law for the search of causes, since the inheritance of one trait is independent of the inheritance of other traits, in order to determine if genetics could help to obtain randomized - unbiased - evidence about environmental factors.

The speakers of the second day of the conference were:

Katherine L. Tucker, PhD, is Professor and Chair of the Department of Health Sciences at Northeastern University in Boston, Massachusetts. Her talk was entitled *Assessing dietary intake for use in studies of gene-diet interaction*. Dr. Tucker highlighted results of the Boston Puerto Rican Health Study, a longitudinal cohort of 1,355 Puerto Rican adults (7). One important challenge acknowledged by Dr. Tucker was assessing dietary intake. For example, a well-validated food frequency questionnaire can rank individuals well and, for now, it is usually the best choice for correlational analyses, but the validity must be checked before extrapolation to new populations.

Jorge Escobedo de la Peña, MD, MPH, MSc, FACP, is Head of the Clinical Research Center of the Mexican Institute of Social Security. His talk was entitled *Important issues in Study Design in Hispanics: Facts from the CARMELA Study*. Dr. Escobedo described the CARMELA Study, a cross-sectional study that estimated the prevalence of cardiovascular risk factors in seven Latin American cities (8). Dr. Escobedo highlighted important logistics and methodological issues for this type of multicenter study.

Rolando Herrero, MD, PhD, is a Senior Scientist at the International Agency for Research on Cancer in Lyon, France. He is currently the Co-Principal Investigator of the *Phase III Study of Vaccination against HPV 16 and 18 in Costa Rica*. His talk was entitled *Potential Bias in Epidemiologic Studies*. Dr. Herrero examined the concepts of precision and validity as key issues in the estimation of an exposure-disease association in epidemiologic studies.

Cynthia M. Pérez, PhD, is Professor of Epidemiology and Biostatistics and a researcher at the Department of Biostatistics and Epidemiology of the GSPH, UPR-MSU. Her talk was entitled *Impact of survey context and data collection modes on self-reported sensitive behaviors in the general population of PR*. Dr. Pérez reviewed scientific evidence that shows that illicit drug use is largely under-reported in many settings, and that the validity of drug use reports varies by mode of data collection and type of substance.

Ana Isabel Burguete-García, MD, MS, DrPH, is currently a Researcher in Mexico's premier public health institution, the National Institute of Public Health. Her talk was titled *Cancer susceptibility in Mexicans*. Dr. Burguete-García focused on AKNA as a genetic risk factor for cervical intraepithelial neoplasia and cervical cancer, the association of Interleukin-10 gene promoter polymorphisms and gene expression in HPV cervical lesions, and the association of the Gly972Arg polymorphism of the IRS1 gene with type 2 diabetes mellitus in lean participants of a national health survey in Mexico (9-11).

Albert Tenesa, PhD, is a Researcher at The Roslin Institute of The University of Edinburgh in Scotland. His talk was entitled *Genome-wide association studies of colorectal cancer*. Dr. Tenesa discussed genome-wide association studies in colorectal cancer to explore how genetic variations can be used for more targeted disease prevention strategies.

María Elena Martínez, MPH, PhD, is Professor of the Arizona Cancer Center at the University of Arizona. Her talk was entitled *Breast cancer in Hispanic/Latina women*. Dr. Martínez talked about different projects addressing breast cancer in the US Hispanic population like the ELLA Binational Breast Cancer Study, among others.

Walter Frontera, MD, PhD, is Professor of Physical Medicine and Rehabilitation and Physiology at the UPR-MSU. He is currently the contact Principal Investigator of the UPR/MDACC Partnership for Excellence in Cancer Research program. He is also the Principal Investigator of the PR Clinical and Translational Research Consortium (PRCTRC). His talk entitled *Translational Medicine in Puerto Rico* was focused on the PRCTRC, a multidisciplinary and collaborative effort between three major academic institutions in PR to establish a centralized clinical and translational research program focused on health problems prevalent in an underserved minority population.

Conclusions

The speakers' presentations fully met the conference goals and the expectations of participants. According to an external evaluation, performed by the PRCTRC, approximately 98% of the participants considered (agreed or strongly agreed) that the conference fulfilled their expectations; and more than 94% were satisfied or very satisfied with this meeting. Similarly, all the participants that completed the evaluation form felt that the

information presented during this conference was valuable or very valuable in terms of the conference's aims. Some of the talks offered in the conference are available on the Internet (<http://www.youtube.com/user/ciartech>).

In conclusion, the assessment of new approaches in Hispanics will contribute to better understanding of the effect of cancer prevention, early detection, diagnosis, treatment, and control in this community. This conference helped to lay the ground work for development of a comprehensive research agenda to address methodological issues in cancer-related research among Hispanics.

The next conference of the BBC will be entitled "Research on Cancer Epidemiology: Risk Factors and Control in the Caribbean Basin" and will be held on February 21-22, 2013 in San Juan, Puerto Rico. This conference will provide an open forum to identify, describe and discuss cancer epidemiology issues including effective research strategies to study risk factors and ultimately reduce cancer incidence and mortality in the Caribbean population.

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