The stomach cancer pooling (StoP) project: study design and presentation

Claudio Pelucchi[a], Nuno Lunet[e,f], Stefania Boccia[c,d], Zuo-Feng Zhang[g], Delphine Praud[a,b], Paolo Boffetta[h], Fabio Levi[m], Keitaro Matsuo[n], Hidemi Ito[o], Jinfu Hu[p], Kenneth C. Johnson[q], Monica Ferraroni[b], Guo-Pei Yu[■], Bárbara Peleteiro[e,f], Reza Malekzadeh[s], Mohammad H. Derakhshan[s,u], Weimin Ye[v], David Zaridze[x], Dmitry Maximovitch[x], Nuria Aragonés[y,z,{], Vicente Martín[z,|], Mohammadreza Pakseresht[s,r], Farhad Pourfarzi[s,t], Andrea Bellavia[w], Nicola Orsini[w], Alicja Wolk[w], Lina Mu[j], Dario Arzani[c], Robert C. Kurtz[i], Pagona Lagiou[},~], Dimitrios Trichopoulos[k,~], Joshua Muscat[l], Carlo La Vecchia[a,b] and Eva Negri[a]

Gastric cancer affects about one million people per year worldwide, being the second leading cause of cancer mortality. The study of its etiology remains therefore a global issue as it may allow the identification of major targets, besides eradication of *Helicobacter pylori* infection, for primary prevention. It has however received little attention, given its comparatively low incidence in most high-income countries. We introduce a consortium of epidemiological investigations named the 'Stomach cancer Pooling (StoP) Project'. Twenty-two studies agreed to participate, for a total of over 9000 cases and 23 000 controls. Twenty studies have already shared the original data set. Of the patients, 40% are from Asia, 43% from Europe, and 17% from North America; 34% are women and 66% men; the median age is 61 years; 56% are from population-based case–control studies, 41% from hospital-based ones, and 3% from nested case–control studies derived from cohort investigations. Biological samples are available from 12 studies. The aim of the StoP Project is to analyze the role of lifestyle and genetic determinants in the etiology of gastric cancer through pooled analyses of individual-level data. The uniquely large data set will allow us to define and quantify the main effects of each risk factor of interest, including a number of infrequent habits, and to adequately address associations in subgroups of the population, as well as interaction within and between environmental and genetic factors. Further, we will carry out separate analyses according to different histotypes and subsites of gastric cancer, to identify potential different risk patterns and etiological characteristics. *European Journal of Cancer Prevention* 24:16–23 © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins.

European Journal of Cancer Prevention 2015, **24**:16–23

Keywords: consortia, epidemiology, pooled analysis, risk factors, stomach neoplasms

[a]Department of Epidemiology, IRCCS – Istituto di Ricerche Farmacologiche Mario Negri, [b]Department of Clinical Sciences and Community Health, University of Milan, Milan, [c]Section of Hygiene, Institute of Public Health, Università Cattolica del Sacro Cuore, [d]IRCCS San Raffaele Pisana, Rome, Italy, [e]Institute of Public Health, University of Porto (ISPUP), [f]Department of Clinical Epidemiology, Predictive Medicine and Public Health, University of Porto Medical School, Porto, Portugal, [g]Department of Epidemiology, UCLA Fielding School of Public Health and Jonsson Comprehensive Cancer Center, Los Angeles, California, [h]The Tisch Cancer Institute and Institute for Translational Epidemiology, Mount Sinai School of Medicine, New York, [i]Memorial Sloan Kettering Cancer Centre, Rockville Centre, [j]Department of Social and Preventive Medicine, School of Public Health and Health Professions, University of Buffalo, Buffalo, New York, [k]Department of Epidemiology, Harvard School of Public Health, Boston, Massachusetts, [l]Penn State College of Medicine, Hershey, Pennsylvania, USA, [m]Cancer Epidemiology Unit, Institute of Social and Preventive Medicine (IUMSP), Lausanne University Hospital, Lausanne, Switzerland, [n]Department of Preventive Medicine, Kyushu University Faculty of Medical Sciences, Fukuoka, [o]Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute, Nagoya, Japan, [p]Science Integration Division, Social Determinants and Science Integration Directorate, Public Health Agency of Canada, [q]Department of Epidemiology and Community Health, University of Ottawa, Ottawa, Ontario, [r]Aboriginal and Global Health Research Group, Department of Medicine, University of Alberta, Edmonton, Alberta, Canada, [s]Digestive Oncology Research Center, Digestive Disease Research Institute, Tehran Universities of Medical Sciences, Tehran, [t]Department of Community Medicine, Ardabil University of Medical Sciences, Ardabil, Iran, [u]Institute of Cardiovascular & Medical Sciences, University of Glasgow, Glasgow, UK, [v]Department of Medical Epidemiology and Biostatistics, [w]Unit of Nutritional Epidemiology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, [x]Department of Epidemiology and Prevention, Russian N.N. Blokhin Cancer Research Center, Moscow, Russia, [y]Environmental and Cancer Epidemiology Unit, National Center of Epidemiology, Instituto de Salud Carlos III, [z]CIBER Epidemiología y Salud Pública (CIBERESP), Madrid, [{]IIS Puerta de Hierro, Majadahonda, [|]Universidad de León, León, [}]Department of Hygiene, Epidemiology, and Medical Statistics, University of Athens Medical School, [~]Bureau of Epidemiologic Research, Academy of Athens, Athens, Greece and [■]Medical Informatics Center, Peking University, China

Correspondence to Carlo La Vecchia, MD, Department of Epidemiology, IRCCS – Istituto di Ricerche Farmacologiche 'Mario Negri', Via Giuseppe La Masa 19, Milan 20156, Italy
Tel: +39 239 014 527; fax: +39 233 200 231;
e-mail: carlo.lavecchia@marionegri.it

Received 20 December 2013 **Accepted** 29 January 2014

Introduction

The incidence and mortality of gastric cancer have been falling at least since the middle of the previous century in most high-income countries (Shibata and Parsonnet, 2006; Malvezzi *et al.*, 2010). This is largely explained by downward trends in the prevalence of *Helicobacter pylori* infection, and by improvements in diet and food conservation (Peleteiro *et al.*, 2012; Bosetti *et al.*, 2013a).

0959-8278 © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins DOI: 10.1097/CEJ.0000000000000017